Bob Simpson

Water Resources Data California

Water Year 1984

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-84-4
Prepared in cooperation with the California Department of Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1984

1983

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1984

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PREFACE

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

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

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

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

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

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

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

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

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Water resources data for the 1984 water year for California consists of records of stage, discharge, and water quality of streams; stage and contents in lakes and reservoirs; and water levels and water quality in wells. Volume 4 contains discharge records for 152 gaging stations; stage and contents for 25 lakes and reservoirs; water precipitation data for 2 stations; water quality for 9 stations; water levels for 12 and water quality for 46 observation wells. Also included is one low-flow partial-record station and 19 water-quality partial-record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and federal agencies in California.

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ILLUSTRATIONS

[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]

WATER RESOURCES DATA FOR CALIFORNIA, 1984

Volume 4

INTRODUCTION

Water-resources data for the 1984 water year for California consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and records of water levels in selected observation wells. Records for a few pertinent streamflow and water-quality stations in bordering States are also included. These data, a contribution to the National Water Data System, were collected by the Geological Survey and cooperating local, State, and Federal agencies in California.

Records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface-Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Virginia 22304.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released, either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published together as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report CA-84-4." For archiving and general distribution, the reports for water years 1971-74 are also identified as water-data reports. Water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

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

COOPERATION

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

California Department of Water Resources, David N. Kennedy, Director.
Georgetown Divide Public Utility District, Charles F. Gierau, General Manager.
Modoc County Department of Public Works, Jerry K. Grove, Director.
Oroville-Wyandotte Irrigation District, Fritz Steppat, General Manager-Chief Engineer.
Paradise Irrigation District, C. Phillip Kelly, Jr., Manager.
Sacramento Municipal Utility District, John P. Hiltz, Manager.
Sacramento Regional County Sanitation District, John W. Newton, Chief of Administration.
Siskiyou County Flood Control and Water Conservation District, David A. Gravenkamp, Director.
Yolo County Flood Control and Water Conservation District, James F. Eagan, General Manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; Bureau of Reclamation, U.S. Department of the Interior; Federal Highway Administration, U.S. Department of Transportation.

The following organizations aided in collecting records: Pacific Gas and Electric Company; Nevada and Oroville-Wyandotte Irrigation Districts; Placer and Yuba County Water Agencies.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff was slightly above normal for the 1984 water year. Total runoff (at representative sites) in a percentage of the 1951-80 median is shown below and in figure 1.

		Percent of Normal
10356500	Susan River at Susanville	135
11370501	Sacramento River at Keswick (adj)	108
11382000	Thomes Creek at Paskenta	109
11413000	North Yuba River below Goodyears Bar	136
11427000	North Fork American River at North Fork Dam	136

One stream, North Fork Pit River at Alturas (11344000), had a peak discharge for the period of record on December 15. No other gaged stream had a peak of record during the water year. Figure 2 shows the variation in runoff during the 1984 water year and compares the 1984 monthly and annual flow with the median flow for representative streams in the area covered by this volume.

Ground Water

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

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

At an observation well near Zamora in southern Sacramento Valley, water levels followed previous seasonal trends, but continued a steady overall rise. The highest water level in 1984 was 2.16 ft above land surface on May 3, 4, 5, the lowest level was 6.96 ft below land surface on September 28, 1985. Near Butte City, in northern Sacramento Valley, water levels continued the seasonal pattern, but did not get as high as the previous year. The highest water level was 8.18 ft below land surface on December 26, 1983, and the lowest water level was 19.37 ft below land surface on July 20, 1984.

Water Quality

Water samples collected at the three NASQAN stations reported in this volume were analyzed for water-quality constituents. Water quality at these sites was similar to that recorded in previous years. Significant changes were not evident in any of the constituents sampled, and concentrations did not exceed maximum permissible standards recommended by the U.S. Environmental Protection Agency or other public health standards or guidelines.

The largest density of fecal-coliform bacteria was found in waters sampled at Susan River near Susanville, 230 col/100 mL (a decrease from a maximum of 720 col/100 mL reported in 1983). Bacterial samples from the Sacramento River at Freeport station contained the largest density of fecal streptococci bacteria, >1,000 col/mL (an increase from a maximum of 600 col/mL reported in 1983).

Sediment

Suspended-sediment discharge and concentration were monitored daily at four stations and periodically at three stations in the area included in this volume. The variation in precipitation, drainage-basin characteristics, and stream regulation in north-central California resulted in significant differences in sediment-discharge rates and concentrations at the sampled streams.

Sediment discharge was below normal during the 1984 water year, as indicated by comparison with the 1968-83 mean sediment discharge at two of the daily stations. Annual sediment discharge was 69 percent of the mean for Feather River near Gridley and 73 percent for Sacramento River at Freeport.

During the 1984 water year, sediment discharge for the four daily stations ranged from 57,100 ton/yr for Feather River near Gridley to 1.78 million ton/yr for Sacramento River at Freeport. Annual sediment discharge per square mile of drainage area ranged from a minimum of 16 tons for the Feather River station, which is a highly regulated stream, to a maximum of 979 tons for Cache Creek near Brooks (partially regulated).

Runoff resulting from storms in December transported over 70 percent of the yearly sediment discharge at the two Cache Creek stations. Sediment discharge was more evenly distributed at the Feather River near Gridley and Sacramento River at Freeport stations because of the effect of snowmelt and flow regulation. Maximum sediment discharge ranged from 3,000 ton/d (5 percent of annual total) for Feather River near Gridley to 165,000 ton/d (16 percent of annual total) for Cache Creek near Brooks. Maximum daily concentrations ranged from 40 mg/L for Feather River near Gridley to 3,010 mg/L for Cache Creek near Brooks.

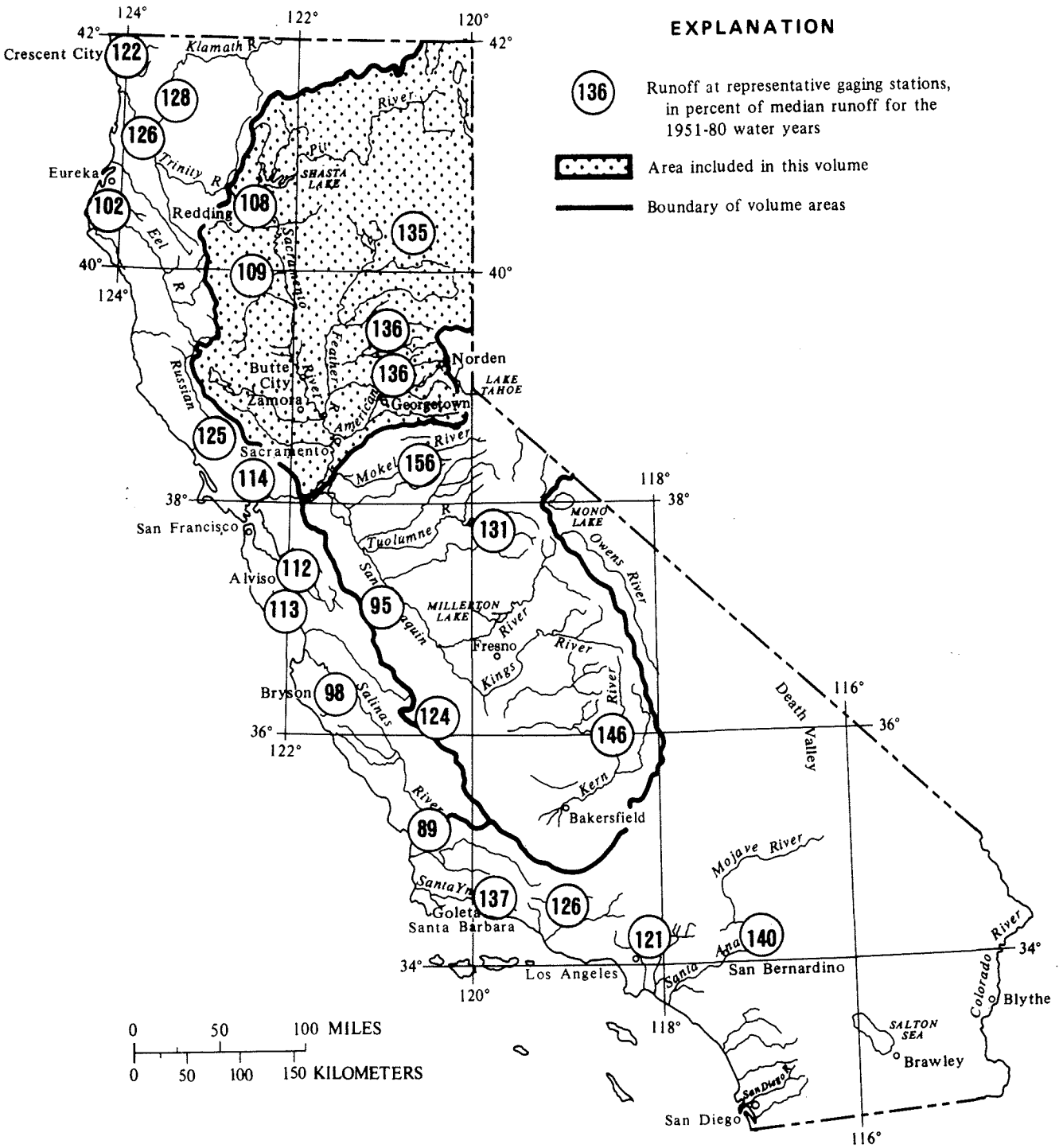

FIGURE 1. — Runoff for the 1984 water year.

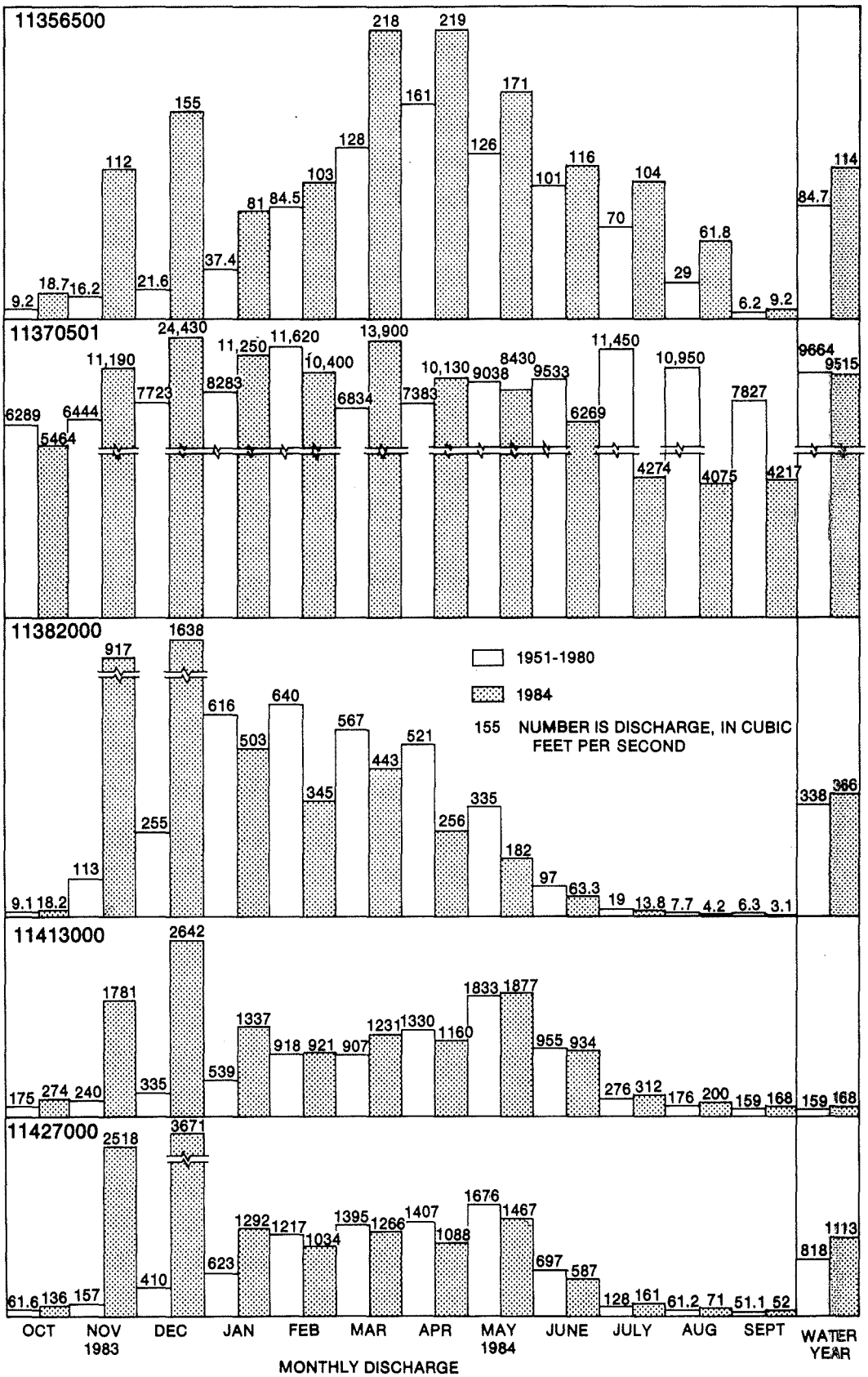

FIGURE 2. — Comparison of 1984 water year discharge with 30-year median discharge at five representative gaging stations.

Monthly and annual bedload discharge were published for two of the daily stations. The percentage of annual bedload discharge to total sediment discharge (suspended plus bedload) ranged from 6 percent for Cache Creek near Brooks to 13 percent for Cache Creek above Rumsey.

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, rod-like, 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 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 Streptoccus agar (nutrient medium for bacterial growth). Their concentations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic organisms (invertebrates) are the group of animals living in or on the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish.

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^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 (ft^3/s), is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

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

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

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

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

$$\bar{d} = \sum_{i=1}^{s} \frac{n_i}{n} \log^2 \frac{n_i}{n},$$

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

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

where I_o 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

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

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, µg/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

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

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

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.

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

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by 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 into the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Phytoplankton--Continued

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 or organochlorine insecticides.

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

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

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

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

Sediment--Continued

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.

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

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

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

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

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

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

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

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Nephelometric turbidity units (NTU), obtained from the Nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90 degrees from the path of incident light source (see also p. 26).

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

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

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each surface-water station, water-quality station, and partial-record station has been assigned a station number. These are in the same downstream order as used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 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 10 (The Great Basin), and Part 11 (Pacific slope basins in California). All records for a drainage basin encompassing more that one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

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

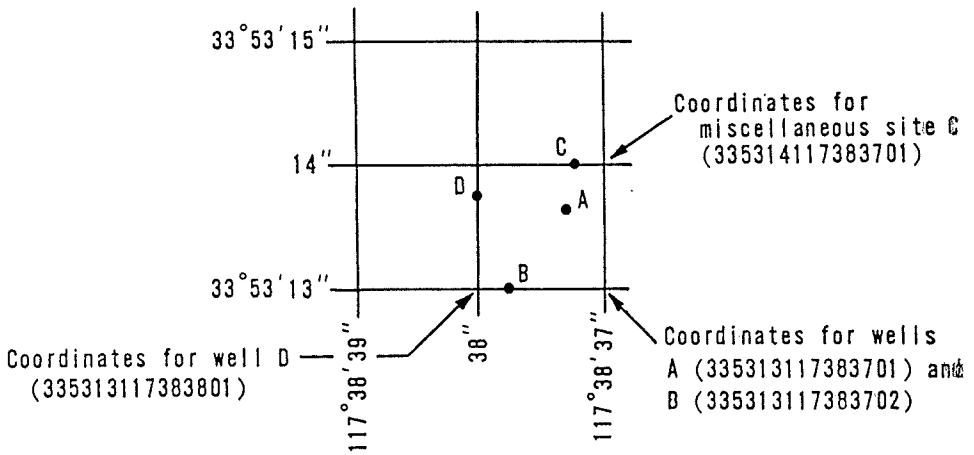

FIGURE 3.--System for numbering wells and miscellaneous sites (latitude and longitude)

Local well numbers

Wells and springs in California are assigned numbers according to their location on the rectangular system for the subdivision of public land. For example, in the number 005S/010E-22G01 M, the part of the number preceding the slash indicates the township (T.5 S.) and the number between the slash and hyphen indicates the range (R.10 E.); the digits following the hyphen indicate the section (sec.22); the letter following the section number indicates the 40-acre subdivision of the section. Within each 40-acre tract, the wells are numbered serially, as indicated by the final digit. The final letter, separated from the rest of the number by a space, indicates the base line and meridian. Base-line and meridian designations are as follows: H, Humboldt, M, Mount Diablo; S, San Bernardino. See figure 4.

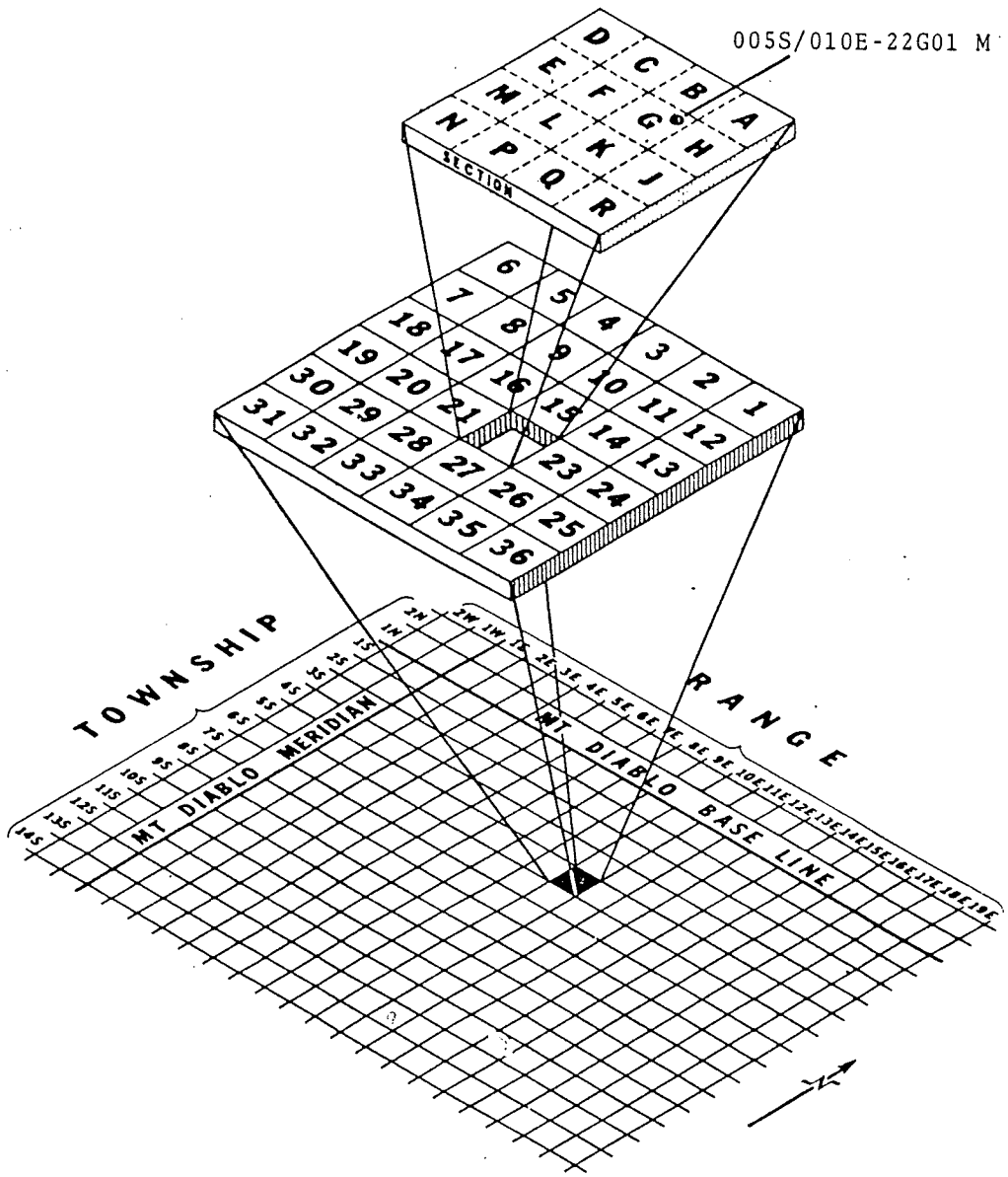

FIGURE 4.--California well-numbering system.

SPECIAL NETWORKS AND PROGRAMS

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

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from 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:

10254670 Alamo River at Drop No. 3, near Calipatria, CA
10254970 New River at International Boundary, at Calexico, 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
11103010 Los Angeles River at Willow Street Bridge, at Long Beach, CA
11108500 Santa Clara River at Los Angeles-Ventura County Line, CA

Volume 2:

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

Volume 3:

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

Volume 4:

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

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

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams and canals, and stage and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily readings on a nonrecording gage or from a water-stage recorder that gives a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in the U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

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

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

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

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

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

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

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

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of published records. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" 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 10.

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

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

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

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

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

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

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

Accuracy of field data and computed results

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

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

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

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

Other data available

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

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

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey have been collected at numerous sites by many other Federal, State, County, City, and local agencies and by private organizations. A listing of stream-gaging stations and the agencies operating them is published in California Department of Water Resources Bulletin 230-81, "Index to Sources of Hydrologic Data." The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of such sites. Information on records at specific sites can e obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

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

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

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

Water analysis

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

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

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

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

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

pH

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

Water temperature

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

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

Sediment

Suspended-sediment concentration and particle-size distribution data are determined from samples collected with depth-integrating samplers at one or more verticals across a measuring cross-section. The concentration data are then combined with water discharge data to compute suspended-sediment discharge. Samples of surface bed material are also collected and the particle size distribution of these samples are published along with the suspended-sediment data. The sampling and computational methods used are in accordance with those described in the U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapters C1 and C3.

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

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

In addition to the records of suspended-sediment discharge, estimates of bedload and total-sediment discharge are included for some stations. Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith bedload sampler or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis. The Helley-Smith sampler is designed to collect a time-weighted sample for the sediment moving within 0.25 ft (0.076 m) of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers.

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

Turbidity

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

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

Each well is identified by means of (1) a 15-digit number that is based on the grid system of latitude and longitude as shown in figure 3, and (2) a local number that is provided for continuity with older reports and for other use as dictated by local needs (fig. 4).

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

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

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

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

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

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

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

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

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

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

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

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

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

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

3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.

3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

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

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

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

3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

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

4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages

8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

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

LOCATION.--Lat 40°25'03", long 120°40'15", in SW 1/4 NE 1/4 sec.31, T.30 N., R.12 E., Lassen County, Hydrologic Unit 18080003, on left bank 0.5 mi west of Susanville, and 1.1 mi upstream from Piute Creek.

DRAINAGE AREA.--184 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1900 to December 1905 (gage heights only August 1901 to January 1903), March to May 1913 (gage heights only), February 1917 to June 1921, October 1950 to current year. Published as "near Susanville" 1900-1905. Discharge records for August to December 1901 and January 1903, published in WSP 306, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 4,225.72 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1950, nonrecording gages at several sites in vicinity of old powerplant 0.9 mi 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. Diversions for irrigation of 1,400 acres above station.

AVERAGE DISCHARGE.--40 years (water years 1901, 1904-5, 1918-20, 1951-84), 98.6 ft^3/s, 71,440 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,430 ft^3/s Nov. 24, gage height, 5.29 ft; minimum daily discharge, 5.7 ft^3/s Sept. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	45	89	206	52	95	194	163	89	115	34	10
2	21	34	98	177	50	110	185	192	81	131	32	9.6
3	20	25	97	158	49	109	195	208	76	129	30	7.2
4	18	23	84	143	48	104	215	207	121	127	28	8.1
5	18	21	74	132	47	99	212	197	116	124	25	7.8
6	17	23	83	122	49	99	180	186	143	123	23	7.6
7	17	28	113	114	50	105	174	175	161	123	19	6.4
8	17	23	128	107	54	119	240	174	138	120	16	6.1
9	17	23	212	100	103	132	226	181	130	120	13	5.8
10	17	131	236	96	99	140	247	184	125	119	10	5.7
11	17	275	226	86	82	148	236	202	117	127	17	6.4
12	16	129	168	78	86	148	224	213	115	127	13	6.7
13	17	109	149	67	293	514	214	227	113	127	8	9.6
14	17	72	183	48	220	566	202	240	107	129	4	9.2
15	17	61	218	41	177	421	225	241	104	92	0	9.3
16	17	89	199	39	164	327	249	219	102	32	7	8.3
17	17	366	207	39	138	298	275	200	98	23	2	6.5
18	17	135	166	38	124	267	312	181	95	19	7	6.9
19	17	105	145	41	114	254	318	170	90	21	5	11
20	16	127	124	44	110	254	289	155	81	16	2	10
21	17	84	107	48	129	267	254	149	122	16	1	12
22	16	64	96	52	108	235	227	146	130	15	8.8	11
23	20	58	81	58	101	225	231	145	126	116	9.0	12
24	24	551	74	62	98	224	221	141	139	149	8.5	13
25	20	249	115	67	93	217	209	136	135	146	8.4	12
26	18	144	231	68	86	235	179	131	130	143	8.8	10
27	18	107	191	64	85	227	169	123	125	141	7.6	11
28	17	92	150	60	85	209	157	114	123	139	7.1	12
29	17	80	137	55	86	199	151	109	118	137	7.0	12
30	25	75	368	54	---	197	149	104	115	136	9.7	13
31	35	---	269	53	---	200	---	97	---	138	4	---
TOTAL	581	3348	4818	2517	2980	6744	6559	5310	3465	3220	15.9	276.2
MEAN	18.7	112	155	81.2	103	218	219	171	116	104	1.8	9.21
MAX	35	551	368	206	293	566	318	241	161	149	134	13
MIN	16	21	74	38	47	95	149	97	76	15	7.0	5.7
AC-FT	1150	6640	9560	4990	5910	13380	13010	10530	6870	6390	3800	548

CAL YR 1983 TOTAL 80489 MEAN 221 MAX 2050 MIN 14 AC-FT 159600
WTR YR 1984 TOTAL 41734.1 MEAN 114 MAX 566 MIN 5.7 AC-FT 82780

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 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STRE TOCOC FECA KF AG (COLS PER 100 M
NOV , 1983											
15...	1015	58	133	7.8	3.0	655	4.0	11.4	99	K10	2
JAN , 1984											
24...	1045	58	120	7.9	.0	665	1.9	12.5	98	<1	K
MAR											
20...	1350	239	91	7.6	7.0	650	9.3	10.3	99	<1	K
MAY											
22...	1000	145	76	7.7	10.0	655	2.8	11.5	118	K10	K1
JUL											
24...	1430	155	66	7.2	22.0	655	4.8	7.6	102	230	10
SEP											
17...	1345	6.7	175	8.2	18.0	655	.90	9.3	115	K7	K1

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV , 1983											
15...	56	0	13	5.8	4.6	15	.3	1.3	60	3.5	2.9
JAN , 1984											
24...	53	3	12	5.5	4.7	16	.3	1.1	47	1.8	10
MAR											
20...	41	0	10	3.8	3.8	17	.3	.8	49	3.3	1.3
MAY											
22...	36	0	8.6	3.4	2.8	14	.2	.7	41	1.7	.6
JUL											
24...	30	3	6.4	3.4	2.4	15	.2	.6	27	2.0	5.0
SEP											
17...	74	0	16	8.3	5.9	14	.3	2.5	93	2.7	.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
NOV , 1983											
15...	<.1	27	95	95	.13	<.10	.05	.60	.08	.09	.05
JAN , 1984											
24...	<.1	26	106	89	.14	<.10	.05	<.20	.03	.15	.03
MAR											
20...	<.1	24	86	76	.12	<.10	.02	.20	.03	.11	.02
MAY											
22...	<.1	21	63	64	.09	<.10	.02	.20	.02	.02	.02
JUL											
24...	<.1	13	54	49	.07	<.10	.01	.60	.05	.01	.05
SEP											
17...	<.1	35	124	130	.17	<.10	.01	.50	.01	.01	.01

See footnotes at end of table.

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV , 1983										
15...	1015	90	<1	29	<.5	1	<1	<3	2	190
JAN , 1984										
24...	1045	20	<1	27	<.5	<1	<1	<3	2	38
MAY										
22...	1000	90	<1	16	<1	<1	<1	<3	<1	170
SEP										
17...	1345	10	<1	30	1	<1	1	<3	11	63

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV , 1983											
15...	<1	12	11	<.1	<10	1	<1	<1	110	<6	13
JAN , 1984											
24...	1	6	12	<.1	<10	3	<1	<1	97	<6	7
MAY											
22...	<1	5	9	<.1	<10	<1	<1	<1	62	<6	14
SEP											
17...	2	7	3	<.1	<10	<1	<1	<1	120	<6	5

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.

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

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
NOV					
15...	1015	58	3.0	11	1.7
JAN					
24...	1045	58	.0	17	2.7
MAR					
20...	1350	239	7.0	19	12
MAY					
22...	1000	145	10.0	9	3.5
JUL					
24...	1430	155	22.0	20	8.4
SEP					
17...	1345	6.7	18.0	2	.04

10358500 WILLOW CREEK NEAR SUSANVILLE, CA

LOCATION.--Lat 40°29'21", long 120°32'10", in SW 1/4 NE 1/4 sec.5, T.30 N., R.13 E., Lassen County, Hydrologic Unit 18080003, on left bank 4 mi upstream from Peters Valley Creek, and 8 mi northeast of Susanville.

DRAINAGE AREA.--90.4 mi^2, excludes that of Eagle Lake Basin.

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

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

GAGE.--Water-stage recorder. Datum of gage is 4,836.27 ft National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--34 years, 35.3 ft^3/s, 25,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 816 ft^3/s Feb. 1, 1963, gage height, 5.59 ft; minimum daily discharge, 6.8 ft^3/s on several days during August 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 313 ft^3/s Nov. 24 (1245 hrs), gage-height, 4.26 ft, no other peak above base of 200 ft^3/s; minimum daily discharge, 8.1 ft^3/s Aug. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	44	102	144	73	66	52	16	11	22	9.1	20
2	34	45	106	124	73	66	51	14	11	27	10	22
3	34	44	111	106	70	64	50	12	10	26	13	20
4	33	42	101	93	69	62	49	12	11	26	14	21
5	34	41	95	86	69	59	48	12	11	25	12	22
6	35	40	91	82	70	58	47	13	10	25	11	21
7	35	40	114	79	68	58	46	15	10	24	10	22
8	36	40	119	76	67	57	49	17	11	22	8.2	23
9	35	40	104	71	67	56	50	18	11	14	8.3	24
10	33	42	101	68	65	55	52	17	12	12	8.3	25
11	32	69	132	69	63	54	51	19	13	11	8.3	24
12	33	65	148	68	66	53	50	20	12	11	8.2	22
13	34	66	131	64	91	57	48	20	12	12	8.4	20
14	34	68	115	57	119	66	47	19	12	14	9.3	15
15	34	72	99	54	129	71	45	17	12	15	9.1	18
16	34	79	94	52	119	70	44	16	12	23	8.8	15
17	34	150	93	49	106	74	44	17	13	37	8.8	16
18	34	140	89	44	97	73	43	17	13	35	8.9	13
19	34	103	86	47	90	70	44	16	12	33	8.6	12
20	34	90	76	46	85	68	43	15	11	31	8.4	17
21	34	74	60	46	93	65	43	13	11	30	8.4	26
22	34	70	59	47	89	62	42	14	10	29	8.3	28
23	36	71	56	49	85	61	37	14	10	29	8.2	28
24	36	176	40	52	80	59	21	14	10	28	8.3	27
25	37	237	47	57	78	57	19	14	10	26	8.1	27
26	37	179	61	63	73	58	19	12	10	25	8.3	28
27	36	136	73	64	71	54	20	12	10	23	8.4	30
28	36	114	73	64	69	54	18	12	14	21	8.4	30
29	36	95	72	65	67	52	17	12	16	18	8.4	29
30	40	94	103	67	---	51	16	11	17	13	8.9	26
31	42	---	135	70	---	52	---	11	---	9.8	11	---
TOTAL	1085	2566	2886	2123	2361	1882	1205	461	348	696.8	285.4	671
MEAN	35.0	85.5	93.1	68.5	81.4	60.7	40.2	14.9	11.6	22.5	9.21	22.4
MAX	42	237	148	144	129	74	52	20	17	37	14	30
MIN	32	40	40	44	63	51	16	11	10	9.8	8.1	12
AC-FT	2150	5090	5720	4210	4680	3730	2390	914	690	1380	566	1330

CAL YR 1983 TOTAL 27266.6 MEAN 74.7 MAX 470 MIN 8.7 AC-FT 54080
WTR YR 1984 TOTAL 16570.2 MEAN 45.3 MAX 237 MIN 8.1 AC-FT 32870

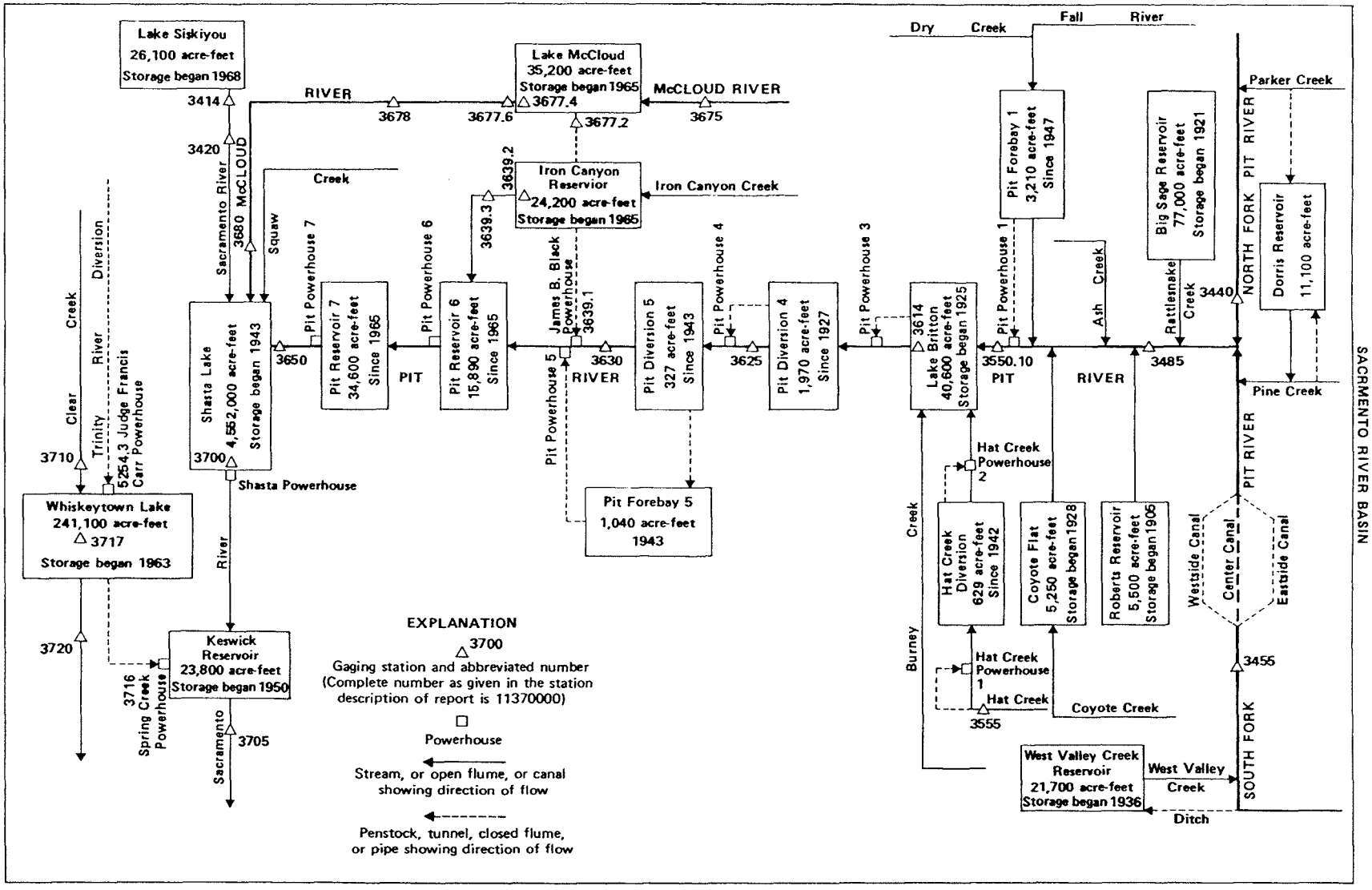

FIGURE 5. — Schematic diagram showing diversions and storage in Pit and McCloud River basins.

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA

LOCATION.--Lat 41°15'56", long 122°18'32", in SE 1/4 SE 1/4 sec.33, T.40 N., R.4 W., Siskiyou County, Hydrologic Unit 18020005, on left bank 200 ft upstream from Stink Creek, 0.3 mi upstream from Southern Pacific Railroad bridge, 1.7 mi downstream from Box Canyon Dam, and 3.3 mi south of town of Mt. Shasta.

DRAINAGE AREA.--135 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft, from topographic map. Prior to July 1, 1966, water-stage recorder at site 500 ft upstream at datum 7.26 ft higher, July 1, 1966, to Aug. 13, 1974, at datum 3.00 ft higher.

REMARKS.--Records fair. Flow regulated by Box Canyon Dam 1.7 mi upstream beginning December 1968, capacity, 26,100 acre-ft. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents in Lake Siskiyou).--25 years, 262 ft^3/s, 189,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s Dec. 22, 1964, gage height, 15.6 ft from floodmarks, present site and datum, from slope-area measurement of maximum flow; minimum, 37 ft^3/s Sept. 6, 1962. Maximum discharge since construction of Box Canyon Dam in 1968, 11,500 ft^3/s Jan. 16, 1974, gage-height, 13.25 ft from floodmarks, from rating curve extended above 2,900 ft^3/s on basis of flow-over-dam computation of maximum flow; minimum daily discharge, 14 ft^3/s Dec. 8-16, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,190 ft^3/s Dec. 11, gage height, 5.44 ft; minimum daily discharge, 42 ft^3/s Sept. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	156	143	513	172	210	367	328	352	132	55	97
2	100	125	143	503	172	208	343	341	351	134	55	75
3	99	157	149	500	172	207	331	407	217	108	56	65
4	97	196	150	473	172	207	322	458	161	60	74	65
5	92	196	190	388	209	207	325	481	204	60	86	65
6	92	196	255	393	280	207	337	472	242	60	84	63
7	92	196	273	395	284	207	323	424	298	60	81	63
8	91	216	281	398	284	207	381	400	283	60	81	63
9	90	296	623	444	310	207	371	485	186	60	78	63
10	92	431	1050	475	301	207	358	582	157	60	75	63
11	106	377	1150	475	300	211	330	615	159	61	72	63
12	163	419	894	421	300	216	314	721	159	92	69	62
13	267	587	590	369	344	338	305	787	163	137	63	60
14	304	837	476	279	320	508	313	767	167	139	58	60
15	304	865	398	254	334	552	389	505	167	139	58	60
16	304	400	499	254	375	469	559	359	167	92	58	60
17	260	472	674	248	364	407	569	360	167	60	58	60
18	43	416	539	248	364	396	554	356	167	60	58	62
19	54	398	388	251	341	346	455	390	106	64	58	70
20	97	384	363	251	264	272	395	569	106	63	58	80
21	96	337	297	251	210	274	378	533	137	62	58	86
22	96	217	251	251	210	324	378	470	137	62	60	86
23	97	217	251	251	210	403	459	398	137	62	65	86
24	108	258	331	207	210	413	515	398	137	62	65	58
25	120	258	576	167	210	408	507	428	88	83	65	42
26	103	193	732	167	210	463	406	461	58	100	65	44
27	95	143	846	167	210	483	349	436	58	100	65	44
28	93	143	614	167	210	461	324	353	83	100	65	45
29	95	143	465	168	210	438	326	355	132	100	65	48
30	98	143	540	171	---	352	328	355	132	72	79	55
31	106	---	527	172	---	360	---	355	---	55	104	---
TOTAL	3951	9372	14658	9671	7552	10168	11611	14349	5078	2559	2091	1913
MEAN	127	312	473	312	260	328	387	463	169	82.5	67.5	63.8
MAX	304	865	1150	513	375	552	569	787	352	139	104	97
MIN	43	125	143	167	172	207	305	328	58	55	55	42
AC-FT	7840	18590	29070	19180	14980	20170	23030	28460	10070	5080	4150	3790
MEAN a	94.0	304	483	305	256	371	375	466	166	82.6	67.5	63.7
AC-FT a	5780	18060	29680	18770	14740	22840	22340	28630	9900	5080	4150	3790
b	24090	23560	24170	23760	23520	26190	25500	25670	25500	25500	25500	25500

CAL YR 1983 TOTAL 201044 MEAN 551 MAX 2680 MIN 43 AC-FT 398800 MEAN a 551 AC-FT a 399000
WTR YR 1984 TOTAL 92973 MEAN 254 MAX 1150 MIN 42 AC-FT 184400 MEAN a 253 AC-FT a 183800

a Adjusted for change in contents in Lake Siskiyou.
b 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, 1.0°C on several days in January and February 1982.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 17.5°C several days during August; minimum recorded, 3.5°C Jan. 17-20.

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

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

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

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

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

11342000 SACRAMENTO RIVER AT DELTA, CA

LOCATION.--Lat 40°56'23", long 122°24'58", in SW 1/4 NW 1/4 sec.35, T.36 N., R.5 W, Shasta County, Hydrologic Unit 18020005, Bureau of Reclamation property, on left bank 0.2 mi downstream from Dog Creek, 0.6 mi southeast of Delta, and 2.8 mi south of Lamoine.

DRAINAGE AREA.--425 mi^2.

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

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

AVERAGE DISCHARGE.--40 years, 1,210 ft^3/s, 876,600 acre-ft/yr .

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,700 ft^3/s Dec. 11, gage height, 12.33 ft; minimum daily discharge, 203 ft^3/s Sept. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	413	3430	832	3190	866	1020	1310	1250	858	417	250	295
2	403	972	822	2790	855	1000	1240	1280	837	410	249	271
3	394	683	1520	2620	847	977	1210	1390	777	403	248	241
4	389	696	1380	2650	847	958	1200	1430	600	332	248	241
5	384	627	1190	2590	850	943	1200	1400	675	312	282	237
6	388	789	1920	2530	942	938	1200	1340	830	309	281	231
7	384	758	4150	2370	937	937	1150	1310	873	306	271	231
8	380	659	3370	2170	929	940	1460	1260	787	303	267	231
9	397	869	9870	2040	1460	945	1320	1410	685	300	265	231
10	407	5380	9430	1990	1190	949	1500	1470	592	299	256	224
11	392	3300	11900	1870	1110	949	1320	1620	579	297	255	224
12	420	3470	7810	1740	1090	937	1240	1730	572	294	249	224
13	488	3230	5090	1580	2550	2230	1200	1790	572	361	247	224
14	562	2560	3890	1430	2200	2640	1210	1740	564	371	233	221
15	562	2180	3210	1330	1870	4180	1350	1390	551	369	231	231
16	560	2150	2950	1270	1830	3280	1620	1110	538	363	232	221
17	558	4590	3000	1210	1670	2820	1650	1070	528	281	233	218
18	404	2520	2640	1170	1550	2440	1720	1050	521	285	232	215
19	323	2260	2160	1130	1470	2220	1540	1090	511	282	229	224
20	358	2130	1970	1100	1390	2040	1330	1290	435	282	228	237
21	379	1700	1770	1070	1480	1960	1270	1280	483	284	227	262
22	377	1310	1540	1050	1370	1760	1280	1190	474	278	226	253
23	397	1150	1490	1020	1300	1780	1370	1110	464	277	230	253
24	388	1540	1750	993	1290	1710	1450	1050	457	279	234	253
25	399	1420	5440	935	1200	1630	1420	1030	442	273	236	212
26	393	1200	6090	919	1140	1650	1250	1090	357	311	239	203
27	372	988	5010	898	1100	1690	1150	1060	351	309	238	206
28	370	929	3800	888	1070	1590	1090	966	346	307	236	206
29	377	877	3010	886	1040	1530	1090	953	409	307	235	206
30	577	846	4550	876	---	1410	1120	936	420	303	253	216
31	1050	---	3830	870	---	1370	---	893	---	253	329	---
TOTAL	13645	55213	117384	49175	37443	51423	39460	38978	17088	9757	7669	6942
MEAN	440	1840	3787	1586	1291	1659	1315	1257	570	315	247	231
MAX	1050	5380	11900	3190	2550	4180	1720	1790	873	417	329	295
MIN	323	627	822	870	847	937	1090	893	346	253	226	203
AC-FT	27060	109500	232800	97540	74270	102000	78270	77310	33890	19350	15210	13770

CAL YR 1983 TOTAL 1063854 MEAN 2915 MAX 20900 MIN 323 AC-FT 2110000
WTR YR 1984 TOTAL 444177 MEAN 1214 MAX 11900 MIN 203 AC-FT 881000

11344000 NORTH FORK PIT RIVER AT ALTURAS, CA

LOCATION.--Lat 41°28'56", long 120°32'16", in SE 1/4 NW 1/4 sec.13, T.42 N., R.12 E., Modoc County, Hydrologic Unit 18020002, on right bank 10 ft downstream from Estes Street bridge in Alturas, and 1.2 mi upstream from confluence of North and South Forks.

DRAINAGE AREA.--212 mi^2, 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 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 upstream.

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

AVERAGE DISCHARGE.--13 years, 72.6 ft^3/s, 52,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,570 ft^3/s Dec. 15, 1983, gage height, 14.89 ft from weir rating curve extended above 1,300 ft^3/s on basis of slope-area measurement of maximum flow; minimum daily discharge, 0.01 ft^3/s July 20, Aug. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,570 ft^3/s Dec. 15, gage height, 14.89 ft; minimum daily discharge, 0.38 ft^3/s Sept. 13.

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 1972, 1974, 1978 and 1980-83.

Water Year	Date	Discharge (ft^3/s)	Gage-height (ft)	Water Year	Date	Discharge (ft^3/s)	Gage-height (ft)
1972	Feb. 29	2,580	11.90	1981	Feb. 14	733	8.56
1974	Jan. 19	1,080	8.92	1982	Feb. 16	2,320	13.02
1978	Apr. 26	1,350	9.98	1983	May 1	1,580	11.16
1980	Jan. 14	3,150	13.45				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	20	31	513	81	146	261	347	156	23	3.3	1.3
2	4.5	18	81	347	77	168	246	379	135	23	2.6	1.5
3	4.5	17	129	274	75	134	210	408	133	18	2.5	1.5
4	8.5	16	73	258	78	120	202	592	181	13	1.4	1.5
5	9.6	29	47	279	85	108	200	476	263	9.1	.56	1.5
6	7.6	17	36	330	90	108	218	374	378	6.6	1.0	.91
7	7.3	44	75	351	92	113	187	325	400	6.0	1.4	.50
8	8.6	32	258	307	93	126	215	319	324	4.4	1.7	.54
9	9.8	33	208	273	103	149	225	351	239	3.7	1.2	.56
10	9.8	22	177	245	101	165	262	346	214	2.7	.41	.43
11	9.8	32	279	234	90	174	319	455	191	3.1	.74	.47
12	9.9	65	176	186	94	162	272	554	171	6.3	.89	.55
13	11	39	100	157	254	169	231	508	147	13	1.2	.38
14	11	45	908	138	255	212	249	496	112	11	1.4	.48
15	10	34	2810	93	234	192	323	462	112	7.8	.95	.68
16	9.8	47	723	55	348	178	378	364	95	6.0	.40	.96
17	9.8	43	718	52	206	166	365	297	88	5.0	.75	1.3
18	9.4	46	379	50	152	158	332	253	86	5.0	.80	1.4
19	9.4	39	305	58	134	149	333	260	72	5.0	.66	1.3
20	9.6	49	204	76	142	167	286	276	65	4.6	.64	1.3
21	9.8	46	141	88	195	223	249	290	88	1.7	.86	.92
22	9.8	34	131	86	175	197	246	259	77	.50	.68	1.1
23	9.2	31	108	84	146	184	266	247	64	2.2	.85	1.1
24	8.2	63	77	100	131	209	254	275	56	3.2	1.0	.96
25	9.3	100	103	112	116	199	219	213	49	3.5	.61	.75
26	12	89	424	96	107	473	198	210	46	2.5	.76	.75
27	20	51	391	87	119	377	188	180	38	2.0	1.9	.75
28	51	39	288	86	137	325	168	192	16	2.8	1.9	.75
29	42	32	318	85	119	297	188	173	22	3.8	.86	.78
30	18	28	1240	84	---	256	228	182	24	4.6	.72	.92
31	21	---	921	81	---	239	---	185	---	4.7	.96	---
TOTAL	385.0	1200	11859	5265	4029	6043	7518	10248	4042	207.80	35.60	27.84
MEAN	12.4	40.0	383	170	139	195	251	331	135	6.70	1.15	.93
MAX	51	100	2810	513	348	473	378	592	400	23	3.3	1.5
MIN	4.5	16	31	50	75	108	168	173	16	.50	.40	.38
AC-FT	764	2380	23520	10440	7990	11990	14910	20330	8020	412	71	55

CAL YR 1983 TOTAL 53062.82 MEAN 145 MAX 2810 MIN .47 AC-FT 105300
WTR YR 1984 TOTAL 50860.24 MEAN 139 MAX 2810 MIN .38 AC-FT 100900

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA

LOCATION.--Lat 41°13'51", long 120°26'10", in NE 1/4 SE 1/4 sec.11, T.39 N., R.13 E., Modoc County, Hydrologic Unit 18020002, on left bank 250 ft downstream from highway bridge, 1.4 mi downstream from West Valley Creek, and 3.5 mi east of Likely.

DRAINAGE AREA.--247 mi^2.

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,508 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

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

AVERAGE DISCHARGE.--56 years, 81.8 ft^3/s, 59,260 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 872 ft^3/s May 25, gage height, 4.86 ft; minimum daily discharge 7.4 ft^3/s Jan. 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	44	27	93	43	74	312	291	717	211	176	193
2	85	41	34	82	43	79	330	288	663	206	173	169
3	84	41	35	79	42	63	304	289	600	200	170	165
4	82	40	30	81	43	58	289	322	569	205	169	161
5	62	40	31	85	45	54	289	321	582	205	169	157
6	40	39	27	84	45	56	315	304	579	200	183	158
7	40	39	29	81	44	58	295	296	588	203	206	158
8	40	37	41	75	45	61	295	297	580	201	199	157
9	41	39	67	70	49	66	304	329	528	197	191	158
10	41	30	73	69	48	67	298	350	479	191	188	155
11	41	25	60	68	44	67	287	377	441	181	187	153
12	41	20	43	61	48	64	278	437	408	171	192	152
13	42	20	41	60	69	67	271	554	381	169	188	151
14	43	19	114	47	70	76	273	634	358	179	186	151
15	41	21	259	33	68	76	290	674	339	186	184	156
16	41	19	219	27	77	73	319	675	327	213	181	153
17	40	23	168	26	60	76	332	636	321	213	196	150
18	40	22	123	16	55	89	325	614	318	213	205	144
19	39	21	113	10	55	104	327	616	314	216	203	137
20	38	24	93	7.4	55	124	334	654	314	216	203	128
21	38	21	81	14	59	148	323	716	314	214	204	101
22	37	23	82	34	55	157	325	745	300	206	208	78
23	42	23	119	42	55	162	341	771	282	204	212	75
24	45	28	139	46	52	171	349	833	269	206	205	73
25	40	30	104	52	50	180	337	861	260	197	195	72
26	38	27	143	46	49	236	324	854	254	189	178	71
27	37	24	118	44	53	252	314	844	247	185	178	71
28	38	24	83	44	60	245	298	804	239	183	179	69
29	37	23	96	43	58	254	285	774	231	182	182	58
30	46	25	167	42	---	260	287	755	221	181	181	35
31	45	---	130	42	---	267	---	742	---	176	215	---
TOTAL	1450	852	2889	1603.4	1539	3784	9250	17657	12023	6099	5886	3809
MEAN	46.8	28.4	93.2	51.7	53.1	122	308	570	401	197	190	127
MAX	86	44	259	93	77	267	349	861	717	216	215	193
MIN	37	19	27	7.4	42	54	271	288	221	169	169	35
AC-FT	2880	1690	5730	3180	3050	7510	18350	35020	23850	12100	11670	7560

CAL YR 1983 TOTAL 57438 MEAN 157 MAX 1130 MIN 12 AC-FT 113900
WTR YR 1984 TOTAL 66841.4 MEAN 183 MAX 861 MIN 7.4 AC-FT 132600

11348500 PIT RIVER NEAR CANBY, CA

LOCATION.--Lat 41°24'22", long 120°55'36", in NW 1/4 SW 1/4 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 southwest of Canby.

DRAINAGE AREA.--1,431 mi^2, 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 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 upstream at different datum.

REMARKS.--Records good except those for the winter periods, which are fair. Flow regulated by many small reservoirs, total capacity about 144,000 acre-ft. Diversions for irrigation of about 39,000 acres above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--54 years (water years 1905, 1932-84), 253 ft^3/s, 183,300 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,050 ft^3/s Dec. 17, gage height, 7.61 ft; minimum daily discharge, 25 ft^3/s Aug. 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	161	177	2560	281	570	828	647	978	88	91	117
2	94	145	288	2220	276	628	830	748	950	130	88	198
3	151	154	483	1860	261	680	860	814	884	130	83	278
4	167	155	544	1420	255	629	850	869	878	62	56	277
5	120	148	411	1080	256	550	808	1010	906	71	60	227
6	90	165	312	1020	262	490	783	1090	950	117	59	175
7	83	159	335	1010	265	467	779	1030	1010	83	57	132
8	72	154	488	954	262	463	822	908	1040	91	41	130
9	70	161	687	850	269	471	848	810	1050	99	41	123
10	66	187	710	772	292	487	888	773	1020	102	50	129
11	78	238	793	707	290	500	950	768	950	108	86	135
12	66	231	870	658	277	507	989	815	884	99	79	137
13	60	248	647	574	351	535	929	934	805	85	70	123
14	62	253	568	423	657	660	840	983	725	93	59	101
15	64	224	1230	365	685	768	795	1030	698	78	50	101
16	70	211	2500	343	768	762	808	1070	627	93	126	112
17	70	248	2850	251	902	744	858	1080	525	148	86	129
18	69	316	2530	208	755	723	882	1070	439	173	72	135
19	69	294	1970	228	628	689	884	1040	452	169	128	140
20	94	289	1490	288	615	665	869	1010	388	134	63	141
21	71	268	929	348	722	687	861	994	347	145	25	150
22	64	229	529	346	775	745	817	978	356	142	33	175
23	75	183	351	347	718	720	786	934	488	143	43	178
24	69	275	240	347	637	691	777	911	497	129	41	158
25	87	450	402	369	602	684	765	895	427	172	46	136
26	169	474	1030	375	553	703	747	928	352	127	48	124
27	106	398	1490	340	520	922	731	994	280	101	66	123
28	91	273	1510	305	544	1010	690	1020	256	106	61	126
29	97	205	1550	299	568	955	629	1010	243	108	69	134
30	121	174	1670	294	---	911	611	1000	159	98	78	171
31	118	---	2210	288	---	881	---	983	---	93	84	---
TOTAL	2779	7070	31794	21449	14246	20897	24514	29146	19564	3517	2039	4515
MEAN	89.6	236	1026	692	491	674	817	940	652	113	65.8	150
MAX	169	474	2850	2560	902	1010	989	1090	1050	173	128	278
MIN	60	145	177	208	255	463	611	647	159	62	25	101
AC-FT	5510	14020	63060	42540	28260	41450	48620	57810	38810	6980	4040	8960

CAL YR 1983 TOTAL 183587 MEAN 503 MAX 2850 MIN 52 AC-FT 364100
WTR YR 1984 TOTAL 181530 MEAN 496 MAX 2850 MIN 25 AC-FT 360100

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

LOCATION.--Lat 40°59'00", long 121°30'39", in NE 1/4 NW 1/4 sec.15, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on left bank 0.9 mi downstream from Pit No. 1 powerhouse and 4 mi southwest of Fall River Mills.

DRAINAGE AREA.--3,761 mi^2, excluding Goose Lake basin.

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

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

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

AVERAGE DISCHARGE.--9 years, 2,020 ft^3/s, 1,463,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft^3/s Jan. 14, 1980, gage height, 14.78 ft from crest-stage gage; minimum daily discharge, 819 ft^3/s Feb. 1, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1974 reached a stage of 14.8 ft, from floodmarks on right bank, discharge 22,600 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,420 ft^3/s Jan. 1, gage height, 9.49 ft; minimum daily discharge, 860 ft^3/s Aug. 22.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1610	1480	2100	5950	1720	3090	3360	2530	2240	1600	1420	1450
2	1630	1770	2340	5760	1950	3100	3150	2600	2350	1500	1530	1410
3	1660	1760	2930	5590	2030	2590	3080	2710	2450	1540	1420	1550
4	1700	1990	3270	5240	2020	3560	3210	2930	2350	1500	1460	1510
5	1640	1970	3060	4960	2030	3050	2950	3090	2440	1490	1400	1490
6	1630	1790	2860	4630	2140	2870	2990	3130	2530	1490	1380	1510
7	1680	1780	2720	4390	2100	2740	3000	3110	2590	1520	1360	1520
8	1700	1800	3040	4140	2080	2800	2950	3160	2660	1470	1490	1500
9	1650	1840	3190	3860	1990	2700	3150	3050	2630	1470	1310	1490
10	1690	1870	3730	3680	2260	2680	3250	2870	2590	1460	1610	1490
11	1690	2070	4520	3360	2240	2710	3180	2730	2610	1440	1290	1480
12	1600	2130	4790	3380	2220	2720	3480	2540	2520	1470	1500	1520
13	1660	2310	4610	3070	2410	2760	3130	2540	2710	1480	1680	1500
14	1620	2390	4140	2850	2970	3090	3210	3020	2530	1270	1510	1490
15	1610	2140	3640	2710	3270	3880	3210	2930	2370	1590	1480	1500
16	1610	2130	3840	2530	3860	4310	3360	2930	2130	1460	1450	1510
17	1590	2440	4720	2440	3740	4490	2960	2890	2090	1400	1420	1520
18	1630	2610	5370	2330	3670	4460	2860	2830	2060	1490	1460	1510
19	1620	2460	5740	2300	3470	4010	3100	2710	2140	1450	1490	1530
20	1640	2340	5360	2230	3240	3890	3230	2670	1910	1460	1550	1580
21	1630	2330	4610	2320	3290	3510	3070	2600	1920	1300	1200	1570
22	1670	2290	3820	2330	3700	3590	3040	2680	1810	1480	860	1520
23	1810	2100	3080	2300	3430	3420	3080	2550	1810	1550	1910	1610
24	1460	2300	2500	2300	3270	3220	2930	2560	1840	1440	1010	1560
25	1410	2660	2440	2290	3190	3330	2760	2460	1900	1440	1610	1500
26	1690	2580	2660	2320	3150	3170	2790	2490	1810	1440	1480	1720
27	1680	2500	3600	2310	3020	3210	2740	2500	1730	1440	1390	1640
28	2020	2430	4250	2260	3050	3160	2710	2480	1710	1430	1450	1650
29	1820	2280	4790	2220	3060	3300	2630	2180	1760	1430	1400	1680
30	1780	2120	5390	2240	---	3360	2590	2190	1660	1450	1570	1650
31	1590	---	5730	2150	---	3240	---	2520	---	1460	1510	---
TOTAL	51420	64660	118840	100440	80570	102010	91150	84180	65850	45410	44600	46160
MEAN	1659	2155	3834	3240	2778	3291	3038	2715	2195	1465	1439	1539
MAX	2020	2660	5740	5950	3860	4490	3480	3160	2710	1600	1910	1720
MIN	1410	1480	2100	2150	1720	2590	2590	2180	1660	1270	860	1410
AC-FT	102000	128300	235700	199200	159800	202300	180800	167000	130600	90070	88460	91560

CAL YR 1983 TOTAL 1115490 MEAN 3056 MAX 11400 MIN 1410 AC-FT 2213000
WTR YR 1984 TOTAL 895290 MEAN 2446 MAX 5950 MIN 860 AC-FT 1776000

11355500 HAT CREEK NEAR HAT CREEK, CA

LOCATION.--Lat 40°41'12", long 121°25'25", in NW 1/4 SE 1/4 sec.28, T.33 N., R.5 E., Shasta County, Hydrologic Unit 18020003, on right bank 0.8 mi northeast of Old Station Post Office, and 8 mi southeast of Hat Creek Post Office.

DRAINAGE AREA.--162 mi^2, 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, from topographic map. July 1926 to April 1928 at site 0.5 mi upstream at different datum. May 1928 to July 1965 at site 80 ft upstream at datum 2.76 ft higher.

REMARKS.--Records good. Diversions for irrigation of 260 acres above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--57 years (water years 1927-29, 1931-84), 142 ft^3/s, 102,900 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 397 ft^3/s Nov. 10 (2345 hrs), gage height, 4.07 ft, no other peak above base of 220 ft^3/s; minimum daily discharge, 162 ft^3/s Aug. 26, Sept. 9, 10, 14, 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	208	190	212	181	178	180	180	252	211	174	178
2	170	198	189	206	180	178	179	182	244	211	172	177
3	170	193	190	204	180	177	179	191	240	211	172	176
4	169	195	186	202	180	176	179	203	261	209	175	175
5	170	192	183	200	180	176	178	201	253	209	174	174
6	169	209	189	199	179	176	178	195	265	213	170	174
7	169	213	188	198	179	176	177	195	259	209	169	174
8	170	200	187	197	179	177	184	203	234	204	170	171
9	171	202	193	195	183	177	179	215	229	196	175	162
10	171	268	194	194	178	177	179	222	227	193	178	162
11	171	293	191	193	179	177	176	248	222	190	178	163
12	171	229	186	192	181	177	176	270	216	187	178	163
13	175	214	192	188	190	189	175	261	218	185	178	163
14	179	204	198	182	184	189	178	254	220	182	177	162
15	179	199	200	192	184	185	183	233	223	178	177	162
16	180	199	197	189	182	183	189	218	227	181	177	166
17	180	222	194	177	179	181	189	213	232	184	177	167
18	181	201	191	178	180	181	190	208	232	187	177	166
19	181	202	189	186	180	181	186	220	234	184	172	168
20	180	202	188	181	180	183	182	237	230	182	167	177
21	181	194	184	189	182	185	178	237	221	183	166	171
22	182	189	181	186	175	183	180	237	218	183	166	170
23	188	190	179	184	179	182	186	247	218	182	166	169
24	185	212	193	183	181	183	188	241	220	182	166	169
25	183	201	241	183	179	183	185	237	220	181	166	169
26	183	194	260	183	177	186	182	247	219	179	162	169
27	184	191	223	182	179	186	179	245	216	178	163	169
28	183	190	210	182	177	185	176	252	218	178	163	169
29	185	190	207	182	177	184	175	265	219	182	172	169
30	203	189	237	182	---	182	178	273	213	180	183	169
31	200	---	225	182	---	182	---	263	---	177	184	---
TOTAL	5534	6183	6155	5883	5224	5615	5423	7093	6900	5891	5344	5073
MEAN	179	206	199	190	180	181	181	229	230	190	172	169
MAX	203	293	260	212	190	189	190	273	265	213	184	178
MIN	169	189	179	177	175	176	175	180	213	177	162	162
AC-FT	10980	12260	12210	11670	10360	11140	10760	14070	13690	11680	10600	10060

CAL YR 1983 TOTAL 73327 MEAN 201 MAX 388 MIN 144 AC-FT 145400
WTR YR 1984 TOTAL 70318 MEAN 192 MAX 293 MIN 162 AC-FT 139500

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA

11361400 LAKE BRITTON NEAR BURNEY.--Lat 41°01'20", long 121°40'32", in SW 1/4 SW 1/4 sec.30, T.37 N., R.3 E., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, at control house on right bank 200 ft upstream from dam on Pit River, 1.1 mi downstream from Clark Creek, 1.3 mi northwest of Burney Falls, and 9 mi north of Burney. DRAINAGE AREA, 4,607 mi^2. 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. Dead storage, 30 acre-ft. Normal operating pool is from elevation 2,744.0 ft, capacity, 26,183 acre-ft to 2,757.0 ft, capacity, 40,626 acre-ft. 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 (at 2400) FOR PERIOD OF RECORD: Maximum total contents, 46,576 acre-ft Jan. 25, 1970, elevation, 2,761.55 ft; minimum total contents, 26,755 acre-ft Oct. 9, 1976, elevation, 2,744.60 ft.

EXTREMES (at 2400) FOR CURRENT YEAR: Maximum contents, 39,493 acre-ft Dec. 19, elevation, 2,755.10 ft; minimum, 29,345 acre-ft Sept. 19, 22, elevation, 2,747.20 ft.

11363920 IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW 1/4 SE 1/4 sec.21, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, in control house on left bank 500 ft upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 mi northwest of Big Bend. DRAINAGE AREA, 11.1 mi^2. 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 between elevations 2,525.00 ft, invert of sluice pipe and 2,665.00 ft, crest of spillway. No dead storage. Water is diverted from Lake McCloud through a tunnel to Iron Canyon Reservoir and then 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 (at 2400) FOR PERIOD OF RECORD: Maximum contents, 23,539 acre-ft May 16, 22, 1977, elevation, 2,663.60 ft; normal minimum since reservoir first filled, 2,860 acre-ft May 23, 24, 29, June 2, 7, 8, 14, 23, 24, 1966, elevation, 2,590.00 ft. Reservoir drained for inspection Feb. 10, 1971. Contents reduced to 195 acre-ft, elevation, 2,540.00 ft.

EXTREMES (at 2400) FOR CURRENT YEAR: Maximum contents, 11,318 acre-ft June 22, elevation, 2,602.50 ft; minimum, 3,404 acre-ft Nov. 18, 19, 30, Mar. 9, elevation, 2,594.70 ft.

11367740 LAKE McCLOUD NEAR McCLOUD.--Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 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 downstream from Panther Creek, and 8.8 mi southeast of McCloud. DRAINAGE AREA, 403 mi^2. 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 between elevations 2,471.30 ft, invert of sluice pipe and 2,680.00 ft, maximum operational water surface. No dead storage. Water is diverted from Lake McCloud through a diversion tunnel to Iron Canyon Reservoir and then 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 (at 2400) FOR PERIOD OF RECORD: Maximum contents, 35,967 acre-ft Jan. 15, 1974, elevation, 2,681.40 ft; minimum since reservoir first filled, 13,017 acre-ft Oct. 14-22, 1981, elevation, 2,632.50 ft.

EXTREMES (at 2400) FOR CURRENT YEAR: Maximum contents, 34,975 acre-ft several days during year, elevation, 2,679.50 ft; minimum, 19,889 acre-ft Oct. 30, elevation, 2,645.10 ft.

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

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.....	2753.65	36507	--	2608.60	5522	--	2654.90	23662	--
Oct. 31.....	2753.40	36210	-297	2595.40	3492	-2030	2645.20	19926	-3736
Nov. 30.....	2754.15	37104	+894	2594.70	3404	-88	2661.70	26524	+6598
Dec. 31.....	2755.90	39244	+2140	2596.60	3647	+243	2679.40	34923	+8399
CAL YR 1983..	--	--	+4897	--	--	+180	--	--	+10190
Jan. 31.....	2752.20	34807	-4437	2605.80	5026	+1379	2671.00	30755	-4168
Feb. 29.....	2754.05	36984	+2177	2595.50	3505	-1521	2665.30	28119	-2636
Mar. 31.....	2754.30	37285	+301	2595.70	3530	+25	2679.40	34923	+6804
Apr. 30.....	2753.60	36447	-838	2595.00	3441	-89	2674.60	32498	-2425
May 31.....	2752.20	34807	-1640	2615.70	6952	+3511	2675.50	32944	+446
June 30.....	2751.00	33439	-1368	2619.90	7921	+969	2667.10	28936	-4008
July 31.....	2751.95	34519	+1080	2625.70	9397	+1476	2659.90	25747	-3189
Aug. 31.....	2752.70	35387	+868	2620.70	8115	-1282	2656.70	24400	-1347
Sept. 30.....	2752.80	35504	+117	2616.30	7084	-1031	2648.70	21227	-3173
WTR YR 1984..	--	--	-1003	--	--	+1562	--	--	-2435

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 downstream from Ruling Creek, 1.3 mi downstream from Pit No. 4 Dam, and 2.7 mi downstream from Pit No. 3 powerhouse.

DRAINAGE AREA.--4,648 mi^2, 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, from river-profile map. Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 mi upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 mi upstream at different datum.

REMARKS.--Flow regulated by small reservoirs and powerplants, total usable reservoir capacity, 253,000 acre-ft. 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.--62 years (water years 1923-84), 2,774 ft^3/s, 2,010,000 acre-ft/yr, adjusted for diversion to Pit No. 4 powerplant.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft^3/s Jan. 25, 1970, gage height, 18.04 ft, from rating curve extended above 17,000 ft^3/s; minimum daily discharge, 234 ft^3/s Sept. 13, 1953. Minimum daily discharge since diversion to Pit No. 4 powerplant in 1955, 22 ft^3/s Dec. 2-4, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,140 ft^3/s Dec. 19, gage height, 8.95 ft; minimum daily discharge, 45 ft^3/s Jan. 23, Aug. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	91	51	3600	1600	224	617	186	174	172	45	171
2	102	86	50	3410	1600	351	467	181	173	176	51	176
3	102	141	47	3110	1600	126	385	186	173	174	53	172
4	104	87	430	2690	159	118	432	181	172	173	101	172
5	105	94	253	2130	1310	282	290	178	175	161	101	174
6	102	85	180	2040	1100	161	229	191	174	160	101	171
7	103	85	126	1780	1610	58	251	287	177	168	104	174
8	104	85	260	1620	1610	231	268	307	173	185	152	169
9	104	84	785	1310	1620	104	574	235	172	175	150	180
10	102	89	1590	1380	829	52	654	190	177	175	151	167
11	102	84	2160	996	1540	51	481	166	174	174	154	170
12	103	88	2610	848	204	55	639	167	173	176	298	173
13	104	88	2350	531	52	58	473	170	172	178	305	172
14	100	87	1810	352	53	228	461	179	173	176	305	174
15	101	84	1260	164	59	1340	452	171	175	177	305	168
16	101	85	1140	93	949	1610	563	173	171	180	196	169
17	101	85	1760	47	1050	1900	340	171	172	174	153	172
18	102	87	2380	46	976	1900	207	176	174	176	171	171
19	105	87	3010	47	821	1570	205	175	175	176	171	170
20	103	85	2640	46	583	1340	407	171	174	174	169	169
21	103	87	2150	48	473	973	382	169	175	169	174	172
22	104	88	1630	47	773	971	304	173	172	169	172	173
23	104	85	829	45	747	878	293	171	173	169	171	168
24	102	82	271	46	607	550	296	172	172	170	168	166
25	102	86	51	47	502	658	202	172	171	173	173	169
26	100	86	47	50	382	552	136	171	172	173	175	170
27	103	84	743	53	240	510	138	172	172	174	175	164
28	105	85	1650	50	187	446	181	175	173	170	164	169
29	107	87	2080	51	207	483	182	172	169	151	176	177
30	100	84	2790	1290	---	594	187	170	172	151	175	169
31	105	---	3480	1640	---	577	---	170	---	113	171	---
TOTAL	3194	2641	40613	29597	23443	18951	10696	5728	5194	5262	5130	5131
MEAN	103	88.0	1310	955	808	611	357	185	173	170	165	171
MAX	109	141	3480	3600	1620	1900	654	307	177	185	305	180
MIN	100	82	47	45	52	51	136	166	169	113	45	164
AC-FT	6340	5240	80560	58710	46500	37590	21220	11360	10300	10440	10180	10180
MEAN a	2813	3411	4460	4596	3988	4508	4202	3748	3252	2284	2333	2578
AC-FT a	172900	202900	274300	282600	229400	277200	250000	230500	193500	140400	143500	153400

CAL YR 1983 TOTAL 390816 MEAN 1071 MAX 10200 MIN 47 AC-FT 775200 MEAN a 4475 AC-FT a 3240000
WTR YR 1984 TOTAL 155580 MEAN 425 MAX 3600 MIN 45 AC-FT 308600 MEAN a 3513 AC-FT a 2551000

a Adjusted for diversion to Pit No. 4 powerplant.

11363000 PIT RIVER AT BIG BEND, CA

LOCATION.--Lat 41°01'10", long 121°54'36", in NW 1/4 SW 1/4 sec.31, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on left bank at Big Bend, 0.4 mi downstream from Nelson Creek, and 1.5 mi upstream from Kosk Creek.

DRAINAGE AREA.--4,711 mi^2, excluding Goose Lake basin.

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,674.47 ft 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 higher.

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

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

AVERAGE DISCHARGE (prior to diversion to Pit No. 5 powerplant).--33 years (water years 1911-43), 2,931 ft^3/s, 2,122,000 acre-ft/yr; 41 years (water years 1944-84), 584 ft^3/s, 423,100 acre-ft/yr, unadjusted.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,400 ft^3/s Dec. 19, gage height, 10.42 ft; minimum daily discharge, 72 ft^3/s Aug. 3, 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	138	116	4170	120	667	1080	224	158	138	94	125
2	135	122	94	4010	117	797	956	322	155	135	73	126
3	130	108	151	3680	115	633	863	281	153	134	72	125
4	129	116	774	3290	114	503	852	637	159	135	72	127
5	128	105	704	2720	117	753	779	617	172	133	82	125
6	129	124	795	2550	111	643	669	622	216	133	125	121
7	128	117	912	2350	110	513	674	727	179	133	125	118
8	128	105	913	2190	110	374	738	727	166	129	125	121
9	128	112	1800	1740	126	428	836	694	166	134	172	121
10	130	265	2800	1840	116	412	1190	623	163	131	181	123
11	129	237	3460	1520	114	444	980	567	162	131	180	118
12	128	231	3610	1280	305	310	1080	307	160	129	180	117
13	128	195	3250	985	220	473	980	196	156	132	319	123
14	131	177	2690	814	237	1110	896	193	154	127	343	123
15	128	150	1970	641	571	2200	902	469	152	129	349	115
16	128	166	1820	507	1290	2350	991	510	149	131	350	119
17	128	254	2360	444	1560	2600	820	380	151	132	181	118
18	124	389	2980	208	1480	2550	705	197	150	129	120	118
19	126	540	3580	158	1340	2210	665	181	152	128	118	119
20	123	254	3210	152	1110	1950	838	178	148	129	116	121
21	120	161	2730	149	999	1620	861	175	145	122	117	123
22	121	151	1860	144	1200	1480	767	169	140	128	116	120
23	129	149	1230	141	1230	1450	729	170	138	126	114	109
24	127	165	1150	138	1100	1110	676	168	143	127	112	110
25	121	353	1110	135	990	1180	663	166	143	126	111	114
26	120	325	1050	132	859	1090	570	164	138	126	117	114
27	121	184	1800	129	734	1030	277	164	139	129	115	113
28	124	170	2300	127	662	950	340	160	140	127	119	116
29	128	134	2710	125	667	936	327	162	141	127	116	118
30	142	131	3480	123	---	1060	152	160	138	127	128	121
31	131	---	4080	122	---	1070	---	157	---	127	127	---
TOTAL	3958	5828	61489	36714	17824	34896	22856	10467	4626	4024	4669	3581
MEAN	128	194	1984	1184	615	1126	762	338	154	130	151	119
MAX	142	540	4080	4170	1560	2600	1190	727	216	138	350	127
MIN	120	105	94	122	110	310	152	157	138	122	72	109
AC-FT	7850	11560	122000	72820	35350	69220	45330	20760	9180	7980	9260	7100

CAL YR 1983	TOTAL	519228	MEAN	1423	MAX	10700	MIN 94	AC-FT	1030000
WTR YR 1984	TOTAL	210932	MEAN	576	MAX	4170	MIN 72	AC-FT	418400

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

LOCATION.--Lat 40°59'12", long 121°58'35", in SW 1/4 SE 1/4 sec.9, T.36 N., R.1 W., Shasta County, Hydrologic Unit 18020003, at powerplant on right bank of Pit River, 5.8 mi 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 SE 1/4 SW 1/4 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.--18 years (water years 1967-84), 992 ft^3/s, 718,700 acre-ft/yr.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	912	1130	1280	1460	1470	1240	1410	1330	942	607	770	749
2	773	1080	1200	1510	1610	1330	1350	1360	1160	858	989	878
3	846	1110	1230	1440	1450	1270	1430	1310	1250	1250	1050	784
4	846	1070	1450	1430	1260	1240	1430	1360	1310	1160	691	1080
5	891	887	1300	1420	722	1280	1450	1330	1120	1090	918	935
6	864	1240	1250	1450	1280	1270	1380	1330	1080	940	818	1310
7	860	1130	1090	1450	1710	1290	1390	1110	1370	1240	1100	1130
8	813	1090	1440	1450	1280	1110	1380	931	1180	727	828	868
9	904	1110	1110	1450	1300	1390	1380	964	988	1130	930	968
10	937	845	1700	1400	1300	1220	1430	1160	916	1080	949	1000
11	928	1400	1660	1470	1130	1200	1400	967	1100	784	767	915
12	845	1340	1860	1440	1180	1250	1350	619	1100	967	630	852
13	967	1330	1630	1410	1240	1200	1440	903	1030	1390	1080	1160
14	1280	1260	1490	1380	999	1420	1360	1400	1180	503	802	691
15	1460	1300	1490	1420	1300	1510	1370	1470	1020	1290	1020	1130
16	1380	1320	1490	1440	1450	1580	1400	1370	1180	810	870	800
17	1430	1400	1470	1400	1700	1440	1370	1270	966	1010	937	821
18	1250	1360	1470	1380	1350	1500	1380	1290	1030	996	830	962
19	1050	1360	1270	1420	1320	1510	1420	1130	725	652	765	994
20	1390	1350	1540	1410	1300	1320	1430	1100	900	736	1140	944
21	1340	1350	1470	1400	1350	1530	1380	1250	391	769	1090	902
22	1180	1300	1410	1380	1310	1460	1370	1230	874	886	1230	869
23	1160	1360	1470	1120	1280	746	1380	968	1510	1600	798	766
24	1120	1320	1470	994	1310	792	1340	1400	1470	635	1070	996
25	1150	1350	1420	1000	1330	991	1470	1280	1430	995	1020	861
26	1120	1320	1460	997	1360	1740	1300	1210	1100	1400	923	869
27	1130	1340	1450	1200	1290	1820	1290	1250	1090	738	728	603
28	1120	1280	1460	1330	1300	1710	1430	1090	929	866	1030	985
29	1090	1310	1380	1430	1310	1590	1280	1230	1060	774	870	1120
30	1170	1290	1490	1130	---	1420	1390	1270	1240	1040	813	760
31	1130	---	1440	1580	---	1430	---	1160	---	787	1170	---
TOTAL	33336	37332	44340	42191	38191	41799	41580	37042	32641	29710	28626	27702
MEAN	1075	1244	1430	1361	1317	1348	1386	1195	1088	958	923	923
MAX	1460	1400	1860	1580	1710	1820	1470	1470	1510	1600	1230	1310
MIN	773	845	1090	994	722	746	1280	619	391	503	630	603
AC-FT	66120	74050	87950	83690	75750	82910	82470	73470	64740	58930	56780	54950

CAL YR 1983 TOTAL 475974 MEAN 1304 MAX 1860 MIN 35 AC-FT 944100
WTR YR 1984 TOTAL 434490 MEAN 1187 MAX 1860 MIN 391 AC-FT 861900

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

LOCATION.--Lat 41°02'27", long 121°59'02", in NW 1/4 NW 1/4 sec.28, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, on left bank 0.2 mi downstream from Iron Canyon Dam, and 4.2 mi west of Big Bend.

DRAINAGE AREA.--11.6 mi^2.

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

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control. Datum of gage is 2,461.52 ft 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.--18 years, 6.13 ft^3/s, 4,440 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 582 ft^3/s Feb. 25, 1978, gage height, 3.24 ft, flow was the result of failure of the James B. Black penstock; no flow July 15-18, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.3 ft^3/s Nov. 1, gage height, 1.55 ft; minimum daily discharge, 0.42 ft^3/s Aug. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
2	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
4	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
5	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.1
6	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8
7	3.1	2.9	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.3	3.3	2.9
8	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
9	3.1	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
10	3.1	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
11	3.1	3.2	3.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
12	3.1	3.3	3.3	3.3	3.3	3.1	3.3	3.3	3.3	3.3	3.3	3.3
13	3.1	3.3	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3	3.3	3.3
14	3.1	3.3	3.3	3.3	3.3	3.6	3.3	3.3	3.3	3.3	3.3	3.3
15	3.0	3.3	3.3	3.3	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3
16	3.1	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
17	3.0	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
18	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
19	3.2	3.3	3.3	3.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
20	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
21	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
22	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
23	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
24	3.3	3.3	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
25	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
26	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
27	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.6	3.3
28	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	.42	3.3
29	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.9	3.3
30	3.3	3.3	3.3	3.3	---	3.3	3.3	3.3	3.3	3.3	3.3	3.3
31	3.4	---	3.3	3.3	---	3.3	---	3.3	---	3.3	3.3	---
TOTAL	98.5	98.6	103.0	101.9	95.7	102.7	99.0	102.0	99.0	102.1	96.32	97.9
MEAN	3.18	3.29	3.32	3.29	3.30	3.31	3.30	3.29	3.30	3.29	3.11	3.26
MAX	3.4	3.5	3.8	3.3	3.3	3.6	3.3	3.3	3.3	3.3	3.3	3.3
MIN	3.0	2.9	3.3	3.0	3.3	3.1	3.3	3.0	3.3	3.1	.42	2.8
AC-FT	195	196	204	202	190	204	196	202	196	203	191	194

CAL YR 1983 TOTAL 1151.40 MEAN 3.15 MAX 5.7 MIN 2.0 AC-FT 2280
WTR YR 1984 TOTAL 1196.72 MEAN 3.27 MAX 3.8 MIN .42 AC-FT 2370

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'36", long 122°00'58", in NE 1/4 SW 1/4 sec. 32, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on left bank 0.9 mi downstream from Pit No. 7 Dam and powerhouse, 1.5 mi upstream from Potem Creek, and 4.1 mi west of town of Montgomery Creek.

DRAINAGE AREA.--4,952 mi^2, excluding Goose Lake basin.

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 0.9 mi upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 1.7 mi upstream at different datum. May 21, 1965, to June 20, 1981, at site 1.0 mi downstream at datum 1,036 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft. 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 ft^3/s, 2,721,000 acre-ft/yr; 19 years (water years 1966-84), 5,234 ft^3/s, 3,792,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s Jan. 24, 1970, gage height, 32.36 ft site and datum then in use; minimum daily discharge, 30 ft^3/s July 12, 27, 1975, result of construction work below Pit No. 7 powerplant.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,900 ft^3/s Dec. 9, gage height, 65.67 ft; minimum daily discharge, 46 ft^3/s July 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3600	4340	4280	11200	5950	6100	6930	7240	4400	4300	3030	3130
2	3480	4160	5460	10800	5940	6300	6910	5610	5080	3960	4560	3950
3	3660	4250	6020	10600	5270	6450	6810	6780	4820	3870	3750	3140
4	3130	4100	6470	9550	4250	5850	6350	7070	5120	3710	1270	3350
5	3460	4160	6710	9430	3420	6260	6810	6360	4850	3780	2500	4000
6	3540	4750	6750	8900	5190	5930	6680	5970	5770	3960	2740	3480
7	3760	4490	8890	8660	5660	6080	6530	6280	5360	3140	3850	3580
8	3510	5050	9340	8480	5310	5220	6340	5900	7080	1370	4010	3100
9	3910	4510	10800	7880	6610	6120	6430	5720	7010	2800	3560	3460
10	3610	5630	13700	7800	7370	5870	7290	6210	6400	3730	3300	3410
11	4020	7800	14900	7870	7030	5880	7060	6180	3100	3700	2500	3830
12	3840	6700	12900	7790	5850	5730	6450	4850	3380	3460	1380	3190
13	4120	7180	11400	7760	3420	6820	6800	5290	3620	4510	4650	4610
14	4140	6150	10000	6520	3680	10400	6160	5710	3750	2110	3390	3150
15	3600	6040	9140	6550	5810	11400	6550	6220	5110	2090	3950	3620
16	5320	5670	8710	6410	7280	9980	6760	6040	6240	3120	3980	3470
17	3080	7800	9070	6530	7640	9700	6890	6260	4330	3760	2030	3650
18	3380	7120	9340	6610	7760	9290	6240	5730	4420	4630	2170	3150
19	3690	6760	9720	6120	6880	9160	6710	4920	3390	7540	2030	4030
20	3700	6630	9390	4190	6670	8250	6330	5350	2240	4060	4550	3590
21	4060	5850	9010	6300	7180	8840	6330	5060	2860	46	2760	3400
22	4320	5320	8840	5210	6810	8040	6400	5550	4200	48	2830	3550
23	4060	6030	8300	5430	7170	7260	6940	4450	3540	2810	2830	2110
24	4340	6440	8010	5620	6790	7090	6330	5910	3290	4200	4170	2800
25	3450	5820	8290	5280	6730	6700	6760	4190	3650	3760	3000	3610
26	3920	7010	10600	5270	6180	7480	5820	5450	4460	2600	3030	3000
27	3950	5030	9770	5170	6990	7560	5930	5400	5040	4000	3460	3240
28	4330	5770	9800	5930	5770	7390	6080	5520	3180	2380	3820	3490
29	4190	5730	10400	4680	6330	7220	4940	4280	4160	2410	2430	4440
30	4490	5420	11700	4490	---	6830	6240	4890	4920	4140	3670	3450
31	4440	---	11600	5540	---	7010	---	5390	---	3680	3770	---
TOTAL	120100	171710	288210	218570	176940	228210	194800	175780	134770	103674	98970	103980
MEAN	3874	5724	9297	7051	6101	7362	6493	5670	4492	3344	3193	3466
MAX	5320	7800	14900	11200	7760	11400	7290	7240	7080	7540	4650	4610
MIN	3080	4100	4280	4190	3420	5220	4940	4190	2240	46	1270	2110
AC-FT	238200	340600	571700	433500	351000	452700	386400	348700	267300	205600	196300	206200

CAL YR 1983 TOTAL 2778600 MEAN 7613 MAX 31100 MIN 2310 AC-FT 5511000
WTR YR 1984 TOTAL 2015714 MEAN 5507 MAX 14900 MIN 46 AC-FT 3998000

11367500 McCLOUD RIVER NEAR McCLOUD, CA

LOCATION.--Lat 41°11'18", long 122°03'52", in NW 1/4 NE 1/4 sec.34, T.39 N., R.2 W., Siskiyou County, Hydrologic Unit 18020004, on right bank 0.4 mi downstream from Angel Creek, and 6 mi southeast of McCloud.

DRAINAGE AREA.--358 mi^2.

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

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

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

REMARKS.--Two small diversions above station for irrigation, and one 22-in pipeline for town of McCloud. 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.--53 years, 936 ft^3/s, 678,100 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0430	1,900	2.90	Mar. 15	0915	*2,220	3.24
Nov. 17	1230	1,720	2.70	Apr. 8	1645	1,500	2.45
Dec. 11	1230	2,110	3.12				

Minimum daily discharge, 925 ft^3/s Sept. 25-29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1140	1070	1300	1090	1110	1310	1210	1110	1010	970	944
2	1040	1150	1080	1270	1080	1110	1290	1290	1100	1000	970	944
3	1040	1090	1130	1250	1080	1110	1270	1290	1100	1000	960	944
4	1040	1070	1100	1240	1080	1110	1270	1300	1090	997	964	942
5	1040	1060	1080	1240	1080	1100	1280	1280	1100	997	964	938
6	1040	1060	1090	1240	1070	1100	1280	1250	1160	997	964	938
7	1040	1070	1120	1240	1070	1100	1260	1230	1190	997	964	938
8	1030	1050	1160	1240	1070	1110	1420	1220	1120	994	964	938
9	1030	1050	1550	1220	1150	1110	1390	1240	1100	991	964	938
10	1030	1290	1850	1220	1170	1120	1360	1230	1090	990	964	938
11	1030	1620	2010	1200	1140	1130	1330	1250	1090	990	957	938
12	1030	1400	1750	1190	1130	1140	1300	1280	1080	987	957	936
13	1030	1410	1520	1190	1180	1470	1270	1270	1070	984	957	931
14	1030	1290	1440	1180	1220	2050	1270	1260	1060	984	957	931
15	1030	1200	1420	1170	1200	2130	1280	1230	1060	984	957	931
16	1030	1220	1390	1160	1180	1860	1300	1210	1050	982	957	931
17	1020	1600	1380	1150	1160	1690	1310	1200	1050	979	957	931
18	1020	1420	1330	1140	1140	1560	1310	1190	1040	982	955	931
19	1020	1290	1300	1130	1140	1510	1310	1180	1040	979	951	931
20	1020	1250	1270	1120	1130	1500	1290	1190	1040	977	951	935
21	1020	1200	1250	1120	1170	1600	1260	1180	1040	977	951	931
22	1020	1170	1220	1120	1150	1510	1250	1170	1030	977	951	931
23	1030	1150	1210	1110	1130	1460	1240	1170	1030	977	951	931
24	1020	1140	1210	1110	1140	1440	1240	1170	1030	977	948	929
25	1020	1120	1250	1110	1130	1420	1230	1160	1020	977	944	925
26	1020	1100	1370	1100	1120	1410	1220	1150	1020	975	944	925
27	1020	1090	1350	1090	1110	1410	1210	1140	1020	971	944	925
28	1020	1090	1290	1090	1110	1380	1200	1140	1020	970	944	925
29	1020	1090	1270	1090	1110	1360	1190	1130	1010	970	944	925
30	1040	1080	1350	1090	---	1340	1190	1130	1010	970	947	928
31	1070	---	1350	1090	---	1330	---	1120	---	970	947	---
TOTAL	31940	35940	41160	36210	32730	42770	38330	37460	31970	30512	29627	28003
MEAN	1030	1198	1328	1168	1129	1380	1278	1208	1066	984	956	933
MAX	1070	1620	2010	1300	1220	2130	1420	1300	1190	1010	970	944
MIN	1020	1050	1070	1090	1070	1100	1190	1120	1010	970	944	925
AC-FT	63350	71290	81640	71820	64920	84830	76030	74300	63410	60520	58770	55540

CAL YR 1983 TOTAL 518000 MEAN 1419 MAX 4180 MIN 835 AC-FT 1027000
WTR YR 1984 TOTAL 416652 MEAN 1138 MAX 2130 MIN 925 AC-FT 826400

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA

LOCATION.--Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank of Lake McCloud, 8.8 mi 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 then into James B. Black powerplant (station 11363910) on the Pit River. Diversion began Dec. 1, 1965. See achematic 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.--18 years (water years 1967-84), 974 ft^3/s, 705,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,890 ft^3/s several days during May and June 1967; no flow several days in 1965-68, 1971, 1978.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1090	1240	1410	1270	1280	1410	1360	1150	993	868	878
2	985	1090	1230	1410	1320	1280	1410	1370	1140	972	876	873
3	962	1080	1210	1410	1320	1280	1400	1360	1140	991	891	855
4	924	1080	1240	1410	1300	1270	1400	1370	1150	1000	865	876
5	920	1050	1230	1410	1210	1270	1410	1360	1140	1010	872	876
6	910	1080	1210	1410	1230	1270	1410	1370	1130	995	861	921
7	905	1090	1190	1420	1300	1260	1400	1320	1160	1010	879	938
8	898	1080	1210	1420	1290	1230	1400	1270	1150	975	868	919
9	902	1080	1210	1420	1300	1260	1410	1230	1130	989	870	914
10	896	1050	1290	1410	1290	1250	1410	1220	1100	991	874	915
11	901	1170	1340	1410	1260	1240	1410	1200	1100	958	862	906
12	885	1210	1390	1410	1240	1250	1400	1130	1090	954	834	889
13	899	1230	1400	1410	1250	1270	1410	1120	1080	999	855	933
14	953	1230	1410	1410	1210	1310	1410	1150	1090	938	861	877
15	1030	1240	1420	1400	1210	1360	1410	1180	1070	968	857	921
16	1060	1240	1410	1400	1260	1400	1410	1220	1080	944	855	883
17	1120	1280	1410	1390	1320	1400	1400	1220	1060	949	863	864
18	1120	1300	1410	1380	1320	1400	1400	1220	1050	940	855	850
19	1120	1310	1390	1380	1320	1420	1410	1210	1010	904	847	880
20	1160	1310	1420	1370	1310	1400	1410	1190	990	883	877	885
21	1170	1310	1410	1360	1310	1410	1410	1200	929	866	895	881
22	1160	1270	1410	1360	1310	1410	1400	1190	921	866	931	872
23	1150	1300	1410	1310	1300	1320	1400	1170	972	942	907	854
24	1140	1300	1410	1250	1300	1260	1390	1180	1010	903	917	865
25	1120	1300	1400	1210	1290	1200	1390	1190	1050	905	923	860
26	1120	1290	1400	1190	1290	1270	1390	1190	1050	957	920	855
27	1100	1280	1410	1190	1290	1330	1370	1200	1050	925	891	816
28	1090	1270	1400	1190	1290	1380	1380	1180	1030	911	906	836
29	1090	1270	1390	1200	1290	1410	1370	1190	1020	891	893	892
30	1080	1260	1400	1200	---	1410	1380	1200	1040	901	877	855
31	1090	---	1400	1240	---	1410	---	1190	---	881	905	---
TOTAL	31880	36140	41700	41770	37200	40910	42010	38140	32082	29311	27255	26439
MEAN	1028	1205	1345	1347	1283	1320	1400	1230	1069	946	879	881
MAX	1170	1310	1420	1420	1320	1420	1410	1370	1160	1010	931	938
MIN	885	1050	1190	1180	1210	1200	1370	1120	921	866	834	816
AC-FT	63230	71680	82710	82850	73790	81140	83330	75650	63630	58140	54060	52440

CAL YR 1983 TOTAL 462131 MEAN 1266 MAX 1420 MIN 716 AC-FT 916600
WTR YR 1984 TOTAL 424837 MEAN 1161 MAX 1420 MIN 816 AC-FT 842700

11367760 McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD, CA

LOCATION.--Lat 41°07'44", long 122°04'08", in SW 1/4 NE 1/4 sec.27, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank 0.1 mi downstream from Lizard Creek, 0.6 mi downstream from McCloud Dam, and 9 mi southeast of McCloud.

DRAINAGE AREA.--404 mi^2.

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

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

REMARKS.--Flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River basin. This station records fishwater release. Prior to water year 1974, flow was computed up to 400 ft^3/s. During water years 1975-81, because of channel changes, flow was computed up to 200 ft^3/s. Currently, because of maximum required release, flow is computed to 210 ft^3/s. See schematic diagram of Pit and McCloud River basins.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	141	161	---	113	109	107	122	196	204	---	209
2	205	163	162	136	113	110	103	116	196	206	---	209
3	205	186	110	85	115	111	100	119	195	206	---	209
4	205	188	112	124	115	113	98	126	196	206	---	210
5	205	193	122	120	117	113	97	126	196	206	---	---
6	205	192	121	124	116	118	101	125	196	205	---	---
7	205	191	59	117	117	118	90	126	196	205	---	---
8	205	194	45	104	118	117	90	128	196	206	---	---
9	205	193	65	88	98	134	162	130	194	207	---	---
10	205	116	68	78	93	117	179	130	188	207	209	---
11	206	53	117	75	98	117	91	130	188	207	208	---
12	206	60	---	54	102	110	95	130	193	208	209	---
13	206	56	---	46	70	74	93	133	194	208	208	---
14	206	64	---	55	42	72	97	133	194	207	208	---
15	206	106	---	61	43	72	99	137	196	207	209	---
16	206	92	---	67	50	---	100	174	199	207	210	---
17	206	60	---	75	62	---	102	173	199	207	210	---
18	206	58	199	76	72	---	103	173	200	207	---	---
19	206	56	173	83	77	---	101	173	203	208	210	---
20	206	70	171	87	81	---	102	173	202	208	210	210
21	207	95	67	88	71	---	105	175	202	210	---	209
22	207	114	44	92	71	---	108	176	201	209	209	209
23	207	125	55	96	73	---	106	179	201	208	209	209
24	206	126	65	99	76	---	111	187	203	208	209	209
25	206	131	125	101	81	---	119	188	202	209	209	209
26	207	141	---	104	89	---	133	189	201	---	209	208
27	206	150	---	105	91	---	128	193	204	---	208	209
28	206	155	150	107	94	136	128	193	204	---	208	210
29	207	157	178	108	96	139	126	192	204	---	206	210
30	185	160	---	111	---	171	124	192	204	---	199	210
31	176	---	---	110	---	138	---	196	---	---	201	---
TOTAL	6330	3786	---	---	2554	---	3298	4837	5943	---	---	---
MEAN	204	126	---	---	88.1	---	110	156	198	---	---	---
MAX	207	194	---	---	118	---	179	196	204	---	---	---
MIN	176	53	---	---	42	---	90	116	188	---	---	---
AC-FT	12560	7510	---	---	5070	---	6540	9590	11790	---	---	---

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

LOCATION.--Lat 41°06'39", long 122°05'42", in NE 1/4 SW 1/4 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 downstream from Squirrel Creek, 3.9 mi downstream from McCloud Dam, and 9.6 mi south of McCloud.

DRAINAGE AREA.--427 mi^2.

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

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

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

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

AVERAGE DISCHARGE (adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud).--20 years, 1,270 ft^3/s, 920,100 acre-ft/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,240 ft^3/s Dec. 11, gage height, 4.92 ft; minimum daily discharge, 171 ft^3/s Jan. 18, Feb. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	223	210	438	174	183	234	189	228	225	224	224
2	211	208	212	325	172	185	203	184	227	227	224	224
3	210	211	230	258	173	184	196	183	227	226	224	223
4	210	211	215	287	172	185	188	189	228	226	224	224
5	210	210	210	294	174	184	185	186	229	225	224	226
6	210	213	225	307	173	187	180	184	233	225	225	226
7	210	210	253	301	172	186	181	183	224	225	225	227
8	210	211	292	280	173	186	190	184	224	224	225	228
9	210	217	691	254	185	186	177	186	227	227	225	228
10	211	378	966	232	174	187	266	184	226	226	223	227
11	210	320	1210	219	172	186	261	185	226	226	222	227
12	210	254	1510	191	172	186	183	183	225	226	222	226
13	210	262	817	172	221	321	185	184	225	226	221	226
14	210	212	714	173	212	525	179	184	220	225	221	226
15	210	215	681	174	180	673	180	184	225	225	222	226
16	210	215	570	172	173	505	181	219	226	225	224	226
17	210	396	534	174	172	487	180	218	226	224	223	226
18	210	270	389	171	174	721	186	216	227	225	224	226
19	210	215	345	173	173	621	183	215	230	225	224	226
20	210	210	327	174	172	545	180	215	229	224	223	227
21	211	210	226	172	179	709	180	216	228	226	225	224
22	211	210	185	172	174	569	181	216	227	225	223	224
23	212	207	188	173	172	509	179	218	226	222	222	224
24	210	212	196	173	174	502	181	225	227	220	222	224
25	210	210	316	173	171	560	184	225	226	221	222	223
26	210	210	592	174	174	525	197	225	225	222	222	223
27	210	210	589	172	173	490	191	228	227	223	221	223
28	210	210	373	173	173	348	188	228	226	224	221	224
29	212	211	368	172	173	243	185	226	225	223	220	224
30	220	210	557	174	---	247	183	225	225	225	216	226
31	219	---	542	172	---	270	---	229	---	224	218	---
TOTAL	6539	6961	14733	6669	5126	11595	5747	6316	6794	6962	6901	6758
MEAN	211	232	475	215	177	374	192	204	226	225	223	225
MAX	220	396	1510	438	221	721	266	229	233	227	225	228
MIN	210	207	185	171	171	183	177	183	220	220	216	223
AC-FT	12970	13810	29220	13230	10170	23000	11400	12530	13480	13810	13690	13400
MEAN a	1179	1548	1957	1495	1414	1804	1551	1441	1229	1118	1080	1053
AC-FT a	72460	92090	120300	91910	81320	110900	92300	88630	73100	68760	66400	62670

CAL YR 1983 TOTAL 236624 MEAN 648 MAX 5920 MIN 158 AC-FT 469300 MEAN a 1928 AC-FT a 1396000
WTR YR 1984 TOTAL 91101 MEAN 249 MAX 1510 MIN 171 AC-FT 180700 MEAN a 1406 AC-FT a 1021000

a 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 downstream from Big Bollibokka Creek, and 11.3 mi east of Lamoine.

DRAINAGE AREA.--604 mi^2.

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

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

COOPERATION.Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal 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 ft^3/s, 1,230,000 acre-ft/yr; 19 years (water years 1966-84), 835 ft^3/s, 605,000 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,900 ft^3/s Dec. 11, gage height, 17.25 ft; minimum daily discharge, 294 ft^3/s Sept. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	664	557	2000	477	586	673	504	394	366	321	306
2	336	487	551	1650	470	577	605	499	392	362	320	305
3	331	398	946	1380	464	558	583	483	388	360	320	302
4	328	400	965	1330	457	545	566	472	396	358	318	300
5	327	371	822	1330	455	531	555	461	401	357	317	301
6	326	401	1260	1320	448	525	546	451	482	353	317	301
7	325	401	2830	1250	444	517	524	444	427	351	316	300
8	325	372	2470	1150	441	508	653	437	401	351	314	300
9	328	409	5210	1050	679	499	555	431	396	350	313	298
10	332	1910	6730	962	580	494	724	426	390	345	305	297
11	327	1930	7900	896	533	485	745	425	386	344	304	296
12	324	1250	6250	829	529	480	598	422	382	342	305	297
13	323	1380	3800	761	1240	1080	573	414	379	339	304	297
14	320	1050	2960	729	1320	2730	551	410	388	337	301	297
15	320	758	2500	711	1070	4070	537	407	375	337	301	297
16	320	858	2090	680	1030	3030	528	426	376	336	302	297
17	320	2180	1850	652	930	2310	519	426	375	334	301	296
18	320	1410	1550	630	850	2250	564	421	374	334	300	294
19	320	1080	1330	610	781	1920	557	415	380	333	302	298
20	320	1040	1230	597	736	1650	524	412	385	329	300	315
21	320	871	1050	585	822	1710	509	412	370	329	300	304
22	320	754	898	573	764	1490	501	408	371	331	299	299
23	332	695	862	558	735	1310	491	406	369	327	297	298
24	325	815	893	546	742	1220	482	410	370	328	298	296
25	320	827	1800	540	693	1230	477	406	368	326	298	296
26	320	732	3220	528	656	1170	482	405	366	325	300	296
27	320	666	3040	516	632	1100	478	402	369	325	299	295
28	320	623	2220	506	613	926	459	402	370	324	297	296
29	319	593	1840	499	594	775	457	400	370	326	296	298
30	404	571	2420	492	---	684	451	395	369	323	303	303
31	465	---	2420	487	---	744	---	395	---	321	315	---
TOTAL	10277	25896	74464	26347	20185	37704	16467	13227	11559	10503	9483	8975
MEAN	332	863	2402	850	696	1216	549	427	385	339	306	299
MAX	465	2180	7900	2000	1320	4070	745	504	482	366	321	315
MIN	319	371	551	487	441	480	451	395	366	321	296	294
AC-FT	20380	51360	147700	52260	40040	74790	32660	26240	22930	20830	18810	17800

CAL YR 1983	TOTAL	658508	MEAN	1804	MAX	15700	MIN 319	AC-FT	1306000
WTR YR 1984	TOTAL	265087	MEAN	724	MAX	7900	MIN 294	AC-FT	525800

11370000 SHASTA LAKE NEAR REDDING, CA

LOCATION.--Lat 40°43'08", long 122°25'12", in SE 1/4 NW 1/4 sec.15, T.33 N., R.5 W., Shasta County, Hydrologic Unit 18020005, in Shasta Dam on Sacramento River near right bank, 2 mi downstream from Squaw Creek, and 9.5 mi north of Redding.

DRAINAGE AREA.--6,421 mi^2, excluding Goose Lake basin.

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum.

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

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 4,550,300 acre-ft May 19, 1967, elevation, 1,066.94 ft; minimum since reservoir first filled, 562,600 acre-ft Sept. 13, 1977, elevation, 836.68 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 4,347,900 acre-ft Apr. 26, elevation, 1,060.04 ft; minimum, 3,240,100 acre-ft Sept. 30 elevation, 1,018.05 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3606000	3453000	3375500	3465700	3411600	3797100	4140600	4347300	4290400	4054800	3572300	3304000
2	3594800	3458500	3358600	3470700	3419500	3804200	4153600	4346100	4288400	4040400	3560100	3304500
3	3584000	3463000	3353800	3472700	3426900	3810600	4166200	4345800	4284600	4025000	3545100	3302100
4	3572100	3463000	3344000	3471700	3433400	3815900	4177500	4346700	4281200	4011000	3525200	3300700
5	3560600	3462000	3333300	3469900	3437600	3820900	4189700	4346700	4278000	3995900	3507300	3298700
6	3548900	3464000	3336700	3467900	3444300	3826000	4200400	4345300	4279800	3981700	3490400	3296800
7	3536800	3464200	3358900	3465000	3454500	3832400	4206700	4345000	4277700	3963400	3475400	3294200
8	3525200	3462000	3370800	3461500	3462200	3835800	4213800	4343500	4278300	3942500	3465700	3292500
9	3514600	3462700	3433100	3455000	3478200	3841100	4218900	4342400	4278900	3925700	3454500	3291300
10	3502000	3499700	3503500	3448500	3493700	3848100	4227700	4340600	4279200	3909800	3446800	3290500
11	3491200	3510800	3597300	3441100	3509300	3857200	4236300	4341500	4271700	3894100	3437300	3291500
12	3480200	3522600	3619400	3433100	3521600	3865200	4242500	4339200	4264500	3878000	3425500	3290800
13	3469700	3533700	3614000	3423000	3541600	3897600	4248800	4338600	4257400	3863300	3419800	3292700
14	3463000	3532500	3598900	3412900	3556500	3951200	4255400	4338300	4250500	3845400	3413100	3291300
15	3457500	3529700	3574600	3405900	3580700	4005200	4262000	4338000	4244500	3825700	3405900	3290500
16	3458200	3529700	3547700	3398600	3604200	4035200	4270000	4336000	4239100	3806900	3399300	3290500
17	3454000	3548900	3519100	3394600	3625300	4055100	4279800	4335700	4231100	3793400	3390900	3289800
18	3450000	3544100	3488900	3391400	3647000	4070600	4292400	4334000	4222000	3781500	3378900	3288600
19	3447300	3539600	3456500	3389200	3665600	4083700	4304200	4330500	4212400	3776200	3368200	3289100
20	3445300	3532200	3424500	3383600	3682500	4092300	4313100	4329300	4200400	3766600	3362500	3289600
21	3443100	3519900	3387000	3384600	3697900	4100400	4321200	4327300	4187700	3744800	3353800	3284800
22	3441600	3505500	3350600	3383800	3710100	4108200	4327600	4325600	4177500	3722700	3346400	3281200
23	3440600	3493000	3321400	3382300	3726400	4112600	4336300	4321500	4166200	3704900	3337900	3272500
24	3436400	3486400	3311500	3385500	3740000	4115100	4342400	4320400	4153600	3693200	3330600	3266500
25	3434600	3474700	3339600	3388000	3754500	4117100	4347600	4314000	4140900	3679100	3321700	3261900
26	3432100	3463500	3378700	3388200	3766600	4122400	4347900	4310800	4128900	3662500	3313000	3256900
27	3429700	3446500	3404500	3387300	3775600	4126100	4347600	4307700	4116300	3648300	3311500	3251400
28	3427900	3430200	3417100	3391900	3782000	4128000	4347300	4304800	4099000	3632500	3310100	3246600
29	3426500	3412900	3427900	3396100	3789900	4128900	4343500	4299900	4084800	3615500	3306200	3244700
30	3430900	3395400	3444500	3399100	---	4130000	4342700	4296700	4070000	3602200	3306000	3240100
31	3438300	---	3457500	3405200	---	4133600	---	4294400	---	3587400	3305500	---
MAX	3606000	3548900	3619400	3472700	3789900	4133600	4347900	4347300	4290400	4054800	3572300	3304500
MIN	3426500	3395400	3311500	3382300	3411600	3797100	4140600	4294400	4070000	3587400	3305500	3240100
a	1026.20	1024.46	1026.97	1024.86	1039.90	1052.53	1059.86	1058.19	1050.25	1032.12	1020.77	1018.05
b	-178500	-42900	+62100	-52300	+384700	+343700	+209100	-48300	-224400	-482600	-281900	-65400
c	6220	2860	1170	3450	3100	4230	7200	12700	14600	19150	14740	11200

CAL YR 1983 b +202500
WTR YR 1984 b -376700

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

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

LOCATION.--Lat 40°36'04", long 122°26'36", in SW 1/4 NW 1/4 sec.28, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020101, on right bank 0.4 mi upstream from Middle Creek, 0.8 mi downstream from Keswick Dam, 1.6 mi downstream from Keswick, and 10 mi downstream from Shasta Dam.

DRAINAGE AREA.--6,468 mi^2, 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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1939, at site 1.5 mi upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi upstream at datum 15.2 ft higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi downstream.

REMARKS.--Records excellent. Flow regulated by Shasta Dam beginning Dec. 30, 1943 (station 11370000) and Keswick Reservoir, capacity, 4,170 acre-ft. No diversion for irrigation between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11372000) 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).--46 years, 8,757 ft^3/s, 6,344,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft^3/s Feb. 23, 1940, gage height, 47.2 ft site and datum then in use, from rating curve extended above 75,000 ft^3/s on basis of peak discharge at Kennet plus 4,000 ft^3/s estimated inflow; minimum observed, 2,730 ft^3/s Aug. 22, 1939. Maximum discharge since construction of Shasta Dam in 1944, 81,400 ft^3/s Apr. 1, 1974, gage height, 31.94 ft; maximum gage height, 32.22 ft Jan. 24, 1970; minimum discharge, 154 ft^3/s May 15, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38,800 ft^3/s Dec. 13, gage height, 24.81 ft; minimum daily discharge, 4,140 ft^3/s Mar. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12400	6480	18500	20900	8200	6300	6560	9620	8980	13800	14500	7960
2	12200	6360	18500	20800	8200	6300	5350	9700	9490	13900	14600	7990
3	12400	6510	18800	20800	6800	6270	5290	9600	9640	13900	14500	7990
4	12400	8590	18700	19800	5890	6300	5480	9140	9620	14000	14400	7970
5	12400	8240	18700	18800	5880	6270	5050	8770	9640	14000	14400	7970
6	12500	7720	19100	18700	6030	6240	5500	9100	9730	14000	14600	7990
7	12500	8240	19200	18700	6230	6220	7660	9210	9610	14200	14600	8080
8	12400	10400	19300	18800	6250	6200	8180	9250	9620	14100	13400	8000
9	12400	9510	22800	18900	6340	6200	8220	9120	9600	14100	12900	7970
10	12400	10800	23100	18900	6260	5190	8200	9100	9580	14000	11100	7990
11	12400	14400	24400	18900	6340	4140	8200	9110	9610	14100	10100	8010
12	12500	14500	37200	19000	6190	4160	8200	9230	9680	14200	10100	7880
13	12300	14400	38100	18700	6280	4300	8170	8930	9640	14300	10100	7670
14	10800	14300	38100	17000	6410	4950	7090	8890	9900	14300	10100	7910
15	9380	14200	38200	17200	6560	8390	5940	8900	10400	14100	10100	7910
16	8600	14300	38100	16400	6460	11800	6320	8930	10500	14200	10100	7910
17	8640	16300	38100	14700	6370	12000	6470	8910	10700	14000	10100	7860
18	8700	18200	38100	14100	6280	12000	6450	8930	10700	14000	10200	7890
19	8750	18500	37700	14100	6240	12000	6400	8900	10500	14000	10200	7870
20	8780	18500	37000	14500	6270	12000	6410	8940	10800	14200	10200	7880
21	8800	18400	37200	12500	6230	11900	6400	8940	11100	14000	10200	7860
22	8800	18700	36800	11900	6230	11900	6360	8980	11000	14100	10100	7890
23	8830	21300	33700	12000	6250	11800	6360	8970	10900	14100	10200	7850
24	8840	21400	25100	10500	6260	11800	6590	8790	11100	14200	10200	7840
25	8860	21200	21400	10100	6260	11900	7990	8750	11700	14100	10200	7680
26	8890	19400	21000	10100	6240	12000	9470	8950	12100	13700	10400	7680
27	8890	19300	21600	10000	6260	12000	9380	8950	13200	14100	9500	7770
28	8900	18600	21200	9160	6250	12000	9610	9000	13700	14200	9130	7770
29	8750	18400	20700	8240	6130	12000	9580	9050	13800	14200	7910	7800
30	7810	18700	20500	8320	---	11300	9660	9230	13900	14200	7980	7690
31	6720	---	21200	8440	---	8690	---	8920	---	14300	7950	---
TOTAL	318940	435850	842100	470960	185590	274520	216540	280810	320440	436600	354070	236530
MEAN	10290	14530	27160	15190	6400	8855	7218	9058	10680	14080	11490	7884
MAX	12500	21400	38200	20900	8200	12000	9660	9700	13900	14300	14600	8080
MIN	6720	6360	18500	8240	5880	4140	5050	8750	8980	13700	7910	7670
AC-FT	632600	864500	1670000	934100	368100	544500	429500	557000	635600	866000	702100	469200
MEAN a	5464	11190	24430	11250	10400	13900	10130	8430	6269	4274	4075	4217
AC-FT a	336000	665900	1502000	692000	598400	854700	603000	518300	373000	262800	250600	250900

CAL YR 1983 TOTAL 7167850 MEAN 19640 MAX 64300 MIN 5240 AC-FT 14220000 MEAN a 16700 AC-FT a 12093000
WTR YR 1984 TOTAL 4374950 MEAN 11950 MAX 38200 MIN 4140 AC-FT 8678000 MEAN a 9515 AC-FT a 6908000

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

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 2.1 mi downstream from gaging station.

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL ANALYSES: Water years 1951 to current year. Published as "near Keswick" in 1951 and 1953; as "at Keswick Dam, near Keswick" in 1968-69.
SPECIFIC CONDUCTANCE: Water years 1981-83.
WATER TEMPERATURES: Water years 1981-83.
SEDIMENT RECORDS: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1983.
WATER TEMPERATURES: October 1980 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV , 1983											
16...	0915	14800	109	7.5	12.0	750	2.0	9.0	85	21	74
JAN , 1984											
25...	0845	9900	94	7.2	8.0	755	5.7	11.6	99	K3	K5
MAR											
19...	0900	12000	114	7.2	9.0	755	3.7	11.2	98	K2	K4
MAY											
23...	0945	9290	112	7.7	10.0	750	2.3	10.8	97	K2	K7
JUL											
23...	1130	14600	109	7.5	12.0	750	2.7	10.1	95	K2	<1
SEP											
19...	0900	7850	98	7.4	12.0	745	1.5	9.5	90	K9	K9

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV , 1983											
16...	41	0	8.5	4.7	5.0	21	.4	1.2	47	5.1	2.3
JAN , 1984											
25...	39	0	8.5	4.3	5.1	22	.4	1.0	44	5.8	5.2
MAR											
19...	43	0	9.8	4.5	6.1	23	.4	1.2	53	4.9	1.8
MAY											
23...	46	0	11	4.5	6.2	22	.4	1.1	53	3.9	2.2
JUL											
23...	57		15	4.7	5.5	17	.3	1.3	48	4.8	10
SEP											
19...	39	0	7.7	4.8	3.9	17	.3	1.3	44	4.2	2.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
NOV , 1983											
16...	<.1	21	74	76	.10	<.10	.05	.40	.01	.01	.03
JAN , 1984											
25...	<.1	19	73	81	.10	<.10	.04	<.20	.01	.01	.02
MAR											
19...	<.1	23	85	83	.12	<.10	<.01	.20	.05	.01	.03
MAY											
23...	<.1	24	88	85	.12	<.10	.03	.20	.03	.02	.03
JUL											
23...	.1	21	78	91	.11	<.10	.03	.20	.05	.02	<.01
SEP											
19...	<.1	18	75	69	.10	<.10	<.01	<.20	.01	.01	.01

See footnotes at end of table.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV , 1983										
16...	0915	50	1	20	<.5	1	1	<3	9	41
JAN , 1984										
25...	0845	30	<1	20	<.5	<1	<1	<3	3	23
MAY										
23...	0945	40	<1	18	<1	<1	<1	<3	4	29
SEP										
19...	0900	40	<1	20	<1	<1	2	<3	5	33

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV , 1983											
16...	1	15	9	<.1	<10	3	<1	1	46	<6	34
JAN , 1984											
25...	<1	7	4	.2	<10	3	<1	<1	43	<6	31
MAY											
23...	<1	7	<1	.2	<10	2	<1	<1	53	<6	16
SEP											
19...	<1	9	3	<.1	<10	3	<1	<1	35	<6	14

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.

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

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
NOV					
16...	0915	14800	12.0	1	40
JAN					
25...	0845	9900	8.0	2	53
MAR					
19...	0900	12000	9.0	5	162
MAY					
23...	0945	9290	10.0	4	100
JUL					
23...	1130	14600	12.0	2	79
SEP					
19...	0900	7850	12.0	3	64

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 downstream from French Gulch, 0.3 mi south of town of French Gulch, and 15 mi northwest of Redding.

DRAINAGE AREA.--115 mi^2.

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

REVISED RECORDS.--WSP 1285: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,320.60 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 28, 1959, water-stage recorder at datum 3.00 ft higher.

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

AVERAGE DISCHARGE.--34 years, 226 ft^3/s, 163,700 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 11	1600	*4,550	9.86
Dec. 25	1830	1,830	6.66

Minimum daily discharge, 11 ft^3/s several days during September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	265	184	964	182	197	185	133	63	34	24	22
2	36	117	176	825	174	191	177	133	61	31	22	17
3	34	73	297	748	169	183	172	126	59	30	20	15
4	32	66	324	730	166	175	171	118	61	29	19	14
5	32	58	292	726	162	169	168	114	65	28	17	14
6	31	75	364	683	158	166	162	109	79	27	16	13
7	31	91	874	626	154	162	155	107	77	27	16	13
8	31	70	909	566	153	158	165	104	67	26	15	13
9	32	92	2150	515	199	154	158	101	63	25	14	13
10	36	765	2030	475	177	150	174	99	61	25	13	13
11	33	593	3100	438	173	148	165	102	62	25	13	12
12	30	437	2390	411	185	146	155	102	61	25	14	12
13	29	496	1580	388	381	238	149	95	56	24	14	12
14	29	386	1230	366	435	283	144	93	59	23	14	12
15	29	266	1020	350	392	475	140	92	55	22	13	12
16	29	269	872	331	397	488	137	90	53	21	13	12
17	29	716	781	311	356	482	135	89	49	22	13	12
18	28	488	685	296	323	438	163	87	47	23	14	12
19	28	484	604	282	297	402	158	84	45	23	13	11
20	28	549	541	270	286	378	148	81	44	22	12	12
21	28	401	497	263	308	348	141	79	43	22	12	14
22	26	309	455	251	292	314	137	79	41	21	12	12
23	33	273	438	240	278	288	133	77	38	22	12	11
24	36	386	680	232	268	269	131	76	39	22	12	11
25	32	406	1200	223	248	252	127	75	38	22	13	11
26	31	321	1640	215	231	240	126	73	38	22	14	11
27	31	267	1490	207	220	225	123	70	38	21	13	11
28	31	234	1160	200	211	211	119	68	37	21	14	11
29	31	212	951	196	202	202	116	65	35	21	12	11
30	52	196	1210	192	---	195	115	65	35	21	13	12
31	76	---	1140	187	---	194	---	63	---	23	21	---
TOTAL	1032	9361	31264	12707	7177	7921	4449	2849	1569	750	457	381
MEAN	33.3	312	1009	410	247	256	148	91.9	52.3	24.2	14.7	12.7
MAX	76	765	3100	964	435	488	185	133	79	34	24	22
MIN	26	58	176	187	153	146	115	63	35	21	12	11
AC-FT	2050	18570	62010	25200	14240	15710	8820	5650	3110	1490	906	756

CAL YR 1983 TOTAL 234257 MEAN 642 MAX 8400 MIN 19 AC-FT 464600
WTR YR 1984 TOTAL 79917 MEAN 218 MAX 3100 MIN 11 AC-FT 158500

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010212, at powerplant 1.6 mi downstream from Mill Creek, and 3.8 mi south of French Gulch.

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

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Trinity River at NW 1/4 SE 1/4 sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (station 11371700). See schematic diagram of Pit and McCloud River basins.

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

AVERAGE DISCHARGE.--21 years, 1,584 ft^3/s, 1,148,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,910 ft^3/s Feb. 11, 1970; no flow many days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1680	1640	1830	1850	2620	0	1060	243	563	743	3250	3260
2	1680	1640	1830	1850	2710	0	900	62	1260	2070	3100	3350
3	1680	1640	1830	1830	2760	0	1160	402	1240	2090	2480	3450
4	1680	1620	1830	1830	2770	0	1020	494	1030	1990	3150	3350
5	1680	1620	1830	1830	2770	0	700	489	778	2090	3150	2720
6	1680	1640	1830	1830	2720	0	925	0	917	1190	3150	3000
7	1680	1640	1860	1830	2720	0	979	661	975	1990	3110	3090
8	1680	1660	1850	1830	2670	0	906	643	974	2030	3110	3350
9	1680	1620	1860	1810	2680	0	1150	654	756	2070	3180	3350
10	1660	1640	1840	1810	2730	0	1020	664	745	2040	3050	3580
11	1660	1720	1870	1810	2720	0	906	668	743	2020	3110	3430
12	1660	1760	1830	1810	2720	0	936	654	743	1650	3180	3430
13	1660	1760	1850	1830	2720	0	919	656	756	1870	3350	3430
14	1660	1760	1850	1480	2730	0	0	665	753	1830	3260	3430
15	1660	1800	1850	2670	2740	0	0	656	753	1980	3180	3430
16	1660	1860	1830	3100	2790	0	341	656	753	2040	3180	3430
17	1660	1880	1820	3040	2770	157	345	656	743	2740	3110	3560
18	1660	1860	1850	2420	2840	0	259	411	743	2770	3180	3560
19	1660	1860	1830	3330	2870	0	255	738	745	2700	3350	3560
20	1660	1860	1840	2840	2840	0	248	738	842	2760	3260	3680
21	1650	1450	1840	3330	1560	0	0	713	756	2810	2820	1510
22	1380	1650	1840	3330	1800	0	0	6.0	0	2820	3350	1480
23	1650	1640	1860	3190	1650	146	259	0	485	2480	3350	1500
24	1650	1860	1850	2520	1970	989	246	0	479	2810	3260	1390
25	1650	1850	1860	2260	2680	1030	246	0	570	2810	2930	1440
26	1650	1830	1860	1190	2460	1070	243	0	822	2760	2930	1440
27	1650	1830	1860	1400	123	1020	246	0	1700	2810	3050	1500
28	1650	1830	1860	2500	0	969	0	0	1560	2770	3110	1500
29	1650	1830	1830	2710	0	1000	0	227	743	2770	3180	1440
30	1650	1830	1830	2720	---	1080	246	495	753	2810	3180	1460
31	1640	---	1850	2660	---	1100	---	678	---	2810	3180	---
TOTAL	51250	52080	57160	70440	67133	8561	15515	12929.0	24680	71123	97230	82100
MEAN	1653	1736	1844	2272	2315	276	517	417	823	2294	3136	2737
MAX	1680	1880	1870	3330	2870	1100	1160	738	1700	2820	3350	3680
MIN	1380	1450	1830	1190	0	0	0	0	0	743	2480	1390
AC-FT	101700	103300	113400	139700	133200	16980	30770	25640	48950	141100	192900	162800

CAL YR 1983 TOTAL 870835 MEAN 2386 MAX 3350 MIN 0 AC-FT 1727000
WTR YR 1984 TOTAL 610201.0 MEAN 1667 MAX 3680 MIN 0 AC-FT 1210000

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE 1/4 SE 1/4 sec.18, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020112, at powerplant on Spring Creek, 0.4 mi northwest of Keswick, and 4.9 mi northwest of Redding.

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

GAGE.--Discharge computed from powerplant output.

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

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

AVERAGE DISCHARGE.--20 years (water years 1965-84), 1,991 ft^3/s, 1,442,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,800 ft^3/s May 2, 1983; no flow for many days in 1974-82, 1984.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1980	2310	2100	3680	3260	305	0	304	893	833	3240	3270
2	2120	2300	2140	3950	3110	340	1090	0	1550	1940	3090	3290
3	2000	2450	2170	3860	3040	235	1220	0	1380	1920	2340	3260
4	2000	2220	2140	2540	2700	223	1380	0	1100	1950	2890	3290
5	1980	2290	2140	2420	2460	231	1420	0	929	1940	2910	2930
6	1850	2250	2170	2250	1360	229	1220	0	929	1990	3160	2550
7	1710	2250	2430	3020	2940	235	1180	0	945	1250	3300	2510
8	1610	2570	2880	3340	2620	218	1230	0	1020	1680	3070	3430
9	1680	2390	4150	3060	2350	209	1230	0	974	1960	3000	3490
10	1750	2530	4530	2760	3740	207	1250	0	841	2030	3090	3960
11	1700	3000	4550	2790	3620	149	1230	0	911	2000	3140	3900
12	1660	4560	4520	2830	3260	108	1270	0	916	1940	3080	3690
13	1650	4260	3910	2070	3210	332	1390	0	671	2100	3000	3350
14	1650	2040	4400	2400	3290	290	299	89	844	1890	3150	3420
15	1630	2040	4400	3410	4590	508	286	5.0	800	1940	3030	3400
16	1650	2040	4440	3530	3830	732	477	0	693	2040	3220	3400
17	1670	2050	4440	3520	3280	850	517	0	698	2690	3220	3540
18	1670	2200	4440	3030	3700	863	450	0	500	2690	3220	3400
19	2340	2170	4530	3610	3410	928	483	10	775	2770	3110	3400
20	2320	2170	4380	3810	3450	1130	574	0	794	3020	3110	3490
21	2320	2150	2980	4250	2200	981	275	0	855	2750	3110	1900
22	2420	2650	4560	3570	1540	996	272	0	303	2790	2990	1960
23	2380	4560	4560	3820	2830	765	481	89	499	2720	3100	1520
24	2430	4590	4640	3790	2050	1110	276	50	499	2440	3100	1500
25	2390	4110	3130	3400	2900	982	272	0	499	2690	2980	1540
26	2390	2830	4590	2180	2840	1050	375	0	750	2330	3010	1550
27	2370	2500	4560	1860	638	1300	436	0	1050	2970	3010	1520
28	2380	2130	4590	3130	649	1190	209	0	1640	2790	3130	1480
29	2300	2140	4560	3170	585	1190	265	50	1520	2870	2930	1400
30	2290	2170	3560	3160	---	1160	539	455	833	2710	3300	1430
31	2310	---	3980	3220	---	0	---	497	---	2830	3050	---
TOTAL	62600	79920	116570	97430	79452	19046	21596	1549.0	26611	70463	95080	82770
MEAN	2019	2663	3760	3142	2739	614	720	50.0	887	2272	3066	2758
MAX	2430	4590	4640	4250	4590	1300	1420	497	1640	3020	3300	3960
MIN	1610	2040	2100	1860	585	0	0	0	303	833	2340	1400
AC-FT	124200	158500	231200	193200	157600	37780	42820	3070	52780	139700	188500	164100

CAL YR 1983 TOTAL 1216800 MEAN 3334 MAX 4800 MIN 1350 AC-FT 2414000
WTR YR 1984 TOTAL 753087.0 MEAN 2058 MAX 4640 MIN 0 AC-FT 1494000

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 downstream from Whiskey Creek, and 7.8 mi northeast of Igo.

DRAINAGE AREA.--200 mi^2.

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

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

REMARKS.--Reservoir is formed by earth-and rockfill dam. Storage began in May 1963. Capacity, 241,100 acre-ft between elevations 1,100.00 ft, minimum operating level and 1,210.00 ft, 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 represent contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 258,600 acre-ft Mar. 2, 1983, elevation, 1,215.34 ft; minimum since reservoir was first filled, 159,000 acre-ft Oct. 25, 1970, elevation, 1,181.48 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 241,300 acre-ft Nov. 10, elevation, 1,210.06 ft; minimum, 200,400 acre-ft Feb. 1-3, elevation, 1,196.69 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235800	218900	203300	205900	200400	205700	211300	210400	238200	237400	237500	238800
2	235300	218000	203600	204600	200400	205400	211000	210900	237800	237500	237500	238900
3	234800	216700	204600	203200	200400	205400	211200	212000	237600	237800	237600	239000
4	234300	215800	205200	204100	201300	205300	211200	213200	237600	238200	238000	239000
5	233900	214700	205700	205200	202600	205200	210400	214400	237500	238000	238400	238400
6	233700	214000	206600	206300	206100	205100	210400	214700	237900	236600	238200	239100
7	233700	212900	208200	206000	205900	205000	210500	216300	238300	238100	237900	240100
8	234100	211400	209200	205000	206500	204900	210500	217800	238400	238600	238000	239900
9	234200	210600	215300	204200	208500	204800	210600	219300	238100	238600	238200	239600
10	234200	241300	217600	204000	207300	204700	210900	220800	237900	238500	238000	238400
11	234200	213900	226200	203500	206400	204700	210900	222500	237600	238500	238000	237400
12	234300	210500	229400	202900	206300	204700	210800	224100	237500	237800	238300	236600
13	234300	207700	231100	203700	207100	205800	210400	225700	237700	237500	238600	236600
14	234400	208600	230500	203300	207600	206400	210200	226900	237500	237800	238600	236400
15	234600	209200	228900	203500	205800	207400	210000	228500	237500	237900	238700	236300
16	234700	210100	227000	203500	205600	207700	210100	229700	237700	237900	238500	236200
17	234800	212400	224500	204100	205700	207900	210100	231500	237900	238000	238300	235900
18	234800	213400	221600	205000	205400	207500	210600	232500	238500	238200	238300	235900
19	233500	214900	218600	205800	205400	206800	210600	234100	238600	237900	238500	236200
20	232000	216300	215500	205200	205500	205600	210400	235700	238600	237800	238700	236200
21	230700	216300	215000	204900	205400	204700	210200	237300	238400	237700	238000	235500
22	228800	215400	211200	205600	206700	203500	210000	237300	237800	237700	238300	234500
23	227700	210500	207700	205700	205700	203200	210000	237200	237700	237100	238500	234500
24	226400	206900	204900	204200	206700	203800	210200	237300	237700	237600	238800	234300
25	225100	203800	208300	202800	207300	204600	210500	237300	237800	237500	238800	234100
26	223700	202900	209500	201300	207700	204800	210500	237400	238000	237700	238700	233800
27	222300	202300	209600	201400	207300	204800	210700	237500	239100	237800	238700	233700
28	221000	202600	208400	200900	206500	205100	210500	237500	239100	237800	238600	233800
29	220200	202900	206400	200900	205900	205500	210300	238000	237600	237500	238600	233800
30	219500	203100	207100	201000	---	205800	210100	238200	237500	237600	238800	233900
31	218800	---	206700	200800	---	208600	---	238700	---	237500	239000	---
MAX	235800	241300	231100	206300	208500	208600	211300	238700	239100	238600	239000	240100
MIN	218800	202300	203300	200800	200400	203200	210000	210400	237500	236600	237500	233700
a	1202.87	1197.62	1198.84	1196.83	1198.56	1199.48	1199.98	1209.24	1208.87	1208.88	1209.34	1207.74
b	-17300	-15700	+3600	-5900	+5100	+2700	+1500	+28600	-1200	0	+1500	-5100
c	460	140	40	170	210	470	670	1000	1460	1830	1590	1220

CAL YR 1983 b +2100
WTR YR 1984 b -2200

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

11372000 CLEAR CREEK NEAR IGO, CA

LOCATION.--Lat 40°30'48", long 122°31'23", unsurveyed, Shasta County, Hydrologic Unit 18020112, on left bank at old highway bridge on Redding-Igo Road 1.0 mi northeast of Igo, 8.3 mi southwest of Redding, and 10.4 mi upstream from mouth.

DRAINAGE AREA.--228 mi^2.

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 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).--44 years, 488 ft^3/s, 353,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s Dec. 21, 1955, gage height, 13.75 ft; minimum discharge, 8.6 ft^3/s Sept. 4, 6, 7, 1950. Maximum discharge since construction of Whiskeytown Dam in 1963, 19,200 ft^3/s Mar. 3, 1983, gage height, 12.73 ft; minimum daily discharge, 30 ft^3/s Oct. 10, 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,240 ft^3/s Dec. 11, gage height, 6.59 ft; minimum daily discharge, 48 ft^3/s several days during October.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	97	109	232	76	85	86	94	60	56	52	54
2	49	104	107	182	75	83	84	89	60	56	53	53
3	49	98	170	159	74	81	83	81	60	56	53	52
4	48	97	139	142	74	79	83	77	62	56	53	52
5	48	96	128	134	74	78	83	75	63	56	53	52
6	48	101	293	126	74	78	81	73	92	56	53	53
7	48	98	489	118	73	77	79	72	70	56	53	54
8	48	96	287	112	73	77	83	71	65	56	52	54
9	48	109	940	110	89	76	81	70	63	56	52	53
10	48	507	938	107	78	75	103	69	62	54	52	52
11	48	181	1460	103	81	75	85	70	62	55	52	51
12	48	188	585	100	89	75	81	69	61	55	52	51
13	48	192	429	97	161	214	79	68	61	54	53	51
14	48	133	338	95	127	196	77	67	61	54	52	51
15	48	115	271	95	245	345	76	67	60	54	52	51
16	48	172	244	97	215	272	75	67	59	55	52	51
17	48	401	215	91	152	262	74	67	60	55	53	51
18	48	162	197	89	127	193	119	66	59	55	53	51
19	48	250	182	88	114	158	103	65	60	54	52	51
20	48	203	172	86	107	140	89	65	60	54	52	50
21	48	147	163	86	115	126	84	64	62	54	52	50
22	48	132	154	85	101	116	81	64	59	54	52	50
23	49	154	156	84	97	109	78	64	58	55	52	50
24	48	239	323	84	95	104	76	64	58	55	52	50
25	48	175	797	82	92	100	75	63	58	54	52	50
26	48	140	645	80	90	97	73	63	58	54	52	50
27	48	126	550	79	88	93	86	62	57	54	52	49
28	48	119	352	78	87	91	72	61	57	53	52	49
29	49	114	277	78	86	88	72	61	61	53	52	49
30	57	111	359	77	---	87	72	61	57	52	54	49
31	68	---	290	76	---	88	---	62	---	52	55	---
TOTAL	1522	4857	11759	3252	3029	3818	2473	2131	1845	1693	1626	1534
MEAN	49.1	162	379	105	104	123	82.4	68.7	61.5	54.6	52.5	51.1
MAX	68	507	1460	232	245	345	119	94	92	56	55	54
MIN	48	96	107	76	73	75	72	61	57	52	52	49
AC-FT	3020	9630	23320	6450	6010	7570	4910	4230	3660	3360	3230	3040
MEAN a	146	830	2356	883	621	513	322	183	130	63.4	33.7	8.2
AC-FT a	8960	49380	144800	54280	35720	31550	19180	11260	7750	3900	2070	490

CAL YR 1983 TOTAL 212952 MEAN 583 MAX 15000 MIN 48 AC-FT 422400 MEAN a 1543 AC-FT a 1117000
WTR YR 1984 TOTAL 39539 MEAN 108 MAX 1460 MIN 48 AC-FT 78430 MEAN a 509 AC-FT a 369400

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

11374000 COW CREEK NEAR MILLVILLE, CA

LOCATION.--Lat 40°30'19", long 122°13'56", in NE 1/4 NW 1/4 sec.32, T.31 N., R.3 W., Shasta County, Hydrologic Unit 18020101, on right bank 2.9 mi upstream from mouth, 4.2 mi southwest of Millville, and 4.3 mi downstream from Little Cow Creek.

DRAINAGE AREA.--425 mi^2.

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--35 years, 714 ft^3/s, 517,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft^3/s Nov. 16, 1981, gage height, 21.22 ft; maximum gage height, 21.55 ft Dec. 27, 1951; minimum daily discharge, 0.02 ft^3/s July 29, 1977.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,500 ft^3/s Dec. 25, gage height, 14.09 ft, no other peak above base of 13,900 ft^3/s; minimum daily discharge, 40 ft^3/s Aug. 23-25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	220	405	2140	387	608	520	411	277	81	53	68
2	164	244	443	1740	375	613	469	577	268	78	52	51
3	158	196	5650	1480	366	586	438	540	254	73	51	51
4	151	185	1860	1320	361	560	425	618	268	73	51	49
5	150	186	1020	1210	354	549	422	569	356	69	51	47
6	138	186	3780	1120	350	526	414	512	407	69	51	45
7	146	281	6550	1040	344	520	392	474	381	69	49	43
8	145	206	3110	971	341	509	586	465	357	64	48	43
9	145	229	7740	907	445	495	485	453	292	65	48	43
10	146	1750	5610	856	509	490	595	431	263	62	46	44
11	136	1710	9260	808	396	480	576	442	244	59	43	41
12	130	1510	3540	755	472	477	464	526	219	59	42	41
13	128	1720	2560	715	3370	1130	428	486	202	61	43	43
14	125	891	2050	673	1450	1260	408	467	175	60	43	44
15	126	494	1640	662	3320	1330	407	454	160	59	45	44
16	131	1370	1660	682	3340	1160	400	417	155	57	47	44
17	132	3000	1970	613	1400	1490	414	400	147	60	42	44
18	125	1010	1310	578	1060	929	580	376	144	60	43	44
19	128	1530	1110	556	899	796	1360	367	138	64	44	45
20	126	1580	989	535	806	742	904	366	138	63	45	54
21	124	759	850	536	1760	694	710	368	132	60	45	60
22	125	547	762	522	1050	643	612	353	129	57	41	50
23	147	1370	765	492	872	609	544	337	114	60	40	49
24	207	5400	8560	474	858	591	476	337	113	59	40	48
25	155	1690	15400	458	844	566	451	334	113	58	40	45
26	135	891	11700	442	738	550	431	329	106	61	43	46
27	132	650	7300	430	693	523	419	322	96	59	44	46
28	136	540	3320	428	655	504	400	317	99	58	43	46
29	137	468	2450	414	631	481	389	304	93	55	44	45
30	201	426	5490	402	---	471	374	291	85	55	47	81
31	235	---	2930	396	---	506	---	273	---	54	103	---
TOTAL	4526	31239	121784	24355	28446	21388	15493	12916	5925	1941	1467	1444
MEAN	146	1041	3929	786	981	690	516	417	198	62.6	47.3	48.1
MAX	235	5400	15400	2140	3370	1490	1360	618	407	81	103	81
MIN	124	185	405	396	341	471	374	273	85	54	40	41
AC-FT	8980	61960	241600	48310	56420	42420	30730	25620	11750	3850	2910	2860

CAL YR 1983 TOTAL 625548 MEAN 1714 MAX 19600 MIN 86 AC-FT 1241000
WTR YR 1984 TOTAL 270924 MEAN 740 MAX 15400 MIN 40 AC-FT 537400

11375810 COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°23'06", long 122°28'31", in SE 1/4 NW 1/4 sec.7, T.29 N., R.5 W., Shasta County, Hydrologic Unit 18020102, on left bank 1.0 mi downstream from Dutch Gulch, and 5.5 mi southwest of Olinda.

DRAINAGE AREA.--395 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

AVERAGE DISCHARGE.--13 years, 531 ft^3/s, 384,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft^3/s Jan. 16, 1974, gage height, 21.44 ft from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement of peak flow; no flow Aug. 30, Sept. 7, 8, 1972, and many days in 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	1915	5,880	11.22	Dec. 11	1345	*15,900	15.46
Nov. 19	1600	4,620	10.55	Dec. 25	0230	10,100	13.28
Nov. 24	1115	4,350	10.40	Dec. 30	0600	3,190	9.45

Minimum daily discharge, 12.0 ft^3/s Aug. 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	148	400	1770	357	396	401	263	94	48	17	19
2	70	153	416	1570	344	397	371	282	91	45	16	19
3	63	113	972	1470	334	385	354	254	86	44	16	18
4	59	101	618	1430	328	367	349	244	86	43	16	16
5	57	93	491	1380	323	355	346	236	96	38	15	15
6	57	98	831	1270	319	346	331	231	124	32	16	15
7	57	125	1700	1150	314	338	307	224	128	18	16	15
8	59	108	1410	1040	310	328	325	209	104	18	17	16
9	59	129	4490	950	323	319	319	198	92	19	19	14
10	60	1840	3770	885	314	313	397	195	85	20	15	13
11	61	1190	8060	817	325	306	372	194	81	21	15	15
12	58	660	3690	753	418	303	338	218	77	22	16	15
13	55	1200	2990	709	739	521	327	197	75	22	15	13
14	51	729	2330	673	737	739	316	183	78	22	15	16
15	51	442	1950	653	1540	739	307	179	74	21	15	14
16	52	556	1760	676	1080	799	295	169	67	21	15	16
17	51	1250	1650	614	756	972	285	162	64	21	14	15
18	51	846	1400	576	640	791	446	157	61	22	14	15
19	51	2210	1260	551	582	739	483	153	57	22	13	24
20	50	1790	1150	530	571	718	347	139	52	19	13	44
21	49	968	1050	518	680	677	322	135	48	17	13	52
22	49	707	970	499	602	623	315	129	49	16	13	38
23	51	1260	963	479	556	579	296	122	49	18	13	33
24	55	2600	3230	459	525	537	283	119	49	20	13	30
25	54	1530	7230	448	492	509	275	116	46	20	14	29
26	52	929	5700	426	457	487	271	114	45	21	14	30
27	51	687	4240	413	436	457	267	114	45	21	12	36
28	51	565	2530	401	421	430	257	112	50	20	22	36
29	50	482	1920	390	406	409	244	108	50	18	15	30
30	66	428	2650	379	---	396	242	105	48	18	16	31
31	106	---	2140	365	---	401	---	99	---	18	20	---
TOTAL	1782	23937	73961	24244	15229	15676	9788	5360	2151	745	473	692
MEAN	57.5	798	2386	782	525	506	326	173	71.7	24.0	15.3	23.1
MAX	106	2600	8060	1770	1540	972	483	282	128	48	22	52
MIN	49	93	400	365	310	303	242	99	45	16	12	13
AC-FT	3530	47480	146700	48090	30210	31090	19410	10630	4270	1480	938	1370

CAL YR 1983 TOTAL 571990 MEAN 1567 MAX 20200 MIN 38 AC-FT 1135000
WTR YR 1984 TOTAL 174038 MEAN 476 MAX 8060 MIN 12 AC-FT 345200

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1973 to current year.
CHEMICAL ANALYSES: Water years 1971, 1982 to current year.
WATER TEMPERATURES: Water years 1973-80.
SEDIMENT RECORDS: Water years 1977-83.
TURBIDITY: Water years 1977-79, 1981.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: February 1973 to September 1980.
SEDIMENT RECORDS: January 1977 to May 1980 (storm season only).

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BARO-METRIC PRES-SURE (MM OF HG)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
26...	1300	52	230	8.1	17.0	10.2	107	750	110	0	24
APR											
30...	1130	241	220	8.2	15.5	10.3	104	755	100	0	22

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-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT											
26...	13	9.4	1.2	115	8.3	11	<.10	18	154	150	<.10
APR											
30...	12	6.3	.80	105	14	3.8	<.10	19	148	140	<.10

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, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
26...	<.10	.02	.04	.40	.01	.02	.02	20	10	1.5
APR										
30...	<.10	.02	.03	.50	.03	.03	.03	20	9	.60

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

11375815 COTTONWOOD CREEK ABOVE SOUTH FORK, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°22'19", long 122°20'17", in NW 1/4 SW 1/4, sec.17, T.29 N., R.4 W., Tehama County, Hydrologic Unit 18020102, on right bank 0.67 mi upstream of confluence with South Fork Cottonwood Creek and 3.3 mi southwest of Cottonwood.

DRAINAGE AREA.--478 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1982 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 421.90 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow is computed up to 1,000 ft^3/s. Numerous pumping diversions above station. Maximum recorded discharge, Mar. 1, 1983, was determined to be 40,000 ft^3/s, gage height 19.59 ft., from rating curve extended above 13,000 ft^3/s and peak flow at gage near Olinda.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	147	446	---	336	429	403	251	93	44	21	17
2	82	201	451	---	327	426	371	288	90	42	21	18
3	72	134	---	---	313	418	355	249	87	38	15	17
4	65	103	847	---	308	395	343	240	83	37	16	15
5	58	89	612	---	302	380	340	231	91	36	16	13
6	56	84	781	---	297	368	327	229	115	33	16	13
7	56	108	---	---	291	359	305	221	138	26	14	13
8	58	102	---	964	281	342	325	204	109	21	12	13
9	60	108	---	869	294	333	324	194	96	22	14	15
10	64	---	---	809	288	327	393	190	89	23	16	13
11	68	---	---	757	283	319	382	187	85	24	14	13
12	66	797	---	700	391	315	345	209	81	26	15	16
13	60	---	---	670	615	459	338	199	77	23	14	17
14	57	958	---	627	764	695	330	179	78	21	15	17
15	57	544	---	611	---	727	317	169	74	19	14	18
16	57	579	---	639	---	707	296	160	69	17	13	17
17	56	---	---	587	828	979	285	153	65	17	11	16
18	56	968	---	547	687	780	367	148	61	15	12	15
19	54	---	---	520	621	704	521	142	56	17	13	19
20	53	---	---	493	598	680	357	138	53	17	10	24
21	52	---	999	491	709	654	337	131	50	17	8.4	38
22	53	776	899	474	637	609	326	128	51	19	8.9	34
23	53	---	891	455	590	565	301	122	51	20	9.0	31
24	58	---	---	433	556	528	288	118	51	20	9.0	29
25	57	---	---	418	520	499	279	114	49	21	10	27
26	54	---	---	403	492	481	277	112	45	19	12	29
27	53	792	---	391	472	458	273	115	44	20	12	31
28	52	637	---	376	453	433	257	113	44	20	13	34
29	52	545	---	366	440	410	242	108	46	19	17	32
30	65	484	---	355	---	398	240	102	44	18	13	29
31	111	---	---	343	---	390	---	98	---	22	15	---
TOTAL	1894	---	---	---	---	15567	9844	5242	2165	733	419.3	633
MEAN	61.1	---	---	---	---	502	328	169	72.2	23.6	13.5	21.1
MAX	111	---	---	---	---	979	521	288	138	44	21	38
MIN	52	---	---	---	---	315	240	98	44	15	8.4	13
AC-FT	3760	---	---	---	---	30880	19520	10400	4290	1450	832	1260

11375815 COTTONWOOD CREEK ABOVE SOUTH FORK, NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BARO-METRIC PRES-SURE (MM OF HG)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
24...	1200	59	255	8.4	20.5	10.0	112	755	110	6	24
MAY											
02...	1200	289	224	8.0	15.5	10.3	104	755	100	4	22

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-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT											
24...	13	9.1	1.4	108	8.8	12	<.10	18	151	150	<.10
MAY											
02...	12	7.1	.90	100	15	4.7	<.10	19	140	140	<.10

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, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
24...	<.10	.06	.09	.50	.04	.03	.03	20	33	--
MAY										
02...	--	.04	.02	<.20	.02	.02	.03	20	11	.90

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

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°19'34", long 122°26'40", in SE 1/4 NE 1/4 sec.32, T.29 N., R.5 W., Tehama County, Hydrologic Unit 18020102, on left bank 250 ft downstream from Dry Creek and 8.0 mi south of Olinda.

DRAINAGE AREA.--371 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 501.28 ft National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--7 years (water years 1978-84) 390 ft^3/s, 282,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,800 ft^3/s Feb. 28, 1983, gage height, 15.38 ft; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 16, 1974 reached a stage of 13.5 ft, from floodmarks on right bank, discharge, 27,200 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2400	3,410	4.62	Dec. 11	1400	*20,200	11.52
Nov. 24	1600	4,180	5.15	Dec. 25	0230	13,400	9.37

Minimum, no flow manys days during August and September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	38	298	1280	183	245	193	123	76	19	5.0	0
2	24	45	289	1070	174	239	186	128	75	17	4.8	0
3	24	41	596	957	166	227	178	129	69	16	3.5	0
4	24	35	391	897	163	215	175	129	67	15	3.1	0
5	24	32	304	833	157	201	171	128	68	14	3.1	0
6	24	31	289	754	151	190	172	125	72	14	3.1	.27
7	23	35	609	684	148	186	163	123	74	12	2.1	0
8	22	44	725	629	139	180	163	120	68	12	2.3	0
9	21	42	4560	563	141	175	174	118	59	11	3.4	0
10	20	931	2720	521	141	174	173	117	54	10	1.2	0
11	20	1390	5900	497	139	168	179	116	52	9.3	.80	0
12	20	543	2220	484	172	165	172	145	51	9.5	.18	0
13	20	834	1460	471	281	201	170	151	49	11	0	0
14	20	502	1280	441	576	460	168	141	48	10	0	0
15	20	317	1160	425	559	430	168	133	47	9.3	0	0
16	19	349	987	416	638	412	165	125	42	9.0	0	0
17	19	857	922	376	490	444	163	119	39	8.1	0	0
18	19	617	770	352	433	388	160	114	37	7.8	0	0
19	20	1130	674	331	392	374	187	109	35	7.0	0	0
20	20	1410	609	315	376	407	167	105	34	12	0	0
21	20	664	604	304	429	407	155	103	32	13	0	0
22	20	438	604	290	398	367	151	102	31	11	0	0
23	20	469	616	273	364	329	146	100	30	9.3	0	0
24	20	2250	3040	259	347	300	141	98	28	9.3	0	0
25	20	1540	8100	247	321	275	137	97	27	9.3	0	0
26	20	782	5260	235	297	256	135	95	25	9.3	0	0
27	20	561	3640	222	277	244	135	93	24	9.2	0	0
28	20	441	2010	212	263	219	129	91	23	7.0	0	.25
29	19	373	1490	204	256	203	125	84	21	7.0	0	0
30	21	331	1670	196	---	199	123	81	20	5.9	0	.21
31	30	---	1670	188	---	196	---	80	---	6.0	0	---
TOTAL	658	17072	55467	14926	8571	8476	4824	3522	1377	329.3	32.58	0.73
MEAN	21.2	569	1789	481	296	273	161	114	45.9	10.6	1.05	.024
MAX	30	2250	8100	1280	638	460	193	151	76	19	5.0	.27
MIN	19	31	289	188	139	165	123	80	20	5.9	0	0
AC-FT	1310	33860	110000	29610	17000	16810	9570	6990	2730	653	65	1.4

CAL YR 1983 TOTAL 359477 MEAN 985 MAX 14500 MIN 16 AC-FT 713000
WTR YR 1984 TOTAL 115255.61 MEAN 315 MAX 8100 MIN 0 AC-FT 228600

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.
CHEMICAL ANALYSIS: Water years 1982 to current year.
WATER TEMPERATURES: Water years 1977-80.
SEDIMENT RECORDS: Water years 1977-80.
TURBIDITY: Water years 1977-79, 1981.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1976 to September 1980.
SEDIMENT RECORDS: January 1977 to May 1980 (storm season only).

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BARO-METRIC PRES-SURE (MM OF HG)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
24...	1430	20	365	8.2	17.5	10.2	108	755	150	27	38
MAY											
02...	0815	130	310	7.8	14.0	10.0	98	750	130	9	34

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-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT											
24...	14	19	1.2	126	24	38	<.10	12	223	220	<.10
MAY											
02...	12	13	.90	125	23	11	<.10	12	184	180	<.10

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,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
24...	<.10	.02	.04	.40	<.01	<.01	<.01	120	17	--
MAY										
02...	<.10	.04	.04	.50	.03	.02	.01	60	6	.70

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

11375900 SOUTH FORK COTTONWOOD CREEK AT EVERGREEN ROAD, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°21'45", long 122°20'18", in SW 1/4 SE 1/4 sec.17, T.29 N., R.4 W., Tehama County, Hydrologic Unit 18020102, on left bank 30 ft downstream from Evergreen Road, and 3.6 mi southwest of Cottonwood.

DRAINAGE AREA.--397 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 427.08 ft, National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft^3/s Mar. 1, 1983, gage height, 17.24 ft; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 15.4 ft, Dec. 19, 1981, from floodmarks, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2400	4,110	7.05	Dec. 11	1600	*21,000	13.35
Nov. 20	0145	3,000	6.37	Dec. 25	0415	14,400	12.32
Nov. 24	1830	4,820	7.51				

Minimum, no flow many days during August and September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	36	326	1430	190	260	180	115	72	9.0	.41	
2	28	40	290	1170	192	255	168	124	71	7.8	.05	
3	25	38	1240	1050	185	240	162	127	66	6.7	.11	
4	24	32	579	985	182	225	160	125	63	6.2	.01	
5	22	29	350	918	175	210	156	118	66	5.9	0	
6	21	28	319	788	172	200	156	111	67	5.8	0	
7	21	29	811	669	162	198	148	117	62	5.2	0	
8	20	38	1240	597	160	190	144	113	56	4.6	0	
9	21	39	4890	548	154	188	156	108	50	4.2	0	
10	21	975	3830	518	155	185	159	112	45	4.7	0	
11	21	1850	8240	501	160	179	168	111	43	4.9	0	
12	21	601	2610	468	177	175	157	134	41	4.5	0	
13	20	1040	1620	439	226	205	158	138	38	3.7	0	
14	19	802	1470	412	591	500	154	124	37	3.0	0	
15	18	439	1320	389	551	482	155	121	37	1.8	0	
16	19	448	1200	395	699	450	152	116	33	1.2	0	
17	19	1060	1050	360	480	491	149	107	31	.52	0	
18	19	970	880	340	436	476	147	105	29	1.4	0	
19	19	1360	740	320	418	405	171	103	26	.61	0	
20	19	2220	700	310	406	440	156	96	24	1.1	0	
21	19	1100	680	295	460	440	148	95	23	5.1	0	
22	19	699	690	285	440	405	145	96	21	3.4	0	
23	19	822	756	275	408	375	140	89	20	2.9	0	
24	19	2760	3430	255	368	340	131	87	19	2.2	0	
25	19	2220	8510	245	345	310	121	86	17	2.3	0	
26	20	1140	5150	235	315	285	122	84	16	3.0	0	
27	19	751	4060	220	295	255	122	84	14	1.7	0	
28	19	569	2130	209	275	225	122	83	13	1.3	0	
29	19	428	1470	200	270	210	119	80	11	.93	0	
30	20	365	1950	195	---	188	112	78	10	1.3	0	
31	24	---	1780	185	---	178	---	73	---	1.0	0	
TOTAL	639	22928	64311	15206	9047	9165	4438	3260	1121	107.96	0.58	0
MEAN	20.6	764	2075	491	312	296	148	105	37.4	3.48	.019	0
MAX	28	2760	8510	1430	699	500	180	138	72	9.0	.41	0
MIN	18	28	290	185	154	175	112	73	10	.52	0	0
AC-FT	1270	45480	127600	30160	17940	18180	8800	6470	2220	214	1.2	0

CAL YR 1983 TOTAL 405753 MEAN 1112 MAX 17100 MIN 17 AC-FT 804800
WTR YR 1984 TOTAL 130223.54 MEAN 356 MAX 8510 MIN 0 AC-FT 258300

11375900 SOUTH FORK COTTONWOOD CREEK AT EVERGREEN ROAD, NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: April 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BARO-METRIC PRES-SURE (MM OF HG)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
25...	0830	20	340	7.9	15.0	9.2	92	755	150	24	37
MAY											
02...	1015	134	310	8.2	16.0	9.8	100	755	130	7	34

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-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT											
25...	13	17	1.3	122	22	32	.10	12	216	210	<.10
MAY											
02...	12	13	.90	127	23	11	<.10	12	200	180	<.10

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,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
25...	<.10	.02	.01	.60	<.01	.01	.01	110	12	.70
MAY										
02...	<.10	.01	<.01	.20	.01	.02	.02	70	8	.70

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

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE 1/4 NE 1/4 sec.7, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020102, on left bank 2.2 mi east of Cottonwood, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--927 mi^2.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 364.0 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 26, 1963, on right bank at datum 3.59 ft higher. July 26, 1964, to Sept. 13, 1972, at site 250 ft downstream on right bank. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,450 ft downstream on right bank at datum 2.35 ft 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.--44 years, 903 ft^3/s, 654,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,000 ft^3/s Mar. 1, 1983, gage height, 21.59 ft; minimum discharge, 15 ft^3/s on several days during September 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 11	1715	*32,800	16.39
Dec. 25	0515	25,300	15.23

Minimum daily discharge, 47 ft^3/s Aug. 9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	251	837	3940	548	705	618	417	243	98	72	104
2	139	255	817	3380	529	693	543	535	241	95	82	120
3	164	208	3280	2900	508	678	504	467	235	95	83	122
4	133	172	1950	2550	494	644	486	456	228	98	82	103
5	133	153	1230	2430	475	611	480	440	241	102	70	78
6	141	146	1260	2330	466	602	494	432	315	108	62	78
7	165	151	2940	2160	454	573	506	443	350	95	56	79
8	189	172	2920	1970	441	561	499	409	269	80	52	73
9	215	175	10200	1780	451	547	630	374	199	78	47	73
10	252	1710	8470	1630	452	534	812	381	118	85	48	79
11	237	3760	15900	1480	431	519	819	371	80	89	51	82
12	196	1500	7640	1320	553	505	690	410	83	85	52	76
13	203	2370	5610	1240	760	644	643	418	112	80	61	73
14	234	2050	4900	1160	1250	1090	591	383	115	76	64	75
15	209	1100	4410	1110	1710	1190	560	372	113	70	62	88
16	198	1080	4000	1210	1950	1120	537	358	97	65	59	109
17	209	2190	3910	1100	1380	1430	503	347	79	68	67	91
18	208	2300	3410	998	1170	1190	584	346	76	87	66	91
19	211	2970	3150	939	1050	1100	1180	334	78	79	63	85
20	196	4420	2910	885	997	1080	773	323	72	80	65	87
21	173	2480	2710	871	1180	1050	673	317	68	88	65	107
22	165	1600	2510	841	1070	970	607	317	75	84	73	108
23	167	2150	2450	811	979	895	567	301	105	90	70	126
24	200	5290	7370	787	931	835	497	293	108	94	67	116
25	197	4290	19300	743	882	779	449	284	109	81	65	115
26	181	2500	12500	682	826	744	446	275	108	77	73	118
27	185	1730	11000	647	786	705	426	270	89	72	70	120
28	190	1360	6260	624	755	665	395	275	77	65	68	129
29	194	1120	4810	608	729	630	367	276	98	62	72	124
30	223	942	5100	596	---	601	348	266	110	75	81	105
31	256	---	4520	566	---	588	---	257	---	70	89	---
TOTAL	5888	50595	168274	44288	24207	24478	17227	11147	4291	2571	2057	2934
MEAN	190	1686	5428	1429	835	790	574	360	143	82.9	66.4	97.8
MAX	256	5290	19300	3940	1950	1430	1180	535	350	108	89	129
MIN	125	146	817	566	431	505	348	257	68	62	47	73
AC-FT	11680	100400	333800	87850	48010	48550	34170	22110	8510	5100	4080	5820

CAL YR 1983 TOTAL 1114797 MEAN 3054 MAX 43300 MIN 113 AC-FT 2211000
WTR YR 1984 TOTAL 357957 MEAN 978 MAX 19300 MIN 47 AC-FT 710000

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-67, 1977 to current year.
CHEMICAL ANALYSIS: Water years 1982 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 1977-81.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1962 to September 1967, December 1976 to current year.
SEDIMENT RECORDS: October 1962 to September 1967, November 1977 to May 1980 (storm season only for water years 1978-80.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 32.5°C June 16, 1980; minimum recorded, 2.5°C Nov. 23, 1977, Dec. 24, 1983.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 31.0°C July 6; minimum recorded, 2.5°C Dec. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	BARO-METRIC PRES-SURE (MM OF HG)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
25...	1400	203	160	7.9	18.0	10.3	1320	755	79	2	17
MAY											
03...	0815	484	237	7.8	15.0	9.3	93	755	100	0	23

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, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
25...	<.10	.04	.04	.90	.01	.02	.03	30	25	1.3
MAY										
03...	<.10	.03	.03	.20	.04	.02	.02	40	15	1.0

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-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT											
25...	8.9	7.3	1.3	77	8.0	6.9	<.10	18	115	110	<.10
MAY											
03...	11	8.6	1.0	102	16	6.3	<.10	17	152	140	<.10

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

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

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

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.0	18.5	17.5	15.0	10.5	9.0	8.0	6.5	11.0	8.0	13.0	9.0
2	23.0	18.5	17.5	15.5	11.0	9.5	8.5	6.5	11.0	7.5	13.5	10.0
3	22.0	17.0	17.5	15.0	10.5	8.5	10.0	7.5	10.5	7.0	13.0	9.5
4	22.5	18.0	18.0	16.5	9.0	7.5	10.5	8.5	10.5	7.0	13.0	9.5
5	22.5	18.5	17.5	15.5	7.5	6.5	10.5	9.5	10.5	8.0	14.0	9.0
6	23.0	18.5	16.5	15.0	8.5	7.5	9.5	9.0	11.0	7.5	14.0	9.5
7	22.0	18.0	15.0	13.0	9.0	8.5	9.5	8.5	11.0	7.5	15.0	11.0
8	20.5	18.0	13.5	10.5	9.5	9.0	9.0	8.5	11.0	8.5	15.0	11.0
9	19.5	17.5	13.0	12.0	10.0	9.5	8.5	8.0	11.5	9.5	15.5	11.5
10	20.5	17.0	12.0	10.5	10.0	9.5	8.5	8.0	10.0	7.0	16.5	12.5
11	20.5	15.0	12.0	10.0	10.0	9.5	9.0	6.5	8.0	7.5	15.0	12.0
12	20.0	16.5	12.5	11.0	9.0	8.0	8.5	7.0	8.0	7.0	16.5	12.0
13	19.0	14.0	11.0	9.5	9.5	9.0	7.5	5.5	9.5	7.5	14.0	12.5
14	18.5	14.5	11.0	9.5	10.0	9.5	6.0	5.0	8.0	6.0	13.0	12.0
15	18.0	13.5	11.0	10.0	10.5	10.0	6.0	5.0	7.5	7.0	13.0	11.0
16	18.0	14.0	11.0	10.5	10.5	10.0	7.5	5.5	8.0	6.0	12.5	9.5
17	18.0	13.5	12.5	10.5	10.5	9.5	7.0	5.0	8.5	6.0	11.5	8.0
18	18.0	14.0	10.0	8.5	9.5	8.0	6.5	4.5	9.5	6.5	14.0	10.0
19	17.5	14.0	10.5	9.0	9.5	8.5	6.5	4.5	11.0	7.5	16.0	11.0
20	17.0	14.5	10.0	8.5	9.0	7.0	6.0	4.0	10.0	9.0	15.5	13.5
21	18.5	14.0	8.5	7.0	7.0	6.0	8.5	6.0	11.0	8.5	14.5	11.5
22	19.0	14.5	8.0	7.0	6.5	5.5	7.5	6.0	9.0	7.0	15.0	11.0
23	19.5	16.5	7.5	7.0	5.5	3.0	8.0	5.5	7.5	6.5	15.0	12.0
24	18.5	14.5	8.0	7.5	4.0	2.5	10.0	6.5	9.5	6.5	16.5	12.0
25	18.0	14.0	8.0	6.5	7.5	4.0	10.0	7.5	10.5	7.0	15.0	13.0
26	18.0	14.0	8.0	6.0	9.5	8.0	10.5	7.5	10.5	7.0	17.5	12.5
27	16.5	13.5	9.0	6.5	8.5	7.5	10.5	7.5	10.5	7.5	16.5	12.0
28	17.0	13.5	9.0	7.0	8.0	7.0	10.5	7.5	10.5	8.0	18.0	13.0
29	16.0	14.0	8.0	6.5	8.5	8.0	9.0	7.0	11.5	8.5	16.0	11.5
30	16.0	15.0	9.0	7.5	9.0	8.5	10.0	6.5	---	---	16.0	11.0
31	17.0	15.0	---	---	9.0	7.5	10.5	7.5	---	---	15.0	12.0
MONTH	23.0	13.5	18.0	6.0	11.0	2.5	10.5	4.0	11.5	6.0	18.0	8.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	11.0	16.5	14.5	25.5	18.0	28.5	22.0	27.5	22.5	25.0	19.5
2	17.5	11.5	18.5	14.0	26.5	20.0	28.5	23.0	27.0	22.5	24.0	19.5
3	17.0	13.5	21.5	15.0	25.0	19.5	29.5	23.0	27.5	22.0	25.0	19.5
4	17.0	14.0	21.5	16.5	21.5	19.5	30.5	24.0	28.0	22.5	25.0	19.0
5	17.0	13.5	20.5	14.5	22.0	18.5	30.5	24.5	27.5	22.5	25.0	20.5
6	17.0	12.0	20.5	14.5	19.5	16.5	31.0	25.0	28.0	22.5	25.5	20.5
7	17.0	12.5	22.5	14.5	22.5	15.0	29.5	24.5	28.5	22.5	25.0	20.0
8	17.5	13.0	23.0	16.5	23.0	16.5	29.0	23.5	29.0	23.0	27.0	21.0
9	15.0	11.5	23.5	18.0	23.5	17.5	28.0	22.5	28.5	23.5	27.0	22.0
10	15.0	10.5	23.0	17.5	23.5	15.5	28.5	22.5	28.0	23.5	26.0	21.5
11	16.5	11.0	21.5	18.5	25.5	19.0	28.5	22.5	27.5	23.0	25.0	21.0
12	19.0	13.0	25.0	18.0	26.5	20.5	28.5	23.0	27.0	22.0	24.5	19.5
13	20.0	13.5	25.5	19.0	26.5	20.5	28.5	22.5	26.5	21.5	25.0	20.0
14	21.5	15.0	21.0	16.5	26.0	21.0	29.5	23.5	26.5	21.5	25.0	20.5
15	21.5	16.0	22.0	15.0	27.0	21.0	30.0	24.5	26.0	21.5	25.5	21.0
16	20.5	16.5	22.0	16.0	---	---	30.0	25.5	27.0	21.5	25.0	20.0
17	20.5	15.0	24.0	17.5	---	---	28.5	25.5	27.5	22.5	25.5	20.0
18	16.0	12.5	24.5	18.0	---	---	29.0	24.5	27.5	22.5	24.0	21.0
19	16.0	11.5	25.5	19.0	27.5	22.0	29.5	24.0	27.5	22.5	26.0	20.5
20	18.0	12.0	25.5	19.5	26.0	19.0	29.0	24.0	27.5	22.0	25.5	22.0
21	19.5	13.0	24.5	18.5	25.0	19.0	28.0	23.5	27.0	22.0	23.0	19.5
22	22.0	15.5	26.0	19.0	26.0	19.0	27.0	22.0	26.5	21.5	23.0	17.5
23	21.0	15.5	25.0	20.0	28.0	21.0	26.0	21.5	25.5	21.0	20.5	17.0
24	19.0	15.5	24.0	18.0	28.0	21.5	27.0	22.0	25.0	20.0	19.0	15.5
25	17.5	13.0	25.5	18.0	28.5	22.5	27.0	21.5	24.5	21.0	20.5	15.5
26	17.5	11.5	25.0	19.0	28.5	22.5	27.5	21.0	26.0	20.0	21.0	16.0
27	18.5	12.5	26.0	18.5	29.5	23.0	27.0	22.0	---	---	21.5	16.5
28	19.5	13.0	28.5	20.5	29.0	23.5	27.5	22.0	---	---	21.0	17.0
29	20.0	14.5	28.0	22.5	28.0	22.5	28.0	22.5	---	---	21.0	16.5
30	18.5	15.0	28.0	22.0	27.5	21.0	28.5	22.0	25.5	21.5	---	---
31	---	---	24.0	18.5	---	---	28.0	22.5	25.0	20.0	---	---
MONTH	22.0	10.5	28.5	14.0	29.5	15.0	31.0	21.0	29.0	20.0	27.0	15.5
YEAR	31.0	2.5										

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-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								
30...	1240	938	8.0	13	33	--	--	--
DEC								
09...	1050	10500	9.5	1980	56100	15	20	26
JAN								
04...	1200	2500	9.0	78	526	--	--	--
FEB								
02...	0950	530	7.5	2	2.9	--	--	--
MAR								
02...	1445	688	12.5	3	5.6	--	--	--
MAY								
03...	0915	484	15.0	4	5.2	--	--	--

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							
30...	--	--	--	--	--	--	--
DEC							
09...	35	46	62	80	91	97	100
JAN							
04...	--	--	56	64	74	95	100
FEB							
02...	--	--	--	--	--	--	--
MAR							
02...	--	--	--	--	--	--	--
MAY							
03...	--	--	--	--	--	--	--

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

LOCATION.--Lat 40°23'54", long 122°08'43", in SW 1/4 NE 1/4 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 downstream from Spring Branch, 5.7 mi upstream from mouth, and 7.0 mi east of Cottonwood.

DRAINAGE AREA.--357 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 415 ft, 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 ft^3/s to 90 ft^3/s which is returned above the station. At times, 10 ft^3/s diverted above station for irrigation.

AVERAGE DISCHARGE.--23 years, 534 ft^3/s, 386,900 acre-ft/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2100	3,540	5.55	Dec. 25	0830	*7,320	8.26
Nov. 24	1315	5,520	7.10	Dec. 30	0815	3,340	5.38
Dec. 11	0400	3,340	5.38				

Minimum daily discharge, 289 ft^3/s Sept. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	473	520	585	1410	640	625	646	576	626	460	345	397
2	474	547	653	1250	636	649	643	636	602	444	339	369
3	463	469	1310	1140	605	637	610	616	592	442	336	341
4	450	458	905	1070	578	608	605	667	619	441	336	327
5	433	458	703	1060	575	596	610	642	686	439	331	328
6	419	452	718	1020	574	593	618	609	736	436	325	321
7	411	539	824	982	568	592	591	595	809	442	331	319
8	409	481	950	949	566	590	652	594	648	439	327	316
9	417	503	1820	913	589	586	640	618	592	428	321	308
10	415	1590	1440	885	625	585	618	631	565	414	321	307
11	417	1470	2470	864	587	586	628	650	548	408	320	307
12	412	915	1380	835	599	584	608	768	526	403	321	303
13	412	1310	1150	813	840	802	590	764	526	405	318	301
14	405	897	1180	786	896	962	588	775	518	404	314	299
15	404	636	1140	783	824	839	596	724	518	406	313	298
16	404	919	1100	786	817	802	619	669	527	395	326	298
17	404	1480	1250	748	713	834	608	650	526	391	340	293
18	404	950	969	738	680	757	623	623	527	399	339	289
19	403	960	884	723	657	731	731	609	517	390	338	296
20	404	902	831	699	645	725	661	651	506	380	339	362
21	405	692	774	709	851	720	610	658	497	376	369	355
22	404	616	736	699	729	695	599	641	488	373	367	328
23	412	893	742	681	686	677	604	651	481	362	366	332
24	443	2980	4180	673	720	670	609	654	478	367	367	329
25	421	1330	6220	669	698	667	587	630	475	365	372	325
26	410	846	4210	656	651	664	579	645	468	358	377	327
27	404	707	3120	650	647	666	568	637	457	357	378	319
28	402	645	1760	645	635	641	550	632	457	350	376	320
29	402	604	1470	645	628	625	544	657	461	347	370	316
30	479	578	2460	642	---	612	549	671	457	337	386	322
31	515	---	1730	640	---	640	---	651	---	336	473	---
TOTAL	13130	26347	49664	25763	19461	20960	18284	20194	16433	12294	10781	9652
MEAN	424	878	1602	831	671	676	609	651	548	397	348	322
MAX	515	2980	6220	1410	896	962	731	775	809	460	473	397
MIN	402	452	585	640	566	584	544	576	457	336	313	289
AC-FT	26040	52260	98510	51100	38600	41570	36270	40050	32590	24390	21380	19140

CAL YR 1983 TOTAL 354772 MEAN 972 MAX 6390 MIN 375 AC-FT 703700
WTR YR 1984 TOTAL 242963 MEAN 664 MAX 6220 MIN 289 AC-FT 481900

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

LOCATION.--Lat 40°17'19", long 122°11'08", in NW 1/4 NE 1/4 sec.15, T.28 N., R.3 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.7 mi upstream from Bend Bridge, and 8.1 mi northeast of Red Bluff.

DRAINAGE AREA.--8,900 mi^2, excluding Goose Lake basin.

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: 1916(M), 1918(M), 1941(M). WSP 1931: Drainage area. WDR CA-69-2: 1965.

GAGE.--Water-stage recorder. Datum of gage is 285.77 ft National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to September 1968.

REMARKS.--Records excellent. Flow regulated by Shasta Lake (station 11370000) since Dec. 30, 1943. Diversions, in addition to those on tributaries, for irrigation of 22,000 acres between stations at Keswick and above Bend Bridge. Transbasin diversions from Trinity River to Whiskeytown Lake via Judge Francis Carr powerplant (station 11525430) started in April 1963.

AVERAGE DISCHARGE (prior to transbasin diversion from Trinity River).--71 years (water years 1892-1962), 11,400 ft^3/s, 8,259,000 acre-ft/yr; 22 years (water years 1963-84), 13,990 ft^3/s, 10,140,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291,000 ft^3/s Feb. 28, 1940, gage height, 38.9 ft site and datum then in use, from rating curve extended above 170,000 ft^3/s on basis of velocity-area studies; minimum discharge (water years 1892-1984), 2,000 ft^3/s Mar. 29, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 93,300 ft^3/s Dec. 25, gage height, 25.97 ft; minimum daily discharge, 6,020 ft^3/s Mar. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13200	7840	21800	32500	10200	8420	9820	10400	9180	14400	15100	8050
2	12600	7740	21800	30300	10000	8450	8120	10900	9650	14400	15100	8010
3	12700	7420	34200	29500	9340	8380	7370	10800	9960	14500	15100	8000
4	12700	8590	28000	28200	7920	8240	7560	10700	9980	14400	15100	7950
5	12600	9050	23800	26700	7680	8190	7150	9920	10200	14500	15000	7930
6	12700	8610	26000	25800	7670	8080	6580	10100	10700	14500	15300	7940
7	12700	8630	36000	25300	7890	8060	7750	10300	11300	14600	15500	8020
8	12800	10600	29200	24900	7880	8010	9350	10400	10600	14700	14600	8060
9	12800	11000	49300	24700	8010	7930	9520	10000	10400	14500	12500	8010
10	12800	15400	49600	24300	8440	7630	9690	9920	10200	14500	11400	8000
11	12800	26300	66700	24100	8130	6370	9910	10000	10100	14600	10900	8020
12	12800	20300	55200	24000	8270	6020	9500	10200	10000	14500	10900	8010
13	12700	23200	51000	23300	12800	6930	9280	10200	9950	14700	11000	7790
14	11800	20500	48900	22200	12600	9380	8740	9970	10000	14700	10900	7930
15	10100	17800	46800	21100	13900	13600	7400	9920	10500	14600	10900	8050
16	8850	20100	45500	21300	17900	15300	7270	9780	10800	14900	11000	8110
17	8690	25300	46900	19500	11600	19000	7290	9670	10800	14300	10900	8090
18	8690	25000	44400	17800	10200	16900	7530	9600	10900	14400	10900	8140
19	8760	26100	43300	17600	9620	16200	9510	9580	10900	14500	11100	8190
20	8800	29400	41900	17900	9290	15900	8300	9560	10800	14500	11000	8320
21	8820	24500	41200	16600	11200	15700	7840	9550	11300	14500	10900	8450
22	8820	22500	40800	15000	10000	15400	7640	9570	11300	14500	11000	8390
23	8910	27300	40000	14900	9370	15300	7510	9520	11200	14700	10900	8400
24	9030	41100	55300	13800	9230	14900	7420	9570	11200	14600	11000	8400
25	9000	33300	85100	12600	9180	15000	7870	9170	11800	14600	11000	8340
26	8950	26400	62600	12500	8830	14900	10100	9350	12500	14200	10700	8180
27	8990	24100	60800	12400	8650	14900	10100	9450	13300	14500	8880	8380
28	9010	23000	38800	11900	8560	14800	10300	9450	14300	14700	7970	8380
29	9010	22300	34100	10500	8400	14600	10300	9450	14300	14800	7890	8400
30	8560	22100	39400	10300	---	14400	10300	9540	14400	14700	7790	8370
31	7910	---	35600	10300	---	12200	---	9460	---	14800	8090	---
TOTAL	328600	595480	1344000	621800	282760	369090	257020	306000	332520	451300	360320	244310
MEAN	10600	19850	43350	20060	9750	11910	8567	9871	11080	14560	11620	8144
MAX	13200	41100	85100	32500	17900	19000	10300	10900	14400	14900	15500	8450
MIN	7910	7420	21800	10300	7670	6020	6580	9170	9180	14200	7790	7790
AC-FT	651800	1181000	2666000	1233000	560900	732100	509800	607000	659600	895200	714700	484600

CAL YR 1983 TOTAL 10144830 MEAN 27790 MAX 123000 MIN 7340 AC-FT 20120000
WTR YR 1984 TOTAL 5493200 MEAN 15010 MAX 85100 MIN 6020 AC-FT 10900000

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.--Lat 40°01'29", long 122°30'31", in SE 1/4 NW 1/4 sec.14, T.25 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.5 mi downstream from South Fork Elder Creek, 8.2 mi northwest of Flournoy, and 10 mi north of Paskenta.

DRAINAGE AREA.--92.4 mi^2.

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

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

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft downstream at datum 5.13 ft lower.

REMARKS.--Records excellent. No regulation or large diversion above station.

AVERAGE DISCHARGE.--36 years, 106 ft^3/s, 76,800 acre-ft/yr .

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft^3/s Feb. 28, 1983, gage height, 12.10 ft present site and datum, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurements at gage heights 11.34 ft and 12.10 ft; maximum gage height, 13.90 ft Feb. 24, 1958, site and datum then in use; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	1645	2,010	6.27
Dec. 11	1215	*13,200	11.17
Dec. 24	2400	3,690	7.65

Minimum daily discharge, 1.3 ft^3/s Aug. 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	24	84	410	68	70	70	40	12	6.3	1.9	2.6
2	14	23	80	350	65	69	65	39	12	6.0	2.0	2.2
3	13	16	362	319	63	65	62	38	12	6.0	2.1	1.9
4	11	14	169	300	61	61	61	37	14	5.6	2.2	1.7
5	11	13	116	285	60	59	64	35	18	5.3	2.0	1.6
6	10	15	200	268	60	59	64	33	21	5.3	2.0	1.5
7	10	21	456	247	58	59	56	33	21	5.0	2.0	1.5
8	9.9	16	395	227	58	57	63	31	17	4.7	1.7	1.5
9	11	55	2550	207	58	57	57	30	15	4.5	1.7	1.4
10	11	649	854	193	56	56	75	29	13	4.2	1.5	1.5
11	11	198	2910	178	56	54	64	30	13	4.0	1.4	1.4
12	9.6	160	875	164	60	53	59	30	14	3.9	1.5	1.5
13	8.8	340	524	154	140	106	57	27	14	3.6	1.5	1.6
14	8.4	134	422	145	117	112	54	26	15	3.4	1.5	1.6
15	8.7	83	367	141	152	128	53	25	13	3.2	1.5	1.6
16	8.7	260	319	138	164	148	53	26	11	2.9	1.5	1.6
17	8.7	413	283	127	120	151	54	25	10	2.8	1.6	1.5
18	8.6	180	249	120	105	118	70	24	10	2.8	1.6	1.5
19	8.4	355	224	115	99	120	72	23	10	2.8	1.5	1.7
20	8.2	330	202	110	98	131	59	21	11	2.8	1.4	2.4
21	8.2	172	182	107	111	128	53	20	11	2.8	1.3	2.3
22	8.1	121	167	103	100	116	50	20	9.9	2.8	1.4	2.0
23	9.3	141	175	99	95	106	47	19	9.0	2.8	1.5	1.9
24	10	692	1280	95	90	99	45	18	8.9	2.8	1.5	1.9
25	9.4	338	2210	90	85	93	44	18	8.6	2.7	1.7	1.9
26	8.6	199	1330	85	80	90	44	17	8.0	2.6	1.9	2.0
27	8.2	145	934	82	76	85	43	16	8.0	2.5	1.7	1.9
28	8.2	117	593	79	75	81	40	14	7.5	2.4	1.7	1.9
29	8.6	100	472	76	72	76	38	14	7.0	2.4	1.7	1.9
30	14	90	628	75	---	74	38	14	7.0	2.2	2.0	1.9
31	21	---	506	71	---	72	---	12	---	1.9	2.9	---
TOTAL	324.6	5414	20118	5160	2502	2753	1674	784	360.9	113.0	53.4	53.4
MEAN	10.5	180	649	166	86.3	88.8	55.8	25.3	12.0	3.65	1.72	1.78
MAX	21	692	2910	410	164	151	75	40	21	6.3	2.9	2.6
MIN	8.1	13	80	71	56	53	38	12	7.0	1.9	1.3	1.4
AC-FT	644	10740	39900	10230	4960	5460	3320	1560	716	224	106	106

CAL YR 1983 TOTAL 125108.4 MEAN 343 MAX 6000 MIN 5.3 AC-FT 248200
WTR YR 1984 TOTAL 39310.3 MEAN 107 MAX 2910 MIN 1.3 AC-FT 77970

11381500 MILL CREEK NEAR LOS MOLINOS, CA

LOCATION.--Lat 40°03'17", long 122°01'23", in NE 1/4 NW 1/4 sec.6, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on right bank 4.5 mi northeast of Los Molinos, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--131 mi^2.

PERIOD OF RECORD.--September 1909 to August 1913 (fragmentary), October 1928 to current year.

REVISED RECORDS.--WSP 1315-A: 1929(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 385 ft, from topographic map. Prior to September 1913, nonrecording gage at site 0.3 mi downstream at different datum.

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

AVERAGE DISCHARGE.--56 years (water years 1929-84), 309 ft^3/s, 223,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1929-84): Maximum discharge, 36,400 ft^3/s Dec. 11, 1937, gage height, 23.4 ft from floodmarks, from rating curve extended above 14,000 ft^3/s on basis of step-backwater computation and slope-area measurement of peak flow; minimum discharge, 49 ft^3/s Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2100	3,300	7.73	Dec. 11	1245	3,250	7.69
Nov. 24	1345	4,720	8.88	Dec. 25	1400	*5,250	9.24

Minimum daily discharge, 125 ft^3/s Sept. 18, 28, 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	236	263	877	257	299	332	327	433	256	154	143
2	174	239	319	716	254	306	316	368	393	255	152	137
3	165	181	900	615	251	305	304	361	384	257	152	135
4	161	177	577	555	250	295	300	389	444	252	151	133
5	158	180	390	537	251	288	299	373	443	247	150	131
6	157	174	375	510	251	287	295	359	465	244	150	130
7	156	285	469	480	250	287	286	356	516	240	147	130
8	155	198	559	450	251	290	331	370	377	230	144	130
9	157	207	1260	420	265	293	323	412	345	221	142	130
10	158	1040	1480	402	290	294	318	418	327	213	142	129
11	155	1100	2620	389	267	295	343	461	318	208	142	128
12	153	599	1210	378	272	291	321	570	304	203	142	127
13	152	839	829	363	422	554	317	564	302	198	142	127
14	151	559	815	346	536	718	312	547	310	194	141	128
15	151	335	805	337	441	711	336	445	327	191	142	127
16	151	499	711	338	468	631	356	379	345	188	140	127
17	151	1240	758	322	397	634	360	370	350	187	140	127
18	150	771	594	309	370	500	368	350	342	186	138	125
19	149	508	506	303	345	461	371	379	336	181	137	126
20	148	578	452	298	329	455	349	440	327	178	135	134
21	148	404	394	297	475	447	333	447	307	174	134	134
22	146	325	359	291	395	405	333	426	296	173	133	129
23	154	344	446	283	363	387	361	467	294	171	133	128
24	174	2190	2480	276	367	383	361	465	298	171	133	127
25	152	1030	4050	276	364	383	343	413	293	169	133	127
26	150	545	2870	273	334	381	327	458	288	165	135	127
27	147	395	2100	265	322	378	315	434	279	162	135	126
28	145	331	1220	260	313	359	303	452	278	160	133	125
29	144	288	926	260	304	346	304	495	279	158	131	125
30	229	261	1560	259	---	331	315	511	265	158	142	129
31	236	---	1180	257	---	336	---	474	---	155	178	---
TOTAL	4948	16058	33477	11942	9654	12330	9832	13280	10265	6145	4403	3881
MEAN	160	535	1080	385	333	398	328	428	342	198	142	129
MAX	236	2190	4050	877	536	718	371	570	516	257	178	143
MIN	144	174	263	257	250	287	286	327	265	155	131	125
AC-FT	9810	31850	66400	23690	19150	24460	19500	26340	20360	12190	8730	7700

CAL YR 1983 TOTAL 225225 MEAN 617 MAX 4670 MIN 144 AC-FT 446700
WTR YR 1984 TOTAL 136215 MEAN 372 MAX 4050 MIN 125 AC-FT 270200

11382000 THOMES CREEK AT PASKENTA, CA

LOCATION.--Lat 39°53'16", long 122°31'41", in SE 1/4 SW 1/4 sec.34, T.24 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 1.2 mi downstream from Digger Creek, and 1.0 mi downstream from highway bridge at Paskenta.

DRAINAGE AREA.--203 mi^2.

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). WDR CA-81-4(M).

GAGE.--Water-stage recorder. Altitude of gage is 720 ft, from topographic map. Prior to June 20, 1942, nonrecording gage and water-stage recorder at several sites about 1.5 mi upstream at different datums, June 21, 1942, to Sept. 30, 1959, water-stage recorder at site 1.4 mi upstream at datum 732.85 ft and Oct. 1, 1959, to Oct. 9, 1974, at datum 731.10 ft National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--64 years, 298 ft^3/s, 215,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,800 ft^3/s Dec. 22, 1964, gage height, 13.3 ft, from floodmarks, present site and datum, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurements at gage heights, 10.10 ft and 13.3 ft; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage-height (ft)
Nov. 10	1945	5,780	7.13	Dec. 11	1215	7,700	7.73
Nov. 19	1830	4,500	6.66	Dec. 25	1815	5,330	6.93
Nov. 24	1230	*8,060	7.83	Dec. 30	0700	5,080	6.79

Minimum daily discharge, 2.0 ft^3/s on several days during September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	54	409	1610	184	289	289	208	96	28	7.7	3.6
2	30	97	448	1220	174	311	278	240	90	25	7.2	3.6
3	28	53	714	1050	166	293	261	248	86	23	6.7	3.4
4	25	42	429	1010	166	278	252	261	83	22	6.4	3.0
5	22	44	360	961	166	267	240	239	87	20	6.4	2.7
6	19	41	587	896	165	260	234	218	87	19	6.4	2.3
7	19	140	1830	796	163	260	220	201	101	18	6.2	2.1
8	18	67	1660	660	163	257	254	203	91	16	5.8	2.0
9	18	343	3750	590	163	269	235	211	80	14	5.2	2.0
10	18	2720	2690	546	166	250	280	202	74	14	4.5	2.0
11	18	1470	3190	502	159	238	283	236	71	14	3.9	2.0
12	18	1190	1800	463	195	230	268	323	64	13	3.9	2.2
13	17	1150	1510	431	751	479	274	260	63	12	3.9	2.2
14	17	637	1610	391	658	737	278	233	82	11	3.6	2.1
15	16	475	1400	378	573	702	287	198	76	11	3.6	2.0
16	16	872	1120	369	691	600	286	176	64	10	3.6	2.0
17	15	1990	976	339	489	565	273	162	58	10	3.5	2.0
18	15	1040	809	316	436	521	283	151	57	10	3.4	2.0
19	15	2120	704	301	413	632	292	144	55	14	3.4	2.2
20	14	2210	621	284	488	824	267	153	53	13	3.2	3.2
21	14	1190	557	289	541	792	261	146	46	14	3.0	3.5
22	14	844	499	278	478	649	267	139	45	12	2.8	3.6
23	14	807	501	261	425	575	254	137	44	11	2.8	3.7
24	14	3280	2610	240	397	532	251	136	42	11	2.8	4.3
25	14	1510	4580	223	358	507	238	127	39	11	2.8	5.9
26	14	904	3440	214	333	502	231	124	37	10	3.0	5.7
27	14	685	2840	201	322	471	222	122	35	9.2	2.9	6.7
28	14	596	1890	195	312	421	210	114	33	8.8	2.8	4.0
29	15	497	1760	190	301	390	205	112	31	8.8	2.8	3.6
30	18	428	3280	189	---	342	200	110	29	8.1	3.0	3.6
31	23	---	2190	187	---	305	---	104	---	7.5	3.5	---
TOTAL	563	27496	50764	15580	9996	13748	7673	5638	1899	428.4	130.7	93.2
MEAN	18.2	917	1638	503	345	443	256	182	63.3	13.8	4.22	3.11
MAX	37	3280	4580	1610	751	824	292	323	101	28	7.7	6.7
MIN	14	41	360	187	159	230	200	104	29	7.5	2.8	2.0
AC-FT	1120	54540	100700	30900	19830	27270	15220	11180	3770	850	259	185

CAL YR 1983 TOTAL 322481 MEAN 884 MAX 9390 MIN 11 AC-FT 639600
WTR YR 1984 TOTAL 134009.3 MEAN 366 MAX 4580 MIN 2.0 AC-FT 265800

11383500 DEER CREEK NEAR VINA, CA

LOCATION.--Lat 40°00'51", long 121°56'50", in NW 1/4 NE 1/4 sec.23, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on left bank 0.5 mi upstream from diversion dam, and 7.9 mi northeast of Vina.

DRAINAGE AREA.--208 mi^2.

PERIOD OF RECORD.--October 1911 to December 1915, March 1920 to December 1937, January 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1940-42(M). WSP 1931: Drainage area. WDR CA-82-4: Datum.

GAGE.--Water-stage recorder. Datum of gage is 479.2 ft National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mi downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft higher.

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

AVERAGE DISCHARGE.--66 years (water years 1912-15, 1921-37, 1940-84), 325 ft^3/s, 235,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft^3/s Dec. 10, 1937, gage height, 19.2 ft present datum, from floodmarks, from rating curve extended above 9,200 ft^3/s on basis of velocity-area studies; minimum discharge, 43 ft^3/s Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2015	5,000	9.00	Dec. 11	1445	4,720	8.83
Nov. 24	1630	4,110	8.43	Dec. 25	1400	*7,540	10.27

Minimum daily discharge, 113 ft^3/s several days during September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	258	399	1300	304	375	458	366	238	172	132	136
2	181	263	457	1060	297	394	429	427	235	169	132	126
3	175	194	1190	911	290	386	410	399	232	166	132	124
4	173	183	769	816	288	368	402	391	246	163	132	121
5	169	190	562	769	288	355	401	378	266	162	132	120
6	169	180	506	717	285	352	405	360	290	163	130	119
7	167	277	631	667	280	350	382	348	353	160	129	119
8	167	203	751	624	279	350	426	340	275	157	127	119
9	169	214	1820	583	300	351	427	339	251	156	126	116
10	169	1580	2240	551	341	350	425	338	240	156	124	116
11	169	1270	3520	524	305	351	441	343	235	154	124	116
12	167	696	1930	497	311	348	427	355	232	153	122	116
13	165	949	1240	475	505	760	403	346	236	150	122	116
14	162	603	1130	452	703	1120	393	342	227	149	121	116
15	159	419	1100	440	561	1320	392	335	225	147	122	114
16	159	539	976	436	611	1100	393	325	217	147	121	113
17	159	1310	996	408	517	999	393	316	210	146	121	113
18	157	899	816	392	475	829	410	308	206	150	121	113
19	156	604	719	384	450	755	447	300	202	147	119	118
20	156	757	650	371	431	727	429	295	199	143	119	124
21	156	558	584	374	557	697	397	290	199	143	119	122
22	153	442	534	367	482	636	383	285	194	142	118	117
23	164	411	581	354	442	594	379	281	192	141	116	116
24	191	2180	2490	349	446	569	375	277	188	146	116	114
25	163	1390	5650	347	433	550	364	272	184	144	117	113
26	156	753	4260	336	409	536	359	267	181	139	121	113
27	156	566	3150	324	397	525	355	261	178	138	121	113
28	153	481	2120	320	387	491	344	255	178	134	119	113
29	155	424	1560	315	378	472	336	251	175	133	117	113
30	230	389	2040	310	---	452	330	248	172	132	131	124
31	276	---	1690	307	---	468	---	243	---	132	194	---
TOTAL	5282	19182	47061	16080	11752	17930	11915	9881	6656	4634	3897	3533
MEAN	170	639	1518	519	405	578	397	319	222	149	126	118
MAX	276	2180	5650	1300	703	1320	458	427	353	172	194	136
MIN	153	180	399	307	279	348	330	243	172	132	116	113
AC-FT	10480	38050	93350	31890	23310	35560	23630	19600	13200	9190	7730	7010

CAL YR 1983 TOTAL 293576 MEAN 804 MAX 7360 MIN 153 AC-FT 582300
WTR YR 1984 TOTAL 157803 MEAN 431 MAX 5650 MIN 113 AC-FT 313000

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 upstream from golf clubhouse in Bidwell Park, 2.6 mi upstream from Lindo Channel, and 7 mi northeast of Chico.

DRAINAGE AREA.--72.4 mi^2.

PERIOD OF RECORD.--May 1930 to current year. Prior to October 1952, published as Chico Creek near Chico.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 300 ft, from topographic map. Prior to Oct. 1, 1955, at site 0.6 mi downstream at different datum.

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

AVERAGE DISCHARGE.--54 years, 150 ft^3/s, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,580 ft^3/s Jan. 5, 1965, gage height, 15.36 ft; minimum discharge, 10 ft^3/s Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2045	2,210	6.22	Dec. 11	1645	3,070	7.12
Nov. 24	1400	2,070	6.08	Dec. 25	1615	*5,430	9.73

Minimum daily discharge, 27 ft^3/s several days during August and September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	69	109	490	86	130	149	75	42	37	28	35
2	40	50	108	424	84	126	142	83	42	36	28	33
3	41	46	434	376	81	119	129	76	40	35	29	33
4	36	44	399	338	78	112	118	71	40	34	29	33
5	35	44	266	306	77	106	116	69	46	34	28	33
6	35	46	224	278	75	103	116	65	52	31	27	32
7	34	48	289	254	75	99	105	63	65	28	27	32
8	34	44	281	231	74	95	132	61	52	28	27	32
9	36	57	654	214	88	92	120	59	48	28	27	31
10	36	634	1250	199	105	89	141	58	46	28	28	31
11	36	436	2450	186	85	87	148	57	44	28	28	33
12	35	244	1320	175	95	88	134	57	44	28	28	34
13	34	314	633	168	231	387	129	55	44	28	28	28
14	34	247	458	160	332	510	121	54	44	28	28	29
15	34	158	368	153	304	657	117	55	44	28	28	30
16	34	181	322	161	352	594	113	54	43	29	28	30
17	35	412	298	146	281	519	107	53	42	29	29	29
18	35	294	255	137	235	434	116	52	41	30	30	28
19	35	209	231	132	203	380	118	51	40	29	30	28
20	35	214	210	124	178	334	115	49	40	29	30	29
21	35	173	194	122	210	294	103	48	41	28	30	29
22	31	138	180	116	195	257	98	47	40	29	30	29
23	34	127	203	113	176	230	93	47	39	29	29	29
24	46	863	1190	111	180	210	89	46	38	29	29	28
25	37	515	3880	106	177	193	83	46	38	28	29	27
26	36	293	2670	101	164	181	83	46	37	29	30	27
27	35	209	1610	98	153	169	82	45	37	28	31	27
28	35	164	958	95	144	159	79	44	37	28	31	27
29	36	138	652	92	137	149	75	44	37	28	32	27
30	68	120	684	91	---	142	72	42	36	29	36	29
31	70	---	570	93	---	152	---	43	---	28	48	---
TOTAL	1178	6531	23350	5790	4655	7197	3343	1715	1279	918	920	902
MEAN	38.0	218	753	187	161	232	111	55.3	42.6	29.6	29.7	30.1
MAX	70	863	3880	490	352	657	149	83	65	37	48	35
MIN	31	44	108	91	74	87	72	42	36	28	27	27
AC-FT	2340	12950	46310	11480	9230	14280	6630	3400	2540	1820	1820	1790

CAL YR 1983 TOTAL 137425 MEAN 377 MAX 4640 MIN 31 AC-FT 272600
WTR YR 1984 TOTAL 57778 MEAN 158 MAX 3880 MIN 27 AC-FT 114600

RESERVOIRS IN STONY CREEK BASIN, CA

11385100 EAST PARK RESERVOIR NEAR STONYFORD.--Lat 39°21'24", long 122°30'53", in SW 1/4 NE 1/4 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 southeast of Stonyford. DRAINAGE AREA, 98.2 mi^2.
PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).
Reservoir is formed by a concrete arch-type dam. Storage began in 1910. Capacity, 48,211 acre-ft between elevations 1,131.68 ft invert of sluice pipe, and 1,198.18 ft, crest of spillway. Capacity increased to 50,889 acre-ft with the addition of flashboards to an elevation of 1,199.68 ft. Dead storage, 279 acre-ft. Records of contents furnished by Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,500 acre-ft Mar. 30, 1974, elevation, 1,201.10 ft; minimum, 280 acre-ft Aug. 8 to Oct. 31, 1972, Apr. 30 to Nov. 1, 1977, elevation, 1,131.68 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 52,580 acre-ft Dec. 25, elevation, 1,200.60 ft; minimum, 22,290 acre-ft Sept. 30, elevation, 1,179.93 ft.

11386100 STONY GORGE RESERVOIR NEAR ELK CREEK.--Lat 39°35'09", long 122°31'54", in NE 1/4 SE 1/4 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 southeast of Elk Creek. DRAINAGE AREA, 301 mi^2. PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).
Reservoir is formed by slab and buttress-type dam. Storage began in 1928. Capacity, 50,383 acre-ft between elevations 728.0 ft top of low intake, and 841.0 ft crest of spillway. No dead storage. Records of contents furnished by Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,630 acre-ft Mar. 26, 1971, elevation, 844.20 ft; minimum, 3,810 acre-ft Nov. 6, 1971, elevation, 779.20 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,690 acre-ft Mar. 29, elevation, 842.20 ft; minimum, 10,540 acre-ft Sept. 30, elevation, 796.64 ft.

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

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
	11385100 EAST PARK RESERVOIR			11386100 STONY GORGE RESERVOIR		
Sept. 30.....	1,185.74	29,220	-5,570	818.62	25,890	+1,640
Oct. 31.....	1,185.26	28,630	-590	815.60	23,280	-2,610
Nov. 30.....	1,194.82	42,680	+14,050	832.60	40,210	+16,930
Dec. 31.....	1,198.70	49,130	+6,450	831.00	38,310	-1,900
CAL YR 1983	--	--	-330	--	--	-5,210
Jan. 31.....	1,198.34	48,500	-630	831.92	39,350	+1,040
Feb. 29.....	1,198.36	48,530	+30	838.16	46,770	+7,420
Mar. 31.....	1,198.32	48,360	-170	842.00	51,690	+4,920
Apr. 30.....	1,199.74	51,000	+2,640	841.66	51,250	-440
May 31.....	1,199.48	50,530	-470	841.38	50,880	-370
June 30.....	1,198.94	49,560	-970	838.68	41,370	-9,510
July 31.....	1,190.20	35,370	-14,190	823.58	30,530	-10,840
Aug. 31.....	1,180.62	23,060	-12,310	817.00	24,470	-6,060
Sept. 30.....	1,179.93	22,290	-770	796.64	10,540	-13,930
WTR YR 1984	--	--	-6,930	--	--	-15,350

11387990 SOUTH DIVERSION CANAL NEAR ORLAND, CA

LOCATION.--Lat 39°48'36", long 122°19'45", in SW 1/4 NE 1/4 sec. 32, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, on left bank 0.4 mi downstream from Black Butte Dam, and 8.2 mi northwest of Orland.

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1961, published as an adjustment to Snow Creek at Black Butte damsite, near Orland.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 372.64 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 23, 1956, at site 0.5 mi 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 lower.

REMARKS.--Records good. Canal diverts from Black Butte Lake at right end of Black Butte Dam; water is used for irrigation. A pump with a capacity of 6 ft^3/s 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 1,074 acre-ft.

AVERAGE DISCHARGE.--29 years, 99.9 ft^3/s, 72,380 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 320 ft^3/s May 8, 1969; no flow at times most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	4.3	.70	.10	2.2	.80	206	232	199	176	220	141
2	37	15	.70	.20	2.1	1.4	165	200	211	182	199	148
3	20	41	1.1	.20	2.1	1.4	133	173	203	216	178	130
4	42	13	.20	1.4	2.1	1.4	142	164	162	231	189	131
5	65	3.1	.30	.90	2.1	1.4	126	144	165	233	175	147
6	97	.10	2.7	.90	2.3	1.4	139	95	196	232	168	191
7	60	.20	4.5	.80	2.3	1.4	161	82	193	240	206	194
8	2.3	0	1.6	.80	2.3	1.4	155	164	182	220	215	192
9	2.3	.20	3.2	.90	2.3	1.0	142	209	197	178	213	168
10	42	3.2	.70	.90	2.3	1.9	100	203	212	192	200	140
11	64	1.8	2.7	.80	2.3	2.8	102	211	227	181	188	165
12	66	1.6	.40	.90	2.5	60	124	185	210	185	166	197
13	66	1.9	.20	.80	1.4	47	145	203	220	205	175	212
14	45	1.4	.30	.90	.80	2.1	150	206	183	213	174	208
15	8.0	1.2	.20	1.2	.80	1.4	143	196	151	234	169	159
16	7.8	1.3	.50	1.4	.80	1.4	165	203	188	233	190	143
17	65	1.3	.50	1.4	.80	1.5	180	174	181	211	193	137
18	81	.50	.60	1.4	.70	1.5	170	163	196	213	197	148
19	79	.70	1.9	1.5	.80	1.5	124	149	227	238	198	151
20	85	1.1	1.9	1.5	.70	1.5	95	130	234	231	211	124
21	55	.70	1.7	1.5	.80	1.5	83	86	232	202	216	122
22	7.4	.60	1.3	1.6	.80	1.5	63	117	236	197	206	135
23	7.8	.80	.80	1.8	.80	1.5	65	175	227	190	215	135
24	62	1.1	.90	1.9	.80	1.5	118	193	212	218	209	139
25	98	.40	5.8	1.9	.70	1.1	131	206	206	197	200	148
26	98	.70	1.9	1.8	.80	2.3	162	236	203	216	164	163
27	78	1.0	.70	1.9	.90	24	178	251	202	232	146	162
28	48	1.0	.60	2.1	1.0	71	190	237	188	222	169	117
29	8.8	.80	.20	2.3	.80	121	210	224	199	211	182	122
30	8.9	.80	.20	2.2	---	170	194	204	196	221	170	121
31	7.7	---	.30	2.2	---	222	---	216	---	227	112	---
TOTAL	1495.0	100.80	39.30	40.10	41.10	751.60	4261	5631	6038	6577	5813	4590
MEAN	48.2	3.36	1.27	1.29	1.42	24.2	142	182	201	212	188	153
MAX	98	41	5.8	2.3	2.5	222	210	251	236	240	220	212
MIN	2.3	0	.20	.10	.70	.80	63	82	151	176	112	117
AC-FT	2970	200	78	80	82	1490	8450	11170	11980	13050	11530	9100

CAL YR 1983 TOTAL 27926.1 MEAN 76.5 MAX 272 MIN 0 AC-FT 55390
WTR YR 1984 TOTAL 35377.90 MEAN 96.7 MAX 251 MIN 0 AC-FT 70170

11387995 BLACK BUTTE LAKE NEAR ORLAND, CA

LOCATION.--Lat 39°48'50", long 122°20'12", in SE 1/4 SW 1/4 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 northwest of Orland.

DRAINAGE AREA.--738 mi^2.

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 between elevations 414.6 ft normal minimum operating level, and 473.5 ft spillway crest. An additional storage of 6,640 acre-ft is available for release if needed. South Diversion Canal (station 11387990) diverts at right end of dam. Water is released down Stony Creek for irrigation. Records represent total contents at 2400 hours.

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

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 156,220 acre-ft Mar. 3, 1983, elevation, 476.25 ft; minimum since initial season of operation, 1,006 acre-ft Nov. 6, 1977, elevation, 397.20 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 113,251 acre-ft Apr. 2, elevation, 466.20 ft; minimum, 20,178 acre-ft Dec. 16, elevation, 429.49 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33353	26055	27678	26803	46254	83993	113056	101868	87326	75735	64314	45156
2	33062	26086	28703	21608	46912	85172	113251	101212	86460	75428	63676	44779
3	32773	26055	33353	21405	47736	86196	113173	100739	85600	75001	63126	44448
4	32414	26102	29418	25006	48570	87126	113018	100412	84909	74849	62524	44097
5	32040	26241	27517	28228	49343	88096	112901	100232	84156	74940	61953	43595
6	31686	26365	27358	31493	50028	88634	112707	100015	83570	75215	61439	42925
7	31440	26505	29184	34608	50385	88870	112359	99870	83083	75582	60820	42155
8	31370	26662	30452	37094	50696	89173	112127	99725	82791	75735	60178	41541
9	31283	27182	40663	38720	50983	89444	111973	99329	82307	76473	59461	40996
10	31039	32075	44846	40167	51296	89682	112243	98969	82178	76720	58802	40476
11	30762	34384	54142	41478	51610	89885	112552	98574	81921	76597	58174	39899
12	30504	35304	49508	42625	51998	90021	112746	98288	81535	76319	57602	39286
13	30162	37427	39064	43595	52928	90600	112940	97895	81120	75888	57032	38620
14	29940	38600	28147	44470	54241	92591	113056	97539	80673	75398	56442	37961
15	29839	39205	21744	45334	55652	94573	113173	97218	80323	75001	55804	37486
16	29721	40290	20178	46344	58960	97147	112901	96898	79942	74515	55170	36938
17	29451	40913	21004	46843	62143	100557	112127	96686	79563	73938	54516	36394
18	29134	39225	22586	47140	64842	102931	111510	96509	79216	73366	53967	35990
19	28802	40850	24043	47346	67127	104593	111126	96332	78807	72706	53174	35703
20	28441	44890	25201	47483	69053	105448	110741	96084	78399	72049	52462	35418
21	28196	44979	25978	47575	71397	106570	110320	95732	77962	71426	51683	34795
22	28082	41668	26490	47621	73185	107698	109976	95274	77650	70806	50767	34143
23	27984	38200	27151	47621	74849	108227	109519	94748	77371	70277	49957	33774
24	27726	39653	40105	47552	76411	108795	108795	94118	77277	69634	49131	33481
25	27390	37526	65121	47506	77868	109519	108000	93457	77122	68995	48477	33208
26	27024	32719	69140	47117	79216	110359	107058	92695	76967	68359	47921	32755
27	26646	26756	63594	46684	80514	111241	105970	92005	76751	67555	47391	32271
28	26396	24558	52854	46254	81728	111780	104926	91318	76566	66927	46843	31845
29	26256	25825	40787	45849	82889	112282	103852	90361	76319	66360	46276	31388
30	26133	26615	34646	45624	---	112668	102857	89343	75981	65683	45894	30952
31	26040	---	31388	45826	---	112823	---	88230	---	65010	45513	---
MAX	33353	44979	69140	47621	82889	112823	113251	101868	87326	76720	64314	45156
MIN	26040	24558	20178	21405	46254	83993	102857	88230	75981	65010	45513	30952
a	433.63	434.00	436.88	444.12	457.67	466.09	463.09	459.29	455.48	451.74	443.98	436.63
b	-7734	+575	+4773	+14438	+37063	+29934	-9966	-14627	-12249	-10971	-19497	-14561
c	729	205	106	413	398	1291	1594	2554	2659	3038	2256	1745

CAL YR 1983 b +7635
WTR YR 1984 b -2822

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

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

LOCATION.--Lat 39°49'07", long 122°19'26", in NW 1/4 SW 1/4 sec.28, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, on left bank 200 ft downstream from road bridge, 0.6 mi downstream from Black Butte Dam, 8.1 mi northwest of Orland.

DRAINAGE AREA.--738 mi^2.

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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Dec. 12, 1960, water-stage recorder at site 0.6 mi upstream at different datum. Dec. 12, 1960, to Nov. 30, 1963, nonrecording gage at bridge 200 ft upstream at datum 4.04 ft 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, and Stony Gorge Reservoir (station 11386100), usable capacity, 50,400 acre-ft. Prior to October 1956, figures of daily discharge included water diverted to South Diversion Canal, which diverts 0.6 mi 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).--29 years, 690 ft^3/s, 499,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft^3/s Feb. 24, 1958, gage height, 11.82 ft site and datum then in use, from rating curve extended above 7,500 ft^3/s on basis of slope-area measurement of maximum flow; no flow many days in 1956, 1957, 1962. Maximum discharge since construction of Black Butte Dam in 1964, 19,400 ft^3/s Dec. 25, 1964, gage height, 10.41 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,900 ft^3/s Dec. 27, gage height, 9.56 ft; minimum, no flow Nov. 7-9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	104	354	5730	262	59	142	560	341	172	386	322
2	198	54	253	5390	143	55	163	499	280	181	386	320
3	194	56	854	2800	66	54	286	348	283	163	361	318
4	210	36	3910	531	60	54	286	312	272	132	368	318
5	203	1.1	2300	430	58	40	269	233	259	116	372	341
6	166	.40	1250	231	58	31	236	246	210	124	358	404
7	143	0	1080	61	58	75	236	241	194	163	351	422
8	127	0	1780	178	59	75	233	190	161	157	354	365
9	126	0	4590	508	60	102	187	198	170	156	410	365
10	145	15	6250	512	60	114	95	212	142	174	386	368
11	154	51	7460	503	60	103	85	221	112	176	378	372
12	145	50	10200	508	61	94	81	228	140	172	378	354
13	154	51	10200	508	60	86	73	221	196	205	372	341
14	147	50	9210	508	60	60	85	198	196	275	358	342
15	127	50	6430	512	58	57	108	172	176	241	358	338
16	127	48	3520	508	56	57	272	150	168	280	361	331
17	150	887	2040	680	56	57	536	140	172	382	351	338
18	161	1950	1270	763	56	57	600	118	174	375	351	266
19	166	1060	1090	749	56	57	550	95	165	382	354	207
20	172	1010	1020	749	57	57	503	138	140	382	358	198
21	158	1920	1020	756	58	57	503	214	125	389	351	185
22	137	3010	1030	756	58	57	499	224	118	386	368	190
23	135	3050	1030	756	58	58	526	214	116	368	382	183
24	142	3910	3280	749	58	58	550	219	114	372	375	174
25	156	4850	10600	605	58	58	555	219	121	396	365	181
26	166	4800	12100	476	58	51	574	212	142	415	348	181
27	185	4740	12200	485	59	46	589	196	145	404	351	159
28	170	2690	11300	494	60	66	589	207	147	375	375	150
29	135	728	10300	494	59	78	589	338	161	365	375	140
30	127	485	7880	494	---	78	584	354	168	375	354	147
31	122	---	6000	351	---	78	---	358	---	382	322	---
TOTAL	4872	35656.50	151801	28775	1990	2029	10584	7475	5308	8635	11317	8320
MEAN	157	1189	4897	928	68.6	65.5	353	241	177	279	365	277
MAX	224	4850	12200	5730	262	114	600	560	341	415	410	422
MIN	122	0	253	61	56	31	73	95	112	116	322	140
AC-FT	9660	70720	301100	57080	3950	4020	20990	14830	10530	17130	22450	16500

CAL YR 1983 TOTAL 808379.50 MEAN 2215 MAX 15000 MIN 0 AC-FT 1603000 MEAN a 2323 AC-FT a 1681000
WTR YR 1984 TOTAL 276762.50 MEAN 756 MAX 12200 MIN 0 AC-FT 549000 MEAN a 873 AC-FT a 633700

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

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.
CHEMICAL ANALYSES: Water years 1958-79. Published as "at damsite" in 1959-64.
WATER TEMPERATURES: Water years 1969 to current year.
SEDIMENT RECORDS: Water years 1958-59, 1961-62.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1969 to current year.

INSTRUMENTATION.--Temperature recorder since June 1969.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 15, 1977; minimum recorded, 3.5°C Jan. 3, 4, Feb. 2, Dec. 9, 1972, Jan. 10, 1974, Dec. 21, 1978.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 26.5°C Aug. 17, 21, 23; minimum recorded, 6.0°C Dec. 25.

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

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

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

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

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

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA

LOCATION.--Lat 39°27'28", long 121°59'35", in SE 1/4 NE 1/4 sec.32, T.19 N., R.1 W., Glenn County, Hydrologic Unit 18020104, on left bank 100 ft upstream from highway bridge, 0.5 mi south of Butte City, and at mile 115.8 upstream from Sacramento.

DRAINAGE AREA.--12,075 mi^2.

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 below National Geodetic Vertical Datum of 1929. Prior to December 1930, at site 0.5 mi 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. Records tabulated below do not include overbank flow into the Butte basin.

AVERAGE DISCHARGE.--46 years (water years 1939-84), 13,740 ft^3/s, 9,955,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-84), 170,000 ft^3/s Feb. 7, 1942, gage height, 96.87 ft; minimum recorded, 1,050 ft^3/s July 15, 25, 26, 1931, gage height, 67.49 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 129,000 ft^3/s Dec. 26, gage height, 93.53 ft; minimum daily, 6,340 ft^3/s Aug. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13200	9170	25300	54000	13800	11400	12900	7970	6760	9520	10200	6710
2	13200	9180	24700	47700	13500	11300	11100	8290	6490	9650	10300	6830
3	13000	8980	26400	43700	13200	11300	9740	8690	6750	9590	10500	6890
4	13000	8610	47400	39000	12500	11100	8970	8550	6950	9590	10600	7040
5	13000	9560	36700	36200	11400	10900	8890	8450	7060	9490	10600	6910
6	12800	9960	29700	34200	11100	10800	8510	7870	7180	9450	10600	6830
7	12900	9690	32100	32600	11000	10700	8160	8100	7650	9440	10700	6770
8	13000	9830	38600	31500	11000	10700	9070	8040	8080	9510	10800	6840
9	13000	11400	42700	30700	11000	10500	10300	8200	7600	9570	10200	6770
10	13000	13000	68400	30300	11100	10400	10300	7960	7360	9500	8870	6880
11	13000	36400	74100	29700	11300	10000	10500	7920	7280	9540	8030	6880
12	13000	28400	93500	29200	11200	8970	10500	8030	7150	9630	7540	6860
13	13000	25300	84200	28800	11300	8690	9870	8410	6900	9700	7520	6880
14	12800	30200	70100	28000	16900	11800	9350	8440	6710	9860	7530	6680
15	12000	23400	65100	26700	16200	14200	8650	8260	6730	9850	7390	6700
16	10800	21800	59300	26300	20100	18200	7600	8180	7000	9730	7400	6830
17	9870	26200	55500	25900	20100	21600	7220	8140	7180	9860	7530	6910
18	9650	33900	54200	24200	15300	22400	7030	7990	7220	9540	7640	6990
19	9600	29300	50700	22900	13800	20100	7270	7840	7270	9650	7740	6920
20	9590	32400	48700	22400	13100	19300	8810	7840	7090	9780	7950	6930
21	9620	33600	46900	22500	13000	18900	7890	7850	6960	9880	7890	7220
22	9620	28900	45800	21000	15300	18400	7380	7750	7310	9960	7910	7620
23	9630	27600	45200	19800	13500	17800	7110	7700	7320	10000	7930	7710
24	9690	36000	53800	19400	12800	17400	6710	7470	7250	10100	8050	7750
25	9790	58400	91700	18000	12700	16800	6380	7300	7330	10000	8210	7660
26	9690	45700	127000	16900	12400	16600	6650	7070	7600	9970	8400	7540
27	9660	35200	114000	16400	12000	16300	7980	7130	8070	9780	8300	7420
28	9740	31900	97400	16100	11800	15800	8000	7120	8600	9970	7120	7580
29	9770	27700	66900	15500	11600	15300	8010	7070	9210	10200	6430	7630
30	9870	25900	57900	14300	---	15000	8000	6960	9400	10300	6340	7590
31	9640	---	61800	14100	---	14400	---	6910	---	10200	6400	---
TOTAL	350130	737580	1835800	838000	384000	447060	258850	243500	221460	302810	262620	212770
MEAN	11290	24590	59220	27030	13240	14420	8628	7855	7382	9768	8472	7092
MAX	13200	58400	127000	54000	20100	22400	12900	8690	9400	10300	10800	7750
MIN	9590	8610	24700	14100	11000	8690	6380	6910	6490	9440	6340	6680
AC-FT	694500	1463000	3641000	1662000	761700	886700	513400	483000	439300	600600	520900	422000

CAL YR 1983 TOTAL 12207090 MEAN 33440 MAX 151000 MIN 7920 AC-FT 24210000
WTR YR 1984 TOTAL 6094580 MEAN 16650 MAX 127000 MIN 6340 AC-FT 12090000

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 downstream from highway bridge at Colusa, and at mile 89.4 upstream from Sacramento.

DRAINAGE AREA.--12,090 mi^2.

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 below National Geodetic Vertical Datum of 1929. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

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

AVERAGE DISCHARGE.--44 years (water years 1941-84), 11,840 ft^3/s, 8,578,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-84), 51,800 ft^3/s Mar. 4, 1983, gage height, 68.50 ft; maximum gage height, 69.20 ft Feb. 18, 1942; minimum recorded, 820 ft^3/s July 25, 26, 1931, gage height, 34.79 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,100 ft^3/s Dec. 26, gage height, 67.65 ft; minimum daily, 6,040 ft^3/s Apr. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12700	9000	25700	39000	13700	11300	13500	7460	6670	9450	10200	7190
2	13000	8810	25000	37100	13500	11100	11800	7610	6470	9560	10300	7420
3	12800	8840	25200	35700	13200	11100	10300	8020	6580	9560	10500	7500
4	12700	8500	33600	34300	12700	11000	9250	8060	6830	9550	10600	7670
5	12700	8670	35400	33000	11700	10800	8960	7990	6980	9460	10600	7670
6	12700	9600	31300	32200	11200	10600	8810	7570	7100	9410	10600	7550
7	12600	9460	29700	31300	10900	10500	8290	7510	7410	9410	10700	7490
8	12700	9300	34000	30300	10800	10400	8540	7560	8150	9500	10900	7530
9	12800	10200	34400	29500	10800	10300	9780	7680	7920	9590	10600	7590
10	12800	11800	40000	29000	10800	10200	10200	7600	7650	9530	9650	7560
11	12800	22600	42900	28500	11100	10000	10000	7460	7500	9530	8590	7610
12	12800	31100	44300	27900	10900	9270	10300	7580	7330	9560	8070	7550
13	12800	25500	45100	27600	11000	8680	9840	7880	7080	9720	7970	7580
14	12700	28100	42700	26900	12900	9810	9310	8240	6820	9800	7990	7470
15	12300	26800	41600	26200	16400	13000	8860	8110	6690	9890	7890	7440
16	11000	22400	40300	25100	16100	15600	7870	8080	6890	9800	7850	7620
17	9900	24300	39100	25100	20000	17900	7190	8020	7170	9880	7930	7740
18	9420	29400	38700	23900	16600	21100	6870	7960	7200	9610	8080	7830
19	9290	31200	37900	22300	14200	19900	6780	7830	7280	9630	8230	7840
20	9240	29400	37300	21500	13300	18700	8300	7760	7170	9770	8260	7770
21	9190	32900	36700	21300	12800	18300	7970	7790	6990	9860	8330	7880
22	9160	30300	36300	20900	14200	17900	7350	7780	7240	10000	8330	7970
23	9160	28200	36200	19300	13900	17400	6980	7710	7420	10100	8430	8040
24	9190	30000	37200	18700	12900	17000	6620	7540	7370	10100	8450	8130
25	9280	38400	42300	18000	12500	16500	6140	7380	7360	10000	8630	8030
26	9280	38500	48000	16700	12500	16300	6040	7180	7570	10100	8750	7950
27	9200	34100	48200	16000	12000	16000	7110	7100	7920	9900	8840	7780
28	9250	32100	46500	15700	11700	15600	7570	7180	8340	9930	8220	7880
29	9250	29700	42900	15400	11500	15100	7520	7050	9010	10200	7150	7960
30	9380	26800	39700	14500	---	14800	7490	6930	9250	10400	6880	7990
31	9340	---	39900	14000	---	14500	---	6820	---	10300	6890	---
TOTAL	341430	685980	1178100	776900	375800	430660	255540	236440	221360	303100	274410	231230
MEAN	11010	22870	38000	25060	12960	13890	8518	7627	7379	9777	8852	7708
MAX	13000	38500	48200	39000	20000	21100	13500	8240	9250	10400	10900	8130
MIN	9160	8500	25000	14000	10800	8680	6040	6820	6470	9410	6880	7190
AC-FT	677200	1361000	2337000	1541000	745400	854200	506900	469000	439100	601200	544300	458600

CAL YR 1983 TOTAL 8638140 MEAN 23670 MAX 51300 MIN 8150 AC-FT 17130000
WTR YR 1984 TOTAL 5310950 MEAN 14510 MAX 48200 MIN 6040 AC-FT 10530000

11389950 LITTLE BUTTE CREEK AT MAGALIA, CA

LOCATION.--Lat 39°48'38", long 121°35'00", in NW 1/4 NE 1/4 sec.36, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 1,000 ft downstream from Magalia Dam, and 0.4 mi northwest of Magalia.

DRAINAGE AREA.--11.4 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

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

REMARKS.--Records good. Flow regulated by Paradise Reservoir, usable capacity, 11,500 acre-ft, and Magalia Reservoir, usable capacity, 2,640 acre-ft. 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).--16 years, 18.5 ft^3/s, 13,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft^3/s Jan. 24, 1970, gage height, 6.47 ft; minimum daily discharge, 0.01 ft^3/s Sept. 25, 1974, and many days in 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 656 ft^3/s Dec. 25, gage height, 5.36 ft; minimum daily discharge, 0.24 ft^3/s July 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	.71	.38	102	12	10	27	8.4	.76	.26	.54	.58
2	.65	.61	.65	87	11	9.7	25	14	.76	.24	.58	.62
3	.65	.61	15	77	8.1	9.2	22	12	.71	.40	.62	.60
4	.63	.66	14	70	5.0	8.3	20	11	.77	.67	.58	.64
5	.61	.65	5.5	66	4.6	7.4	18	8.1	.75	.65	.54	.74
6	.62	.75	5.3	61	4.5	7.2	19	5.8	.85	.65	.52	.62
7	.61	.69	9.0	57	4.5	7.5	17	3.8	.67	.70	.53	.53
8	.61	.67	8.0	53	4.5	7.6	21	2.0	.61	.62	.56	.54
9	.64	1.7	21	49	4.6	7.3	19	1.5	.55	.56	.51	.59
10	.61	12	53	46	4.5	7.1	23	1.0	.54	.51	.52	.55
11	.61	16	243	43	5.0	6.8	23	1.4	.49	.49	.53	.56
12	.61	8.8	230	41	15	7.0	20	1.5	.49	.47	.50	.56
13	.62	8.5	132	40	75	31	17	1.4	.48	.45	.52	.57
14	.61	3.9	107	48	118	61	15	1.4	.45	.44	.53	.56
15	.61	1.0	77	46	114	94	12	1.4	.45	.45	.51	.54
16	.59	2.3	68	48	106	81	11	1.4	.46	.45	.54	.55
17	.59	17	66	45	86	68	11	1.3	.43	.45	.57	.61
18	.61	6.9	63	45	61	57	17	1.2	.42	.45	.52	.59
19	.61	4.4	62	44	59	49	25	1.0	.43	.45	.51	.61
20	.54	4.2	62	44	59	44	20	1.0	.45	.45	.51	.65
21	.34	1.8	59	44	48	39	16	.95	.40	.46	.49	.75
22	.34	.65	29	43	17	35	12	.95	.45	.47	.52	.75
23	.39	.70	43	43	13	33	9.3	.86	.52	.49	.54	.79
24	.42	38	155	34	15	32	7.3	.82	.31	.47	.51	.63
25	.45	20	518	17	13	29	6.6	.84	.33	.46	.50	.55
26	.45	6.3	311	14	12	28	5.4	.77	.30	.47	.52	.52
27	.46	2.3	236	13	11	27	4.7	.76	.29	.55	.49	.52
28	.44	.70	164	12	11	27	5.2	.72	.31	.61	.53	.52
29	.58	.49	135	12	11	26	4.9	.71	.27	.58	.53	.36
30	1.0	.33	161	12	---	25	5.2	.82	.25	.58	.70	.37
31	.87	---	128	12	---	26	---	.82	---	.55	.54	---
TOTAL	18.02	163.32	3180.83	1368	912.3	907.1	458.6	89.62	14.95	15.50	16.61	17.57
MEAN	.58	5.44	103	44.1	31.5	29.3	15.3	2.89	.50	.50	.54	.59
MAX	1.0	38	518	102	118	94	27	14	.85	.70	.70	.79
MIN	.34	.33	.38	12	4.5	6.8	4.7	.71	.25	.24	.49	.36
AC-FT	36	324	6310	2710	1810	1800	910	178	30	31	33	35
a	453	250	215	270	267	364	419	902	935	1474	1324	871

CAL YR 1983 TOTAL 20012.76 MEAN 54.8 MAX 573 MIN .33 AC-FT 39700
WTR YR 1984 TOTAL 7162.42 MEAN 19.6 MAX 518 MIN .24 AC-FT 14210

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

11390000 BUTTE CREEK NEAR CHICO, CA

LOCATION.--Lat 39°43'34", long 121°42'28", in NW 1/4 NW 1/4 sec.36, T.22 N., R.2 E., Butte County, Hydrologic Unit 18020105, on right bank 0.7 mi downstream from Little Butte Creek, and 7.5 mi east of Chico.

DRAINAGE AREA.--147 mi^2.

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, from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi upstream at different datum.

REMARKS.--Records good. Flow slightly regulated by storage in Magalia Reservoir, usable capacity, 2,640 acre-ft and since 1957 by Paradise Reservoir, usable capacity, 11,500 acre-ft. Diversions above station for irrigation and domestic use of about 7,000 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal.

AVERAGE DISCHARGE (unadjusted).--54 years, 418 ft^3/s, 302,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft^3/s Dec. 22, 1964, gage height, 14.12 ft, from rating curve extended above 8,900 ft^3/s on basis of slope-area measurement at gage height 13.35 ft; minimum discharge, 10 ft^3/s Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2100	3,980	5.67	Dec. 11	1615	4,080	5.75
Nov. 24	1345	3,690	5.44	Dec. 25	1700	*8,250	8.88

Minimum daily discharge, 85 ft^3/s Aug. 29, 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	278	425	1440	413	469	549	406	308	183	186	102
2	141	283	447	1260	402	474	534	455	300	191	185	94
3	131	234	971	1130	407	465	500	433	297	182	185	93
4	117	228	838	1050	402	449	497	434	303	169	185	92
5	118	227	592	1000	396	436	489	417	316	164	184	92
6	117	224	579	938	391	429	493	406	334	164	183	92
7	145	269	805	874	391	428	470	396	401	163	182	92
8	169	243	805	819	396	424	538	395	335	160	179	143
9	161	266	1450	770	464	418	504	397	306	140	178	156
10	151	1340	2400	733	470	413	543	395	303	196	177	150
11	155	1380	3530	703	424	409	539	403	295	206	172	158
12	160	737	2250	677	446	405	503	420	292	204	171	147
13	159	767	1460	649	991	1080	482	417	298	210	171	139
14	160	590	1250	632	1010	1380	463	411	292	209	169	139
15	159	445	1130	615	922	1470	456	390	289	207	170	137
16	159	492	1020	625	973	1270	452	370	280	211	172	137
17	159	1180	983	587	814	1130	450	376	267	215	169	135
18	159	750	864	563	683	972	489	370	243	217	167	137
19	158	596	796	553	619	905	522	363	237	211	165	133
20	158	655	743	536	598	865	489	363	241	194	164	149
21	156	527	692	532	669	827	464	362	227	191	163	135
22	155	448	649	520	591	750	453	356	228	190	160	127
23	186	427	670	508	544	692	445	355	221	188	151	125
24	224	1890	2300	507	551	671	436	349	216	191	170	125
25	213	1220	6060	478	538	643	423	345	208	188	160	130
26	210	731	4450	465	513	623	413	338	198	189	160	122
27	212	578	3280	457	494	601	404	330	191	187	137	120
28	211	505	2230	445	482	577	393	329	193	186	95	114
29	211	457	1740	434	476	559	389	328	191	187	85	110
30	272	427	2040	430	---	542	382	317	186	190	85	117
31	318	---	1730	423	---	563	---	314	---	189	132	---
TOTAL	5344	18394	49179	21353	16470	21339	14164	11740	7996	5872	5012	3742
MEAN	172	613	1586	689	568	688	472	379	267	189	162	125
MAX	318	1890	6060	1440	1010	1470	549	455	401	217	186	158
MIN	117	224	425	423	391	405	382	314	186	140	85	92
AC-FT	10600	36480	97550	42350	32670	42330	28090	23290	15860	11650	9940	7420
a	3790	6500	6920	7080	6630	7140	6860	7040	5770	4910	3810	2110

CAL YR 1983 TOTAL 332642 MEAN 911 MAX 6910 MIN 90 AC-FT 659800
WTR YR 1984 TOTAL 180605 MEAN 493 MAX 6060 MIN 85 AC-FT 358200

a 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 NW 1/4 NE 1/4 sec.2, T.13 N., R.1 E., Colusa County, Hydrologic Unit 18020104, on right bank 1,200 ft downstream from Wilkins Slough, 5.8 mi southeast of Grimes, and at mile 62.9 upstream from Sacramento.

DRAINAGE AREA.--12,926 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1931 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Water-stage recorder. Datum of gage is 3.00 ft below National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--46 years (water years 1939-84), 10,400 ft^3/s, 7,535,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-84), 32,300 ft^3/s Mar. 4, 1983, gage height, 52.16 ft; maximum gage height, 52.75 ft Mar. 1, 1940; minimum discharge, 100 ft^3/s Aug. 1, 1931, gage height, 14.20 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,400 ft^3/s Dec. 27, gage height, 50.62 ft; minimum daily, 4,930 ft^3/s June 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12800	9150	24200	28000	14100	11900	14100	6270	5280	7930	9140	6860
2	13100	8880	23900	27400	13900	11700	12700	6310	5050	8110	9210	7260
3	13100	8930	23800	26900	13600	11600	11100	6690	4970	8160	9390	7410
4	12900	8710	25400	26500	13200	11500	9810	6980	5300	8150	9490	7530
5	12800	8520	26600	26100	12400	11300	9180	6950	5500	8090	9590	7620
6	12800	9400	25800	25900	11500	11100	9050	6800	5670	8020	9660	7500
7	12700	9550	25300	25700	11200	10900	8560	6400	5890	7990	9670	7390
8	12700	9350	26000	25400	11000	10800	8420	6370	6550	8070	9800	7380
9	12900	9780	27000	25200	11000	10700	9390	6300	6930	8220	9790	7450
10	12800	11400	27500	25100	11000	10500	9600	6390	6700	8220	9140	7400
11	12800	16700	28800	25000	11200	10400	10500	6250	6410	8190	7960	7470
12	12800	25000	29100	24800	11200	9890	10000	6420	6050	8190	7090	7380
13	12800	23800	29500	24700	11200	9120	9890	6690	5590	8360	6810	7310
14	12700	24100	29000	24500	11900	9400	9390	7300	5210	8460	6720	7260
15	12500	24200	28500	24300	16300	12500	8870	7510	4930	8580	6670	7110
16	11600	22300	28100	24000	16000	14800	7960	7520	4990	8540	6680	7200
17	10300	22400	27700	23900	19300	17200	6980	7470	5350	8460	6760	7370
18	9480	24500	27500	23600	18000	20200	6510	7400	5480	8410	7010	7510
19	9230	25400	27300	22800	15500	20200	6390	7250	5530	8230	7300	7590
20	9130	25000	27100	21900	14300	19000	7260	7180	5540	8360	7420	7550
21	9070	25700	26900	21400	13600	18400	7820	7200	5320	8530	7530	7600
22	9060	25300	26800	21100	14100	18100	7190	7200	5380	8770	7650	7650
23	9020	24800	26800	19700	14900	17600	6610	7040	5690	8860	7820	7730
24	9030	24900	27000	18800	13900	17200	6040	6880	5650	8820	7830	7800
25	9120	26800	28200	18300	13300	16800	5360	6650	5620	8810	7940	7720
26	9190	27600	29600	17200	13200	16500	4980	6390	5750	8850	8120	7560
27	9130	26600	30300	16500	12800	16200	5440	6210	6040	8760	8280	7410
28	9160	26000	30200	16100	12400	15700	6310	6250	6490	8620	8090	7400
29	9190	25500	29600	15800	12100	15400	6320	6020	7140	8920	7100	7480
30	9310	24800	28600	15100	---	15100	6330	5700	7630	9190	6580	7560
31	9360	---	28200	14400	---	14800	---	5440	---	9220	6550	---
TOTAL	342580	585070	850300	696100	388100	436510	248060	207430	173630	262090	248790	223460
MEAN	11050	19500	27430	22450	13380	14080	8269	6691	5788	8455	8025	7449
MAX	13100	27600	30300	28000	19300	20200	14100	7520	7630	9220	9800	7800
MIN	9020	8520	23800	14400	11000	9120	4980	5440	4930	7930	6550	6860
AC-FT	679500	1160000	1687000	1381000	769800	865800	492000	411400	344400	519900	493500	443200

CAL YR 1983 TOTAL 6966630 MEAN 19090 MAX 32200 MIN 8030 AC-FT 13820000
WTR YR 1984 TOTAL 4662120 MEAN 12740 MAX 30300 MIN 4930 AC-FT 9247000

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF 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, 1969.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 22.0°C Sept. 10-12; minimum recorded, 7.5°C Dec. 25, 26.

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

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

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

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

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

11390672 STONE CORRAL CREEK NEAR SITES, CA

LOCATION.--Lat 39°17'18", long 122°18'00", in NW 1/4 NW 1/4 sec.34, T.17 N., R.4 W., Colusa County, Hydrologic Unit 18020104, on left bank at road bridge, 2.4 mi southeast of Sites.

DRAINAGE AREA.--38.2 mi^2.

PERIOD OF RECORD.--March 1958 to September 1964, October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft, from topographic map.

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

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

AVERAGE DISCHARGE.--25 years (water years 1959-64, 1966-84), 9.37 ft^3/s, 6,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft^3/s Jan. 26, 1983, gage height, 16.64 ft, from rating curve extended above 1,200 ft^3/s on basis of slope-conveyance study at gage height 13.0 ft and a slope-area measurement at 16.45 ft; 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 from floodmarks, discharge, 1,940 ft^3/s from slope-conveyance study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,500 ft^3/s Dec. 24, gage height, 15.74 ft; no flow many days during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	3.0	46	9.1	5.3	3.7	1.2	.12			
2		0	2.6	41	8.1	5.0	4.0	1.2	.16			
3		0	352	37	7.4	4.4	3.7	1.2	.12			
4		0	30	34	7.4	3.6	3.7	1.1	.16			
5		0	16	33	7.4	3.1	3.8	1.0	.16			
6		0	17	30	7.4	3.3	3.7	.97	.16			
7		0	17	28	7.0	3.3	3.4	.85	.16			
8		0	45	26	7.0	3.3	3.3	.85	.12			
9		1.2	356	24	7.4	3.1	3.1	.82	.12			
10		7.7	75	23	6.5	3.1	3.2	.80	.11			
11		11	333	21	6.5	3.1	3.2	.74	.11			
12		1.9	57	20	8.5	3.8	2.9	.68	.12			
13		4.5	34	19	17	8.5	2.8	.63	.12			
14		4.4	23	17	13	8.6	2.7	.68	.08			
15		1.5	18	19	99	11	2.4	.85	.05			
16		1.7	16	33	27	7.8	2.3	.63	.02			
17		24	15	19	14	8.5	2.3	.58	.02			
18		6.5	14	16	12	5.3	2.5	.58	.01			
19		4.6	13	16	9.6	4.6	2.5	.53	.01			
20		12	12	15	8.5	4.4	1.9	.53	.01			
21		8.8	11	17	8.7	3.8	1.8	.48	0			
22		4.5	11	14	6.8	3.6	1.6	.40	0			
23		5.8	90	14	6.1	3.8	1.5	.36	0			
24		74	2230	14	6.1	4.1	1.6	.36	0			
25		16	1250	13	5.4	4.1	1.6	.32	0			
26		8.1	230	13	5.3	4.1	1.1	.32	0			
27		5.4	154	12	5.3	4.0	1.1	.25	0			
28		4.4	86	12	5.3	3.7	1.1	.22	0			
29		3.7	69	11	5.3	3.6	1.1	.19	0			
30		3.4	124	11	---	3.6	1.1	.19	0			
31		---	60	9.8	---	3.6	---	.16	---			
TOTAL	0	215.1	5763.6	657.8	344.1	145.1	74.7	19.67	1.94	0	0	0
MEAN	0	7.17	186	21.2	11.9	4.68	2.49	.63	.065	0	0	0
MAX	0	74	2230	46	99	11	4.0	1.2	.16	0	0	0
MIN	0	0	2.6	9.8	5.3	3.1	1.1	.16	0	0	0	0
AC-FT	0	427	11430	1300	683	288	148	39	3.8	0	0	0

CAL YR 1983	TOTAL	25256.78	MEAN	69.2	MAX	2230	MIN	0	AC-FT	50100
WTR YR 1984	TOTAL	7222.01	MEAN	19.7	MAX	2230	MIN	0	AC-FT	14320

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA

LOCATION.--Lat 39°42'30", long 121°16'10", in NW 1/4 NE 1/4 sec.2, T.21 N., R.6 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 400 ft downstream from bridge on Milsap Bar Road, 500 ft downstream from Little North Fork, 4.5 mi southeast of Merrimac, and 20 mi northeast of Oroville.

DRAINAGE AREA.--1,062 mi^2.

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, from topographic map. Prior to Jan. 21, 1965, on right bank at same site and datum.

REMARKS.--Records good except those for April 3 to May 8, which are fair. Diversions above station for irrigation of about 1,000 acres between stations near Clio and near Merrimac. Flow partly regulated by Antelope Lake (station 11401120) beginning in 1963, Lake Davis (station 11391490) beginning in 1966, and Frenchman Lake (station 11391370) beginning in 1961.

AVERAGE DISCHARGE.--33 years, 1,485 ft^3/s, 1,076,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,200 ft^3/s Dec. 22, 1964, gage height, 26.5 ft from floodmarks, present site, from rating curve extended above 19,000 ft^3/s on basis of slope-area measurement of maximum flow; minimum daily, 51 ft^3/s Sept. 14, 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 10, 1937, reached a stage of 19.4 ft from floodmarks, discharge, 46,100 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0345	12,000	11.69	Dec. 11	1645	8,380	10.55
Nov. 17	1100	13,700	12.18	Dec. 25	1930	*22,500	14.34
Nov. 24	1830	14,600	12.45	Mar. 13	2300	7,720	10.32

Minimum daily, 224 ft^3/s Sept. 16, 17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	536	1310	2380	7680	1340	1710	2200	1520	1390	563	320	271
2	498	1110	2480	6410	1300	1780	2080	1730	1290	591	314	247
3	489	758	2920	5260	1280	1800	2000	1800	1230	549	311	239
4	471	674	2790	4590	1230	1750	1960	2000	1250	519	309	239
5	458	656	2470	4270	1200	1700	1910	1950	1320	500	302	238
6	449	634	2810	3960	1160	1670	1850	1920	1420	487	298	240
7	440	777	2980	3660	1150	1660	1830	1940	1720	471	296	242
8	436	676	3130	3400	1150	1670	1880	2050	1350	452	288	237
9	436	652	4510	3160	1430	1690	1770	2260	1210	442	273	237
10	428	2580	7930	2960	1430	1690	1670	2370	1140	437	259	237
11	419	7280	7910	2810	1290	1700	1650	2390	1090	424	258	232
12	407	3550	6950	2630	1340	1690	1630	2530	1060	416	259	229
13	403	3640	5450	2430	3310	4030	1580	2550	1030	406	254	227
14	403	2830	4960	2230	3490	6220	1620	2510	1010	392	252	227
15	403	2270	4460	2130	2960	5100	1730	2310	1010	383	250	225
16	403	2610	3990	2150	3720	4610	1850	2000	992	388	248	224
17	403	9770	4260	1970	3270	4320	1880	1870	970	387	247	224
18	403	5920	3780	1930	3000	3940	1840	1820	940	390	241	229
19	403	5680	3530	1890	2590	3720	1750	1850	908	378	241	241
20	399	5690	3180	1810	2300	3660	1610	1970	865	367	243	259
21	391	3760	2790	1800	2610	3720	1600	2020	836	362	242	263
22	391	2910	2410	1780	2510	3390	1620	1950	792	355	234	255
23	403	2590	2390	1720	2460	3160	1650	1930	761	357	228	246
24	445	8680	4690	1680	2340	3060	1610	1940	729	410	226	243
25	423	7250	16300	1620	2130	2980	1560	1800	705	403	228	247
26	410	5800	17000	1580	1960	2990	1490	1740	681	375	236	248
27	404	5290	13900	1540	1860	2930	1400	1680	654	354	246	244
28	403	3880	11200	1500	1780	2710	1370	1630	631	341	245	245
29	404	3010	8240	1460	1720	2600	1370	1610	610	339	239	242
30	649	2530	10000	1420	---	2460	1390	1600	576	334	249	249
31	1140	---	8820	1380	---	2400	---	1510	---	327	302	---
TOTAL	14150	104767	180610	84810	59310	88510	51350	60750	30170	12899	8138	7226
MEAN	456	3492	5826	2736	2045	2855	1712	1960	1006	416	263	241
MAX	1140	9770	17000	7680	3720	6220	2200	2550	1720	591	320	271
MIN	391	634	2380	1380	1150	1660	1370	1510	576	327	226	224
AC-FT	28070	207800	358200	168200	117600	175600	101900	120500	59840	25590	16140	14330

CAL YR 1983 TOTAL 1257497 MEAN 3445 MAX 24400 MIN 360 AC-FT 2494000
WTR YR 1984 TOTAL 702690 MEAN 1920 MAX 17000 MIN 224 AC-FT 1394000

NOTE.--No gage-height record April 3 to May 8.

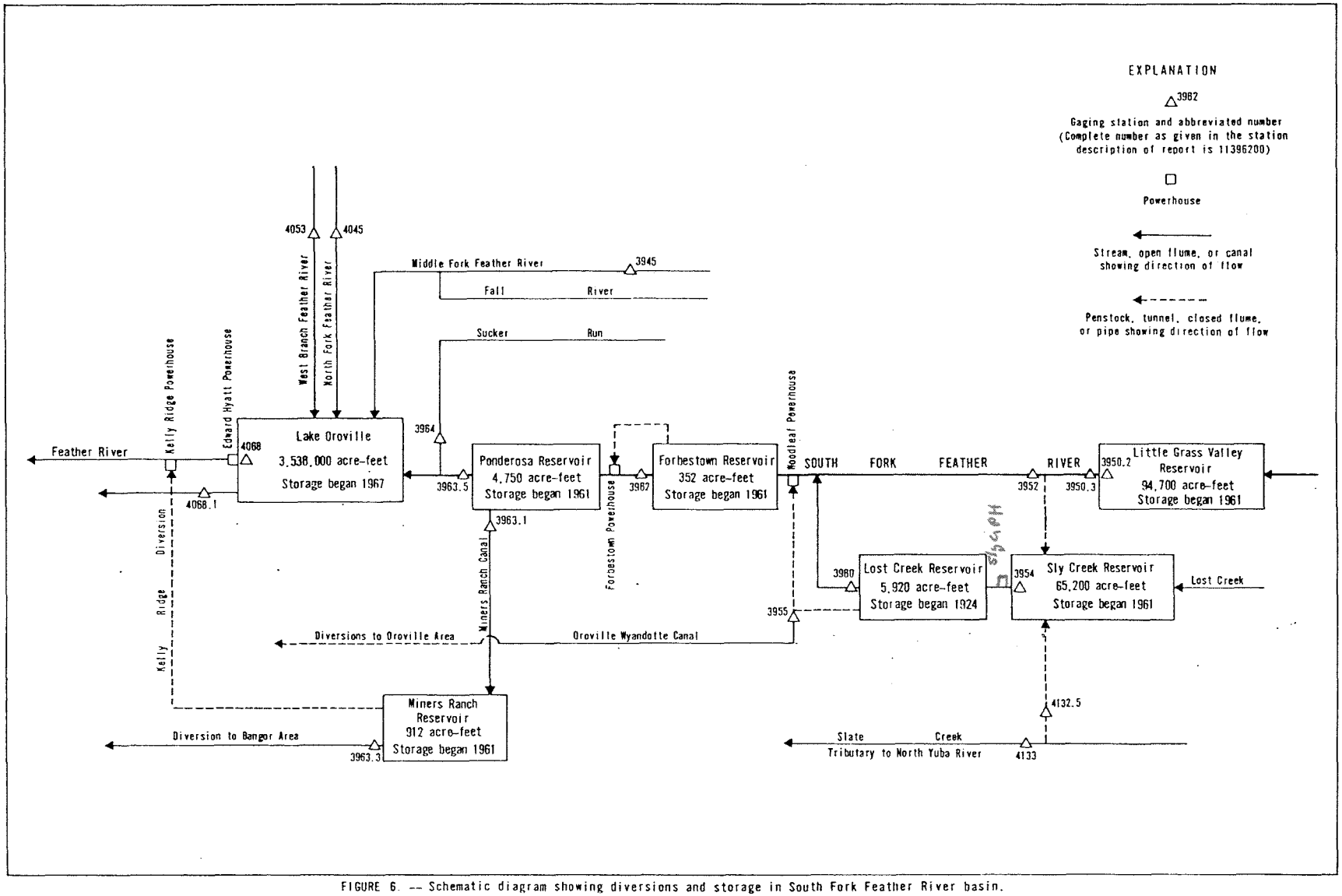

FIGURE 6. -- Schematic diagram showing diversions and storage in South Fork Feather River basin.

11395020 LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE, CA

LOCATION.--Lat 39°43'25", long 121°01'10", in SE 1/4 NW 1/4 sec.31, T.22 N., R.9 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 300 ft upstream from dam on South Fork Feather River, 3.3 mi northwest of La Porte.

DRAINAGE AREA.--25.8 mi^2.

PERIOD OF RECORD.--October 1961 to current year. Monthend elevation and contents only October 1961 to October 1962.

GAGE.--Water-stage recorder. Datum of gage is 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 between elevations 4,876 ft invert of release valve, and 5,047 ft 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 Apr. 29, 1965, elevation, 5,047.9 ft; minimum since reservoir first filled, 30,300 acre-ft on many days in 1977, elevation, 4,994.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 93,200 acre-ft May 18-20, elevation, 5,046.1 ft; minimum, 35,900 acre-ft Oct. 29, elevation, 5,001.3 ft.

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

4,990	26,300
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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39200	36900	55100	76800	75000	70900	77800	87300	92400	87400	74000	60800
2	38500	37000	55400	76600	74600	70800	78100	87600	92200	87000	73300	60800
3	37700	37100	56000	76500	74100	70600	78400	87900	92000	86600	72800	60700
4	36900	37100	56300	76500	73900	70300	78500	88200	92000	86200	72400	60400
5	36600	37100	56500	76200	73600	70100	78700	88500	91900	85700	72000	59800
6	36600	37200	58200	76000	73300	69800	79100	89000	92000	85200	71500	59100
7	36500	37200	57200	76000	73000	69600	79400	89500	92000	84700	71100	58700
8	36500	37200	57400	75900	72700	69500	79500	90000	91900	84300	70600	57800
9	36400	37400	58400	75900	72700	69200	79800	90300	91700	84000	70100	57200
10	36400	38900	59500	75700	72400	68900	80300	90800	91700	83500	69600	56300
11	36400	39700	60400	75700	72100	68800	80600	91100	91500	82900	69200	55200
12	36400	40700	61000	75700	72000	68600	81000	91600	91400	82600	68800	54300
13	36300	41400	61300	75600	72500	69900	81000	91900	91200	82200	68400	53400
14	36300	41800	61900	75600	72800	71100	81300	92400	91100	81700	67800	52400
15	36300	41900	62400	75600	72800	72200	81600	92500	91100	81300	67500	51500
16	36200	42900	62900	75600	72800	73000	81900	92800	90900	80900	67100	50500
17	36200	44000	63400	75600	72800	73600	82300	93000	90700	80400	66700	50000
18	36200	46300	63800	75500	72800	74000	82800	93200	90600	80100	66200	49500
19	36200	47300	64100	75500	72800	74400	83200	93200	90400	79700	65800	48400
20	36100	48200	64200	75500	72800	74900	83600	93200	90300	79200	65400	47400
21	36100	48800	64100	75500	72800	75300	84000	93000	90100	78700	65000	46500
22	36100	49100	63900	75500	72800	75600	84300	92800	90000	78200	64500	45400
23	36100	49600	64100	75500	72400	75900	84600	92700	89800	77800	64100	44300
24	36000	51600	64900	75500	72200	75900	84900	92700	89600	77400	63600	43500
25	36000	52700	67800	75500	72100	76000	85200	92700	89500	76900	63200	42600
26	36000	53200	71400	75300	72000	76000	85700	92700	89300	76500	62600	41600
27	36000	53800	73300	75300	71700	76200	86000	92700	89000	76000	62300	40700
28	36000	54200	74400	75300	71500	76500	86300	92700	88500	75600	61900	39700
29	35900	54500	75200	75300	71200	76900	86600	92700	88200	75200	61500	38700
30	36200	54700	76500	75300	---	77200	87000	92500	87700	74700	61100	37700
31	36500	---	76800	75300	---	77500	---	92400	---	74300	60800	---
MAX	39200	54700	76800	76800	75000	77500	87000	93200	92400	87400	74000	60800
MIN	35900	36900	55100	75300	71200	68600	77800	87300	87700	74300	60800	37700
a	5001.9	5019.0	5035.4	5034.4	5031.6	5035.9	5042.2	5045.6	5042.7	5033.7	5023.8	5003.2
b	-3500	+18200	+22100	-1500	-4100	+6300	+9500	+5400	-4700	-13400	-13500	-23100

CAL YR 1983 b +18300
WTR YR 1984 b -2300

a Elevation, in feet NGVD, at end of month.
b 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 SW 1/4 NW 1/4 sec.31, T.22 N., R.9 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.1 mi downstream from Little Grass Valley Dam, and 3.5 mi northwest of La Porte.

DRAINAGE AREA.--25.9 mi^2.

PERIOD OF RECORD.--October 1927 to September 1933 (published as "near La Porte"), October 1960 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,809.0 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1960, at site 0.4 mi 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 upstream at datum 4,850.00 ft 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).--30 years, 103 ft^3/s, 74,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft^3/s Feb. 1, 1963; minimum, 0.2 ft^3/s Oct. 28-31, Nov. 2, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 560 ft^3/s Sept. 10, gage height, 10.23 ft; minimum daily, 5.9 ft^3/s Dec. 6, 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	390	17	6.1	416	177	182	7.7	17	91	198	205	15
2	389	15	6.7	406	280	182	7.5	17	90	202	204	15
3	388	14	6.4	366	239	182	7.5	18	90	208	204	15
4	387	14	6.0	330	183	181	7.6	17	90	209	204	162
5	202	14	6.0	280	182	180	7.6	16	90	209	204	303
6	27	14	5.9	224	182	181	7.8	16	91	208	204	302
7	18	14	5.9	204	182	180	7.8	16	91	208	204	302
8	12	14	6.4	191	182	180	8.6	17	91	208	203	302
9	12	15	9.1	179	184	180	7.9	18	90	207	203	301
10	12	25	9.7	167	182	180	7.9	17	90	207	202	416
11	12	21	7.4	159	182	180	7.9	18	90	207	202	509
12	12	21	6.7	145	182	180	8.0	18	90	206	202	509
13	13	17	6.5	133	191	98	8.2	18	90	206	202	507
14	14	16	7.4	117	185	11	8.3	18	89	206	202	505
15	14	15	7.7	111	184	8.5	8.8	18	89	206	202	504
16	14	19	7.7	116	184	7.3	9.1	17	89	206	202	503
17	14	30	8.0	106	183	6.9	8.8	17	89	206	202	240
18	14	13	7.7	97	182	6.8	8.5	81	89	201	201	274
19	14	9.3	7.7	89	182	7.0	8.3	168	89	209	201	509
20	14	8.4	89	79	182	7.3	7.7	168	89	209	200	508
21	14	7.0	213	76	182	28	7.7	168	89	209	200	506
22	14	6.5	211	71	182	85	8.0	168	89	209	200	503
23	14	6.4	211	65	182	133	8.5	168	89	208	200	501
24	14	16	223	60	182	167	8.5	128	89	208	200	499
25	14	8.2	175	59	182	198	8.0	92	89	208	200	497
26	14	6.9	14	64	182	212	7.4	92	89	207	200	495
27	14	6.5	13	58	182	110	13	91	146	207	200	494
28	14	6.2	10	52	182	8.2	17	91	200	206	200	492
29	14	6.1	15	51	182	8.0	17	91	198	206	200	488
30	15	6.0	164	49	---	7.7	17	91	198	206	200	486
31	16	---	352	46	---	7.7	---	91	---	206	102	---
TOTAL	2129	401.5	1825.0	4566	5448	3285.4	273.6	1981	3073	6406	6155	11662
MEAN	68.7	13.4	58.9	147	188	106	9.12	63.9	102	207	199	389
MAX	390	30	352	416	280	212	17	168	200	209	205	509
MIN	12	6.0	5.9	46	177	6.8	7.4	16	89	198	102	15
AC-FT	4220	796	3620	9060	10810	6520	543	3930	6100	12710	12210	23130

CAL YR 1983	TOTAL	79655.3	MEAN	218	MAX	1240	MIN	5.9	AC-FT	158000	MEAN a	244
WTR YR 1984	TOTAL	47205.5	MEAN	129	MAX	509	MIN	5.9	AC-FT	93630	MEAN a	126

AC-FT a	176300	
AC-FT a	91330	

a 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 NE 1/4 SE 1/4 sec.30, T.21 N., R.8 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 0.1 mi downstream from diversion dam, 3.1 mi upstream from Rock Creek, and 5.8 mi north of Strawberry Valley.

DRAINAGE AREA.--37.7 mi^2.

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

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

GAGE.--Water-stage recorder and since July 23, 1982, 130° V notch weir. Datum of gage is 3,535.02 ft 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 ft^3/s 500 ft 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).--24 years, 164 ft^3/s, 118,800 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,310 ft^3/s Dec. 25, gage height, 8.52 ft; minimum daily, 5.0 ft^3/s Nov. 5, 8.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	5.4	89	5.3	5.5	5.2	9.1	11	11	11	10
2	12	8.0	5.4	28	5.5	5.5	5.2	11	11	11	11	10
3	12	5.3	5.6	6.0	5.5	5.5	5.2	11	11	11	11	10
4	12	5.2	5.5	5.9	5.5	5.5	5.2	11	11	11	11	11
5	12	5.0	5.4	5.9	5.5	5.5	5.2	11	11	11	11	11
6	11	5.1	5.4	15	5.5	5.5	5.2	11	11	11	11	11
7	11	5.1	5.4	5.5	5.4	5.5	5.2	11	11	11	11	11
8	11	5.0	5.5	5.5	5.4	5.5	5.2	11	11	11	11	12
9	11	5.1	5.8	5.5	5.6	5.5	5.2	11	11	11	11	12
10	11	5.5	6.1	5.5	5.5	5.5	5.2	11	11	11	11	12
11	11	5.7	6.2	5.5	5.5	5.5	5.2	11	11	11	11	12
12	11	5.5	5.8	5.5	5.5	5.5	5.2	11	11	11	11	13
13	11	5.6	5.6	5.4	5.9	5.9	5.2	11	11	11	11	32
14	11	5.3	5.5	5.4	5.8	5.7	5.2	11	11	11	11	63
15	11	5.2	5.5	5.4	5.8	5.8	5.2	11	11	11	11	49
16	11	5.4	5.6	5.4	5.8	5.7	5.2	11	11	11	11	12
17	11	8.6	5.6	5.4	5.7	5.6	5.2	11	11	11	11	12
18	11	5.6	5.5	5.4	5.7	5.5	5.2	11	11	11	11	11
19	11	5.6	5.5	5.4	5.7	5.5	5.2	11	11	11	11	11
20	11	5.5	5.5	5.4	5.8	5.5	5.2	11	11	11	11	12
21	11	5.5	5.6	5.4	5.8	5.4	5.2	11	11	11	11	12
22	11	5.4	5.7	5.4	5.7	5.4	5.2	11	11	11	11	12
23	11	5.4	5.7	5.4	5.5	5.4	5.2	11	11	11	11	12
24	11	6.0	8.3	5.4	5.5	5.4	5.2	11	11	11	11	12
25	11	5.6	585	5.4	5.5	5.4	5.2	11	11	11	11	12
26	11	5.5	256	5.4	5.5	5.4	5.2	11	11	11	11	11
27	11	5.4	52	5.4	5.5	5.3	5.2	11	11	11	11	11
28	11	5.4	6.0	5.4	5.5	5.2	5.2	11	11	11	11	11
29	11	5.4	5.8	5.4	5.5	5.2	5.2	11	11	11	11	11
30	11	5.4	35	5.3	---	5.2	5.2	11	11	11	11	11
31	11	---	110	5.2	---	5.2	---	11	---	11	11	---
TOTAL	346	173.3	1186.9	285.1	161.9	169.7	156.0	339.1	330	341	341	452
MEAN	11.2	5.78	38.3	9.20	5.58	5.47	5.20	10.9	11.0	11.0	11.0	15.1
MAX	12	11	585	89	5.9	5.9	5.2	11	11	11	11	63
MIN	11	5.0	5.4	5.2	5.3	5.2	5.2	9.1	11	11	11	10
AC-FT	686	344	2350	565	321	337	309	673	655	676	676	897
MEAN a	69.6	126	287	222	272	209	57.6	96.1	113	228	226	383
AC-FT a	4280	7480	17630	13660	15660	12870	3430	5910	6700	14020	13890	22770
b	3590	7140	15280	13100	15340	12530	3120	5240	6040	13340	13210	21870

CAL YR 1983 TOTAL 14127.6 MEAN 38.7 MAX 2290 MIN 5.0 AC-FT 28020 MEAN a 333 AC-FT a 241300
WTR YR 1984 TOTAL 4282.0 MEAN 11.7 MAX 585 MIN 5.0 AC-FT 8490 MEAN a 191 AC-FT a 138300

a Adjusted for diversion to South Fork tunnel.
b Diversion, in acre-feet, from South Fork Feather River to South Fork diversion tunnel.

11395400 SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°35'01", long 121°06'59", in NE 1/4 NE 1/4 sec.19, T.20 N., R.8 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 100 ft upstream from dam on Lost Creek, 1.4 mi northwest of Strawberry Valley.

DRAINAGE AREA.--24.0 mi^2.

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1966, water-stage recorder in valve chamber inside dam at same datum. Oct. 1, 1966, to December 1974, nonrecording gage read once daily.

REMARKS.--Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,000 acre-ft between elevations 3,285 ft invert of outlet, and 3,531 ft top of spillway gate, all of which is available for release. Water is diverted into reservoir from South Fork Feather River through South Fork diversion tunnel and from North Yuba River basin through Slate Creek tunnel (station 11413250). Records, including extremes, show contents at 2400 hours. See schematic diagram of South Fork Feather River basin. Reservoir completely drained Sept. 12 to Oct. 17, 1981, for powerhouse construction.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,600 acre-ft June 22, 1978, elevation, 3,530.9 ft; minimum observed under normal operating conditions since reservoir first filled, 860 acre-ft Feb. 11, 1976, elevation, 3,320.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 63,100 acre-ft June 13, elevation 3,526.7 ft; minimum, 27,100 acre-ft Oct. 14, elevation, 3,452.2 ft.

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

3,299	0	3,380	7,360
3,300	40	3,400	11,500
3,305	245	3,420	16,600
3,310	450	3,450	26,300
3,315	655	3,480	38,500
3,320	860	3,510	53,400
3,340	2,150	3,532	66,200
3,360	4,300		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32900	30300	49300	57900	53100	53400	53400	48600	58700	60400	54600	47200
2	32500	30700	49100	57800	53100	53200	52900	49700	58500	60400	54400	46700
3	31900	30700	49400	57700	53000	53000	52500	50800	58700	59800	54600	45900
4	31800	30800	49400	57600	52800	52800	52300	51800	59100	59300	54700	45200
5	31300	31000	49400	57600	52500	52500	52200	52800	59500	58800	54600	44900
6	30200	31200	49400	57500	52300	52200	51900	53500	60100	58200	54400	44900
7	28900	31400	49400	57500	52100	52000	51400	54300	60700	57500	53800	45000
8	28100	31400	49500	57400	51800	51600	51300	55100	61200	57300	53100	44600
9	27700	31100	50700	57300	52100	51200	51000	55800	61600	57200	52900	44500
10	27700	32300	53200	57500	52300	50700	50900	56500	62000	57200	53000	44600
11	27800	33400	55700	57000	52300	50400	50700	56600	62400	57000	52400	44700
12	27800	34600	56400	57000	52400	50200	50600	56400	62700	56900	52000	45000
13	27500	35700	56300	56700	53900	51800	50400	56400	63100	56700	51900	45300
14	27100	36700	55700	56400	55300	53500	50200	57000	62900	57200	51600	45400
15	27800	37500	55000	56100	55800	54400	50100	57600	62500	57600	51500	46000
16	27700	39000	54400	55600	55800	54600	50000	58000	61700	57200	51000	46700
17	27600	42400	53700	55600	55700	54900	49800	58300	61000	56600	50500	46600
18	27700	43900	52900	56000	55600	54900	49800	58600	60900	56300	50400	45500
19	27800	44800	53000	56400	55400	54700	49800	58900	61000	55700	50600	45600
20	27800	45500	53700	56400	55300	54400	49600	59400	61000	55400	50500	46100
21	27900	46000	53400	56300	55300	54100	49500	59800	61200	55000	50000	46000
22	28000	45900	53100	56100	55300	53800	49300	59900	60600	54900	49500	46400
23	28100	45800	52900	56000	55100	53700	49100	60400	60400	55000	49100	47100
24	28100	47900	54400	55800	54800	53500	48800	60700	60700	55000	48800	47400
25	28200	49100	57400	55500	54500	53400	48500	61000	60500	54900	48700	47400
26	28300	49700	57900	55200	54200	53600	48200	61000	59900	54700	48300	47400
27	28400	50100	58200	54900	53800	53900	48000	61200	59800	55100	48200	47500
28	28400	50100	57900	54600	53600	54500	47700	61500	59700	55200	48200	47600
29	28500	49900	57700	54200	53600	54800	47400	61100	59800	55200	48200	48000
30	28900	49600	58000	53800	---	54400	47700	60300	60300	55200	47700	48700
31	29500	---	58000	53400	---	53900	---	59500	---	54700	47400	---
MAX	32900	50100	58200	57900	55800	54900	53400	61500	63100	60400	54700	48700
MIN	27100	30300	49100	53400	51800	50200	47400	48600	58500	54700	47400	44500
a	3458.4	3502.8	3518.1	3509.9	3510.2	3510.9	3499.1	3520.7	3522.1	3512.2	3498.4	3501.0
b	-3700	+20100	+8400	-4600	+200	+300	-6200	+11800	+800	-5600	-7300	+13000

CAL YR 1983 b 16900
WTR YR 1984 b 15500

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

Note.--No elevation record Oct. 1-17, Oct. 26-31, Nov. 20-21 and July 19 to Aug. 6.

11395500 OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°33'15", long 121°11'31", in NW 1/4 NE 1/4 sec.33, T.20 N., R.7 E, Butte County, Hydrologic Unit 18020123, in concrete valve house at head of canal, 2.5 mi north of Clipper Mills.

PERIOD OF RECORD.-- October 1927 to September 1941 (published as Forbestown ditch), October 1953 to current year. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 3,166.0 ft National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, nonrecording gages and Oct. 1941, to Nov. 16, 1962, water-stage recorder at sites at different datums 4 mi upstream in abandoned portion of canal, 0.3 mi downstream from Lost Creek Dam.

REMARKS.--Records good. Water is discharged to canal through valve in Woodleaf penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. Demand for water reduce when a large lumber mill closed at Woodleaf in 1962. See schematic diagram of South Fork Feather River basin.

AVERAGE DISHARGE.--23 years (water years 1928-41, 1954-62, prior to closure of lumber mill), 21.0 ft^3/s, 15,200 ac-ft/yr; 22 years (water years 1963-84), 8.41 ft^3/s, 6,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s Aug. 9 to Sept. 9, 1937, Aug. 13-15, 1977; no flow at times in many years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	6.3	0	.62	.55			0	4.6	13	22	21
2	16	3.8	0	.62	.60			0	5.4	13	22	21
3	16	3.8	0	.62	.62			0	6.7	13	22	21
4	15	3.7	0	.62	.62			0	6.8	13	22	21
5	15	3.8	0	.62	.62			0	6.8	13	22	21
6	15	3.9	0	.62	.62			0	6.3	14	22	21
7	14	3.9	0	.62	.62			0	5.6	14	21	21
8	14	3.7	0	.62	.62			0	5.6	14	20	21
9	14	3.2	0	.62	.61			0	5.6	15	20	21
10	13	1.7	0	.62	0			0	5.6	16	20	21
11	11	0	0	.62	0			0	5.6	17	20	21
12	11	0	0	.62	0			0	5.6	17	20	21
13	9.6	0	0	.62	0			0	5.6	17	20	21
14	8.5	0	.39	.62	0			0	5.6	17	20	21
15	8.5	0	.62	.62	0			0	5.6	18	20	22
16	8.5	0	.62	.62	0			0	5.6	18	20	22
17	8.5	0	.62	.62	0			0	6.9	18	20	22
18	8.5	0	.62	.62	0			0	7.7	18	20	22
19	8.4	0	.62	.42	0			0	7.7	18	20	22
20	8.5	0	.62	0	0			0	7.7	18	20	22
21	8.2	0	.62	0	0			0	7.7	18	20	22
22	7.4	0	.62	0	0			0	7.7	18	20	22
23	7.4	0	.62	0	0			0	7.7	18	20	21
24	7.4	0	.62	0	.34			0	7.7	19	20	21
25	7.5	0	.62	0	.55			0	7.7	20	20	23
26	7.4	0	.62	.39	.55			.74	10	21	20	22
27	7.4	0	.62	.57	.20			2.6	13	22	20	20
28	7.3	0	.62	.55	0			2.6	13	22	20	18
29	7.3	0	.62	.55	0			3.6	13	22	20	18
30	7.3	0	.62	.57	---			4.6	13	22	20	18
31	7.3	---	.62	.55	---			4.6	---	22	20	---
TOTAL	319.9	37.8	10.93	14.76	7.12	0	0	18.74	223.1	538	633	631
MEAN	10.3	1.26	.35	.48	.25	0	0	.60	7.44	17.4	20.4	21.0
MAX	16	6.3	.62	.62	.62	0	0	4.6	13	22	22	23
MIN	7.3	0	0	0	0	0	0	0	4.6	13	20	18
AC-FT	635	75	22	29	14	0	0	37	443	1070	1260	1250

CAL YR 1983 TOTAL 1855.59 MEAN 5.08 MAX 19 MIN 0 AC-FT 3680
WTR YR 1984 TOTAL 2434.35 MEAN 6.65 MAX 23 MIN 0 AC-FT 4830

11396000 LOST CREEK NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°34'25", long 121°08'26", in SE 1/4 SW 1/4 sec.24, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.3 mi downstream from Lost Creek Reservoir, and 2.8 mi north of Clipper Mills.

DRAINAGE AREA.--30.0 mi^2.

PERIOD OF RECORD.--October 1927 to September 1941, October 1948 to current year. Records for Woodleaf powerplant from February 1963 to September 1966 in files of Geological Survey.

REVISED RECORDS.--WSP 1395: 1954. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,170 ft, from topographic map.

REMARKS.--Records good. Flow regulated by Sly Creek Reservoir 1.5 mi upstream (station 11395400) and Lost Creek Reservoir 0.3 mi upstream, usable capacity, 5,920 acre-ft with flashboards. Water is diverted into Sly Creek Reservoir through South Fork diversion tunnel from South Fork Feather River and through Slate Creek tunnel from North Yuba River basin. Woodleaf tunnel diverts from Lost Creek Reservoir to Woodleaf powerhouse. Oroville-Wyandotte Canal (station 11395500) diverts from Woodleaf penstock for irrigation and domestic use. Records represent seepage, release, or spill from Lost Creek Dam to Lost Creek. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--27 years (water years 1928-41, 1949-61, prior to regulation by Sly Creek Reservoir), 73.0 ft^3/s, 52,850 acre-ft/yr; 23 years (water years 1962-84), 25.4 ft^3/s, 18,400 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s Dec. 22, 1955, gage height, 6.90 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft^3/s Dec. 26, gage height, 4.85 ft; minimum daily, 0.81 ft^3/s several days in Aug. and Sept.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.4	1.3	545	1.1	1.3	1.1	1.2	1.3	.86	.99	.83
2	1.3	1.1	1.3	421	1.0	1.2	2.8	1.2	2.3	.86	.99	.81
3	1.3	1.1	2.9	272	.99	1.2	16	1.2	1.9	.86	1.0	.81
4	1.3	1.1	2.0	183	.99	1.2	14	1.3	1.4	.85	1.0	.83
5	1.3	1.1	1.6	119	.99	1.1	7.2	1.3	1.2	.84	1.0	.89
6	1.3	1.2	1.7	68	.99	1.1	1.1	1.4	1.3	.83	.99	1.2
7	1.2	1.2	1.8	23	.99	1.1	3.5	1.5	1.2	.86	1.0	.86
8	2.1	1.1	1.9	1.6	.99	1.1	5.4	1.6	1.1	1.4	1.5	.88
9	1.9	1.3	3.9	1.4	1.3	1.1	7.0	1.7	1.1	.96	2.0	1.6
10	4.4	3.3	6.2	1.4	1.1	1.1	5.0	1.9	1.1	.94	.93	.87
11	1.9	2.1	7.7	656	1.1	1.1	2.0	1.0	.98	.89	.93	.99
12	1.2	1.8	132	287	1.1	1.1	1.8	1.0	.89	1.0	1.6	1.6
13	.94	1.8	444	1.2	2.7	1.8	1.7	1.7	.86	1.3	1.0	.89
14	.94	1.4	329	1.2	1.8	1.9	1.6	1.7	.86	1.3	1.0	1.5
15	.94	1.2	692	1.2	2.0	2.5	1.5	1.2	.86	.86	.93	.91
16	.94	1.7	304	1.2	97	23	1.3	1.1	.86	.86	.95	.86
17	.94	3.8	274	1.2	18	1.9	1.2	1.1	1.0	1.1	1.4	.85
18	.94	1.6	264	1.2	4.1	1.7	1.3	1.0	1.3	.86	1.7	.86
19	.94	1.7	98	1.1	1.4	1.6	1.3	.93	1.1	.85	.89	1.7
20	.94	1.7	1.5	142	1.4	1.5	1.2	.93	.90	.84	.81	.88
21	.94	1.5	1.4	347	1.9	1.4	1.1	.93	.86	.89	.81	.94
22	.94	1.4	1.3	312	1.6	1.4	1.1	.93	.89	1.6	.83	1.3
23	1.0	1.5	1.5	302	1.5	1.3	1.1	.93	1.2	1.0	.95	.86
24	1.0	4.7	5.1	184	1.5	1.3	1.2	.93	.93	.86	1.5	.83
25	1.0	2.3	334	1.1	1.4	1.3	1.4	.93	.89	.86	.87	.86
26	1.0	1.8	1410	1.1	1.4	1.2	1.7	.93	1.1	.84	1.1	.86
27	1.0	1.6	1170	1.1	1.3	1.2	1.5	.93	1.4	.86	1.5	.93
28	1.0	1.5	817	1.1	1.3	1.2	1.2	.93	1.2	.86	.83	1.3
29	1.1	1.4	407	1.1	1.7	1.1	1.1	.93	4.6	1.0	.81	1.6
30	1.4	1.3	458	1.1	---	1.1	1.0	.93	1.1	.93	.87	.97
31	1.4	---	657	1.1	---	1.2	---	.95	---	.98	.88	---
TOTAL	39.80	51.7	7833.1	3881.4	154.64	63.3	90.4	36.21	37.68	29.80	33.56	31.07
MEAN	1.28	1.72	253	125	5.33	2.04	3.01	1.17	1.26	.96	1.08	1.04
MAX	4.4	4.7	1410	656	97	23	16	1.9	4.6	1.6	2.0	1.7
MIN	.94	1.1	1.3	1.1	.99	1.1	1.0	.93	.86	.83	.81	.81
AC-FT	79	103	15540	7700	307	126	179	72	75	59	67	62
a	12170	16080	32900	25790	29950	31100	31410	10780	11760	19880	20790	20690

CAL YR 1983 TOTAL 29928.85 MEAN 82.0 MAX 2250 MIN .78 AC-FT 59360
WTR YR 1984 TOTAL 12282.66 MEAN 33.6 MAX 1410 MIN .81 AC-FT 24360

a 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 SE 1/4 NE 1/4 sec.32, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 500 ft downstream from Forbestown Dam, 0.4 mi upstream from Oroleve Creek, and 4.0 mi northeast of Forbestown.

DRAINAGE AREA.--87.5 mi^2.

PERIOD OF RECORD.--July 1962 to current year. Records for Forbestown powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Water-stage recorder. Altitude of gage is 1,690 ft, 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 above station diverts most flow through Forbestown powerplant except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--22 years, 67.9 ft^3/s, 49,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft^3/s Jan. 31, 1963, gage height, 13.85 ft in gage well, 15.3 ft from floodmarks; minimum daily, 0.6 ft^3/s Apr. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,020 ft^3/s Dec. 25, gage height, 10.44 ft; minimum daily, 5.5 ft^3/s Jan. 19-22.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	31	784	5.7	18	5.9	65	12	11	12	11
2	11	9.4	39	602	5.7	6.6	5.7	66	11	11	12	11
3	11	5.7	118	432	5.7	5.8	5.7	27	11	11	12	11
4	11	5.7	120	317	5.7	5.7	5.9	7.9	11	11	11	11
5	11	5.7	95	236	5.7	5.7	5.9	11	30	11	11	11
6	11	5.7	82	175	5.7	5.7	5.9	11	58	11	11	12
7	11	5.7	92	142	5.7	5.7	5.9	43	48	11	11	12
8	11	5.7	106	113	5.7	5.7	6.0	48	11	11	11	12
9	11	5.7	163	107	5.9	5.7	5.9	40	11	11	12	12
10	11	6.1	360	130	5.9	5.7	6.0	25	11	11	11	12
11	11	6.0	496	288	5.8	5.7	5.9	11	11	11	12	12
12	11	6.3	416	396	5.8	5.8	5.9	11	11	11	12	12
13	11	5.8	494	44	128	50	6.9	11	11	12	12	12
14	11	5.8	428	5.6	75	82	8.9	11	11	12	12	12
15	11	5.8	358	5.6	71	136	5.7	11	12	12	12	12
16	11	6.0	399	9.0	97	61	5.7	11	12	12	12	11
17	11	6.1	346	37	82	95	7.5	11	11	12	12	11
18	11	5.9	330	28	53	72	5.7	11	11	12	12	11
19	11	6.0	197	5.5	44	20	5.7	11	12	12	11	11
20	11	6.0	91	5.5	30	5.6	5.7	11	11	12	12	11
21	11	5.9	42	5.5	80	5.6	5.7	11	23	12	12	11
22	11	5.9	51	5.5	69	11	5.7	11	11	12	12	11
23	11	5.9	101	5.6	52	5.8	5.7	11	11	12	12	11
24	11	235	307	13	58	5.9	5.7	11	11	12	11	11
25	12	179	1580	5.6	51	5.9	5.7	11	11	12	11	12
26	25	117	1970	5.6	46	5.7	5.7	11	11	12	12	12
27	25	89	1570	5.6	27	5.8	5.7	11	11	12	11	11
28	28	76	1110	5.6	13	11	5.7	11	11	11	11	11
29	25	69	715	5.6	20	17	5.7	11	11	12	11	11
30	46	35	742	5.6	---	5.9	21	12	11	12	11	11
31	56	---	950	5.7	---	5.9	---	12	---	11	11	---
TOTAL	481	943.8	13899	3931.1	1065.0	688.9	194.7	576.9	449	358	358	342
MEAN	15.5	31.5	448	127	36.7	22.2	6.49	18.6	15.0	11.5	11.5	11.4
MAX	56	235	1970	784	128	136	21	66	58	12	12	12
MIN	11	5.7	31	5.5	5.7	5.6	5.7	7.9	11	11	11	11
AC-FT	954	1870	27570	7800	2110	1370	386	1140	891	710	710	678
a	12760	19090	37110	31520	34120	36660	34840	11980	12420	20810	20770	21270

CAL YR 1983 TOTAL 78783.4 MEAN 216 MAX 4440 MIN 5.4 AC-FT 156300
WTR YR 1984 TOTAL 23287.4 MEAN 63.6 MAX 1970 MIN 5.5 AC-FT 46190

a Diversion, in acre-feet, to Forbestown powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396310 MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'00", long 121°18'20", in SE 1/4 NW 1/4 sec.33, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, on right bank 800 ft downstream from Ponderosa Dam, and 3 mi northwest of Forbestown.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 975 ft, 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.--22 years, 205 ft^3/s, 148,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 314 ft^3/s May 13, 1984; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	207	239	241	240	243	243	249	292	279	286	266
2	267	145	246	241	240	243	243	249	297	280	287	268
3	268	69	245	243	240	242	243	66	306	282	288	270
4	268	73	245	243	0	243	241	0	306	149	287	270
5	270	72	246	241	240	244	240	0	299	258	287	270
6	275	71	247	240	172	242	242	0	236	278	286	269
7	275	107	247	242	.92	239	243	170	178	283	286	270
8	276	68	247	243	78	240	243	284	47	285	287	270
9	279	162	248	243	233	241	243	245	0	285	287	270
10	278	250	246	244	242	242	243	183	110	289	288	270
11	273	263	247	243	243	242	243	279	182	293	289	124
12	270	249	244	242	244	242	243	304	266	294	233	0
13	270	238	240	241	245	242	243	314	248	293	286	0
14	271	243	241	241	243	243	243	312	244	294	288	0
15	100	250	243	243	241	241	245	305	278	294	288	163
16	26	246	244	242	240	238	247	292	260	293	288	269
17	38	242	244	240	240	238	247	285	265	293	288	269
18	53	237	244	239	239	239	246	283	294	292	289	272
19	81	239	244	230	238	239	244	284	287	291	289	274
20	92	238	248	202	239	239	242	285	278	289	290	274
21	81	236	249	242	240	239	242	287	278	288	289	274
22	61	236	245	255	240	240	242	287	277	273	287	274
23	68	238	245	256	239	241	242	286	277	282	287	274
24	67	242	236	254	240	242	244	288	278	285	287	274
25	65	241	225	247	240	242	245	290	275	292	284	271
26	63	241	229	240	239	242	246	289	277	289	287	269
27	81	241	234	240	239	243	246	292	274	284	287	272
28	74	240	238	240	240	243	251	294	278	286	287	273
29	36	192	240	240	240	243	229	294	281	289	287	275
30	53	230	242	240	---	243	225	292	281	289	287	275
31	113	---	241	240	---	243	---	291	---	287	276	---
TOTAL	4956	6008	7523	7478	6254.92	7483	7279	7579	7449	8738	8842	7069
MEAN	160	200	243	241	216	241	243	244	248	282	285	236
MAX	279	263	249	256	245	244	251	314	306	294	290	275
MIN	26	68	225	202	0	238	225	0	0	149	233	0
AC-FT	9830	11920	14920	14830	12410	14840	14440	15030	14780	17330	17540	14020
a	8530	11560	15030	15050	13650	15060	14480	12640	12550	14630	14870	12330

CAL YR 1983 TOTAL 82148 MEAN 225 MAX 298 MIN 0 AC-FT 162900
WTR YR 1984 TOTAL 86658.92 MEAN 237 MAX 314 MIN 0 AC-FT 171900

a 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 NE 1/4 SW 1/4 sec.18, T.19 N., R.5 E., Butte County, Hydrologic Unit 18020124, on left bank 400 ft downstream from outlet at Miners Ranch Dam, and 5 mi east of Oroville.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 815 ft, from topographic map.

REMARKS.--Records good. Flow regulated by Miners Ranch Reservoir, capacity, 912 acre-ft. Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--21 years, 14.7 ft^3/s, 10,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft^3/s Aug. 17-20, 1963; no flow for several days in 1965, 1969.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.5	4.4	4.7	1.9	1.4	1.6	4.4	19	21	23	21
2	10	7.4	4.4	4.4	1.9	1.4	2.0	4.4	20	20	23	21
3	11	7.4	4.4	4.1	1.9	1.4	3.2	4.7	21	20	23	20
4	10	7.5	4.4	4.2	1.9	1.5	3.3	4.6	22	20	23	19
5	10	7.5	4.4	3.4	1.7	1.6	2.8	4.4	22	20	23	19
6	10	7.5	4.4	2.6	1.6	1.6	2.8	4.4	21	20	23	19
7	10	7.5	4.4	2.6	1.6	1.6	2.8	4.4	19	20	23	19
8	10	7.5	4.4	2.6	1.6	1.6	2.8	6.6	18	20	23	19
9	10	7.3	4.6	2.6	1.6	1.6	2.8	8.4	18	20	23	19
10	9.0	7.3	4.7	2.6	1.5	1.6	2.8	7.7	18	20	23	19
11	7.8	7.5	4.7	2.6	1.4	1.6	2.8	11	19	20	23	18
12	8.6	7.5	4.7	2.6	1.4	1.6	2.8	15	17	21	23	18
13	9.6	7.5	4.7	2.6	1.5	1.6	2.8	15	16	21	23	17
14	9.6	7.5	4.7	2.6	1.5	1.6	2.8	15	15	23	23	17
15	9.6	7.5	4.7	2.6	1.6	1.6	2.8	16	16	23	24	17
16	9.6	7.6	4.7	2.6	1.6	1.6	2.8	13	15	23	24	17
17	9.6	6.2	4.7	2.6	1.6	1.6	3.0	12	15	24	23	17
18	9.4	4.7	4.7	2.6	1.6	1.6	3.0	12	16	24	24	17
19	9.4	4.7	4.7	2.6	1.5	1.6	3.0	13	17	24	24	17
20	9.1	4.8	4.7	2.0	1.5	1.6	3.0	14	18	24	24	16
21	9.2	4.7	4.7	.98	1.6	1.6	3.0	14	18	24	24	16
22	9.3	4.7	4.5	.98	1.5	1.6	2.9	14	18	24	24	16
23	9.4	4.7	4.4	.98	1.4	1.6	3.0	14	18	24	24	16
24	9.4	4.9	4.6	.98	1.4	1.6	3.0	14	18	24	23	16
25	9.2	4.9	4.7	.98	1.4	1.6	3.0	14	18	24	23	15
26	9.1	4.9	4.4	.98	1.4	1.6	2.9	15	18	24	23	15
27	9.0	4.9	4.6	.97	1.4	1.6	2.9	16	18	24	24	14
28	9.1	4.9	4.4	1.3	1.4	1.6	3.8	16	18	24	24	13
29	8.8	4.6	4.4	1.6	1.4	1.6	4.6	16	18	24	24	13
30	8.9	4.4	4.6	1.6	---	1.6	4.5	16	20	24	23	13
31	8.9	---	4.7	1.6	---	1.6	---	17	---	23	22	---
TOTAL	293.6	188.5	141.5	72.15	45.3	48.9	89.3	356.0	544	691	723	513
MEAN	9.47	6.28	4.56	2.33	1.56	1.58	2.98	11.5	18.1	22.3	23.3	17.1
MAX	11	8.5	4.7	4.7	1.9	1.6	4.6	17	22	24	24	21
MIN	7.8	4.4	4.4	.97	1.4	1.4	1.6	4.4	15	20	22	13
AC-FT	582	374	281	143	90	97	177	706	1080	1370	1430	1020

CAL YR 1983 TOTAL 3438.6 MEAN 9.42 MAX 21 MIN 2.0 AC-FT 6820
WTR YR 1984 TOTAL 3706.25 MEAN 10.1 MAX 24 MIN .97 AC-FT 7350

11396350 SOUTH FORK FEATHER RIVER AT PONDEROSA DAM, CA

LOCATION.--Lat 39°32'52", long 121°18'11", in NW 1/4 SE 1/4 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 upstream from Sucker Run, and 2.6 mi northwest of Forbestown.

DRAINAGE AREA.--108 mi^2.

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

GAGE.--Water-stage recorder, high level sluice gate, and concrete spillway of Ponderosa Dam. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District). Prior to Oct. 1, 1967, at site 1,800 ft downstream at different datum.

REMARKS.--Records good. Records are combined flow through sluice gate and flow over spillway. There was no flow through sluice gate during 1984 water year. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek tunnel (station 11413250). Miners Ranch Canal (static 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).--22 years, 479 ft^3/s, 347,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s Dec. 22, 1964, gage height, 11.52 ft in gage well, 12.7 ft outside from floodmarks, site and datum then in use; no flow for several months most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,860 ft^3/s Dec. 25; no flow many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393	0	415	1390	378	447	388	0	462	0	0	31
2	393	0	442	1170	399	437	377	0	0	385	0	89
3	393	0	588	984	366	437	360	0	0	373	0	140
4	393	0	628	847	366	431	366	0	0	520	0	143
5	393	0	541	739	350	426	366	0	0	370	0	81
6	389	0	505	653	407	426	350	0	0	225	135	104
7	381	0	523	610	647	437	350	0	0	0	212	114
8	42	0	554	548	587	437	377	0	0	0	209	94
9	0	0	646	529	410	437	360	0	0	0	233	96
10	0	0	1050	500	415	415	382	0	0	0	147	123
11	0	252	1360	496	377	388	366	0	0	0	99	281
12	0	21	1130	939	382	344	344	0	0	0	164	392
13	0	0	1070	487	535	493	339	0	0	0	138	412
14	0	0	976	410	647	573	350	0	0	0	134	418
15	0	0	814	399	580	659	319	0	0	0	100	278
16	0	0	925	415	592	548	329	0	0	0	92	105
17	0	272	840	230	610	610	334	0	0	342	101	126
18	0	175	817	0	523	561	334	0	0	366	150	135
19	0	405	692	0	505	284	366	0	0	362	53	177
20	0	442	511	0	481	368	360	0	0	204	113	115
21	0	431	343	16	573	431	366	0	0	0	93	125
22	0	389	350	136	541	410	339	0	0	0	109	117
23	0	382	519	130	517	431	344	0	0	0	74	113
24	0	797	977	185	517	415	355	0	0	0	117	118
25	0	729	2680	415	511	431	339	0	0	0	90	142
26	0	573	3320	388	511	426	324	0	0	0	85	123
27	0	517	2670	382	368	421	339	0	0	0	97	58
28	0	493	1900	377	453	415	351	0	0	0	111	26
29	0	540	1410	388	275	415	213	629	0	0	101	0
30	0	470	1360	382	---	393	0	1040	0	0	108	0
31	0	---	1570	388	---	399	---	851	---	0	124	---
TOTAL	2777	6888	32126	14533	13823	13745	10087	2520	462	3147	3189	4276
MEAN	89.6	230	1036	469	477	443	336	81.3	15.4	102	103	143
MAX	393	797	3320	1390	647	659	388	1040	462	520	233	418
MIN	0	0	343	0	275	284	0	0	0	0	0	0
AC-FT	5510	13660	63720	28830	27420	27260	20010	5000	916	6240	6330	8480
MEAN a	249	430	1279	710	692	685	579	326	264	383	388	378
AC-FT a	15340	25580	78640	43660	39830	42100	34450	20030	15700	23570	23870	22500

CAL YR 1983 TOTAL 252032 MEAN 690 MAX 6750 MIN 0 AC-FT 499900 MEAN a 915 AC-FT a 662800
WTR YR 1984 TOTAL 107573 MEAN 294 MAX 3320 MIN 0 AC-FT 213400 MEAN a 531 AC-FT a 385300

a Adjusted for diversion to Miners Ranch Canal.

11396400 SUCKER RUN NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'12", long 121°18'04", in NW 1/4 NE 1/4 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 upstream from confluence with South Fork Feather River, and 2.8 mi northwest of Forbestown.

DRAINAGE AREA.--18.7 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 960 ft, from topographic map.

REMARKS.--Records good. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--19 years, 28.8 ft^3/s, 20,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft^3/s Apr. 11, 1982, gage height, 9.90 ft, from floodmarks, from rating curve extended above 750 ft^3/s on basis of slope-area measurement of maximum flow; minimum daily, 0.40 ft^3/s Oct. 7, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 7.4 ft from floodmarks, discharge, 2,190 ft^3/s from rating curve extended above 600 ft^3/s on basis of computation of maximum flow over rock control.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2400	341	3.74	Dec. 11	1630	435	4.04
Nov. 17	0845	400	3.93	Dec. 25	1530	*1,010	5.46
Nov. 24	1400	561	4.40				

Minimum daily, 5.6 ft^3/s Sept. 18, 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	21	32	110	34	45	42	36	18	12	7.7	7.5
2	11	15	35	95	33	44	40	35	18	12	7.6	7.1
3	11	13	111	85	32	43	39	31	18	11	7.6	6.8
4	10	12	69	78	31	41	38	30	20	11	7.7	6.5
5	9.8	12	49	72	31	40	37	29	20	11	7.4	6.5
6	9.5	14	50	66	31	40	36	28	22	11	7.3	6.4
7	9.2	16	52	62	31	39	35	27	25	10	7.3	6.3
8	9.2	13	57	59	30	38	40	26	20	10	7.3	6.0
9	9.2	17	101	56	44	37	36	26	19	10	7.2	6.1
10	9.2	95	173	55	39	37	44	26	18	10	7.2	6.1
11	9.2	115	267	52	34	36	39	25	18	9.8	7.2	6.0
12	8.9	47	142	51	42	36	36	25	18	9.6	7.0	6.0
13	8.9	51	93	49	116	81	34	24	18	9.4	7.0	5.9
14	9.3	33	76	48	76	75	33	25	17	9.2	6.7	5.9
15	9.7	24	64	47	90	97	32	26	17	9.4	6.6	5.9
16	9.8	37	62	57	92	74	32	25	16	9.7	6.9	5.9
17	10	183	68	47	68	76	31	23	16	9.6	6.7	5.7
18	10	48	55	45	58	63	37	23	15	9.8	6.4	5.6
19	9.9	53	52	44	53	57	45	23	15	9.1	6.3	5.7
20	9.7	58	52	43	52	53	40	22	15	9.1	6.3	6.1
21	9.5	40	48	43	84	50	35	22	15	9.3	6.3	6.0
22	9.5	32	46	42	64	48	33	22	14	9.1	6.2	5.7
23	10	33	60	41	56	46	32	22	14	9.4	6.1	5.8
24	11	216	304	40	60	45	31	21	14	9.3	6.0	5.9
25	10	90	659	39	56	44	30	21	14	9.1	6.1	5.8
26	10	54	305	38	52	43	30	20	13	9.1	6.3	5.8
27	9.8	44	303	37	49	41	30	20	13	8.7	6.2	5.7
28	9.8	40	175	36	47	40	29	19	13	8.6	6.3	5.7
29	10	36	131	35	46	40	29	19	12	8.4	6.2	5.6
30	17	34	189	35	---	39	28	18	12	8.2	7.9	6.5
31	24	---	135	34	---	44	---	18	---	8.0	8.9	---
TOTAL	325.1	1496	4015	1641	1531	1532	1053	757	497	299.9	213.9	182.5
MEAN	10.5	49.9	130	52.9	52.8	49.4	35.1	24.4	16.6	9.67	6.90	6.08
MAX	24	216	659	110	116	97	45	36	25	12	8.9	7.5
MIN	8.9	12	32	34	30	36	28	18	12	8.0	6.0	5.6
AC-FT	645	2970	7960	3250	3040	3040	2090	1500	986	595	424	362

CAL YR 1983 TOTAL 28519.7 MEAN 78.1 MAX 745 MIN 7.5 AC-FT 56570
WTR YR 1984 TOTAL 13543.4 MEAN 37.0 MAX 659 MIN 5.6 AC-FT 26860

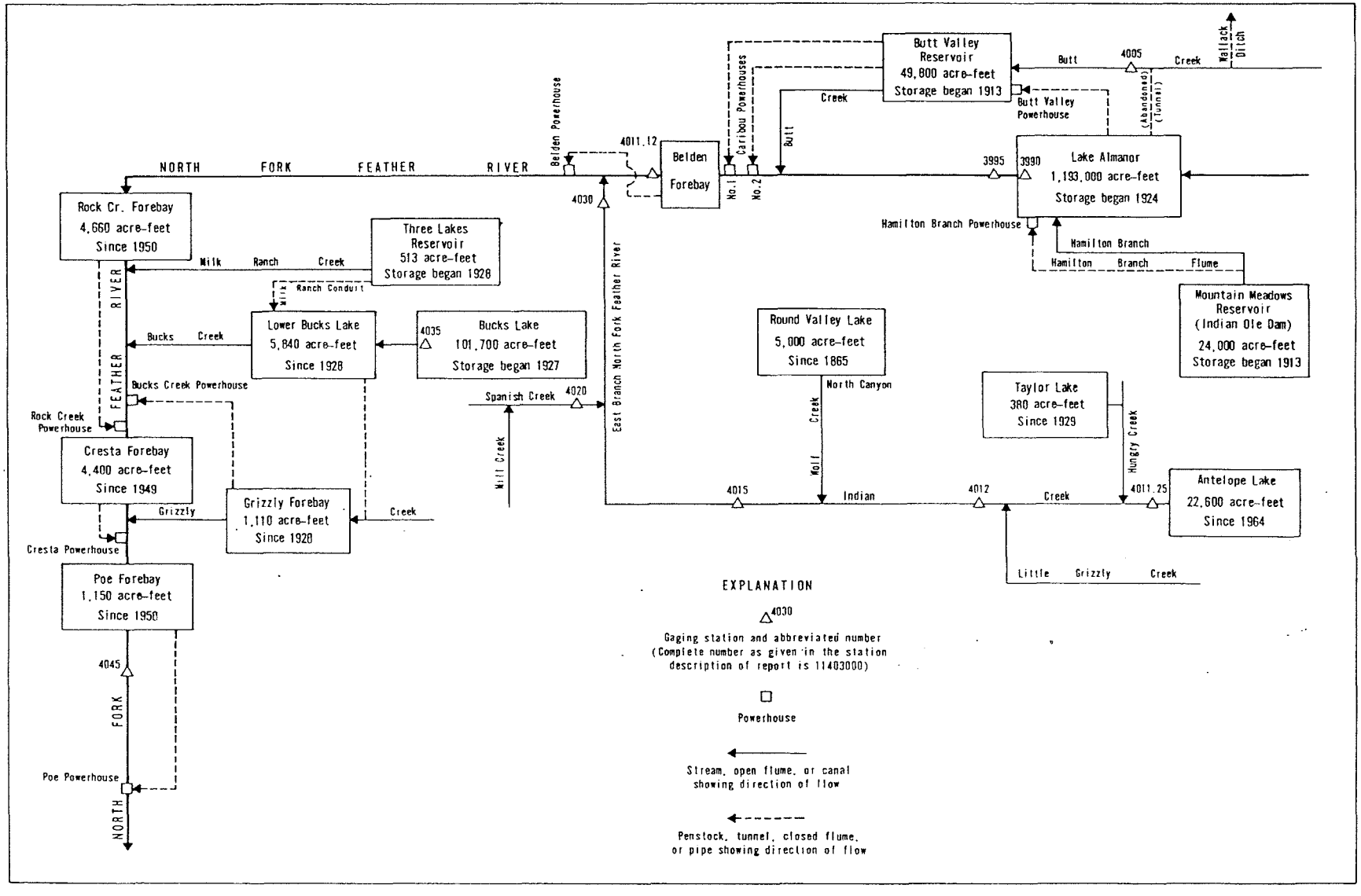

FIGURE 7. -- Schematic diagram showing diversions and storage in North Fork Feather River basin.

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.--Lat 40°12'50", long 121°09'40", in SW 1/4 NE 1/4 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 northwest of Lake Almanor Dam, and 5.6 mi northwest of Canyondam.

DRAINAGE AREA.--491 mi^2.

PERIOD OF RECORD.--July 1913 to current year. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-60. Prior to October 1964, records published as usable contents.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Nonrecording gage monitored once daily. Datum of gage is 10.23 ft 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 southeast at same datum.

REMARKS.--Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and 4,515 ft in 1927. Capacity, 1,184,000 acre-ft between gage heights 4,495.5 ft, upper storage limit and 4,422 ft, bottom of lowest outlet, of which 8,950 acre-ft 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). Records 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, 1,143,000 acre-ft June 8, 1982, gage height, 4,494.00 ft; minimum, 5,230 acre-ft Feb. 5, 1918, gage height, 4,416.1 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 1,108,180 acre-ft May 26, gage height, 4,492.71 ft; minimum, 895,300 acre-ft Feb. 12, gage height, 4,483.47 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	957730	953170	982250	968420	913440	919180	1006260	1078530	1105770	1080400	1023170	972760
2	956210	954940	981220	967400	910700	920680	1008340	1081200	1107380	1079070	1021350	971480
3	954180	956210	982760	965870	908210	922690	1010670	1084390	1107380	1077470	1019780	970460
4	952410	956720	980960	965110	905720	924440	1012750	1087590	1107110	1076140	1017960	969950
5	950380	956460	979170	963830	903480	925690	1014830	1087320	1106310	1074280	1015870	967400
6	948610	956970	977370	962560	901000	927950	1017700	1087320	1107380	1072420	1014310	965620
7	947090	956720	975580	960780	899260	929710	1019780	1087050	1107380	1070300	1012750	963830
8	944820	956210	974040	959510	897780	931720	1023170	1087050	1107110	1068700	1011190	961800
9	942800	956970	974550	957730	898270	933730	1025530	1087050	1105500	1067110	1009630	960020
10	941030	966130	974300	955700	897280	935490	1028140	1087850	1104700	1065260	1007040	957480
11	939270	970210	976090	954690	896040	937500	1030500	1088920	1103090	1063140	1007040	955700
12	937000	974840	974550	953170	895300	939520	1032850	1090790	1101750	1061290	1006520	953670
13	935490	979680	973270	951650	897530	946080	1034950	1091590	1100940	1059420	1005220	951650
14	933230	982250	971480	949620	898020	952410	1037310	1093990	1099340	1057320	1003150	949620
15	930960	984300	970210	948610	900010	955960	1039670	1096930	1098530	1056000	1001080	947850
16	928950	988160	968930	947090	901000	960780	1042300	1099340	1096130	1053890	999010	946080
17	927200	991770	967400	945580	902740	964340	1044670	1100410	1094790	1052040	997200	944060
18	925940	991000	965620	942800	903730	967400	1048350	1102020	1092650	1050460	995130	942290
19	927450	991770	964090	940780	905220	970460	1050730	1103890	1090520	1048880	993060	941030
20	928950	991260	962310	938260	906710	973530	1053100	1105770	1089450	1046510	991260	939770
21	930460	990230	959760	935990	906460	976350	1055210	1107380	1088120	1044670	989450	937250
22	931970	989460	957480	933730	906220	978910	1057320	1107650	1087590	1042300	986880	935490
23	934730	988420	958490	931720	906220	981990	1059700	1107920	1087590	1040460	984820	932970
24	935990	991770	958750	930460	908210	985080	1062610	1107920	1087050	1039410	982500	931720
25	937500	991260	962560	928950	910200	987650	1064990	1107920	1085720	1037840	982250	930710
26	939270	989970	966130	927700	911940	990740	1066850	1108180	1084660	1036000	981730	928450
27	940530	988680	967400	924940	913190	993580	1069240	1107380	1083860	1033900	979170	926700
28	942290	987130	967150	922690	915440	996940	1071090	1107110	1082790	1031800	977630	925440
29	945070	985590	966890	920180	917180	999010	1072950	1106840	1081990	1029970	976600	925690
30	947850	983790	968170	917680	---	1001010	1075610	1106310	1081200	1028400	976350	923440
31	950380	---	968420	915930	---	1004190	---	1105500	---	1025790	974550	---
MAX	957730	991770	982760	968420	917180	1004190	1075610	1108180	1107380	1080400	1023170	972760
MIN	925940	953170	957480	915930	895300	919180	1006260	1078530	1081200	1025790	974550	923440
a	4486.67	4487.98	4487.38	4485.30	4485.35	4488.77	4491.49	4492.61	4491.70	4489.60	4487.62	4485.60
b	-9640	+33400	-15400	-52500	+1250	+87000	+71400	+29900	-24300	-55400	-51200	-51100

CAL YR 1983 b +52500
WTR YR 1984 b -36600

a Gage-height, in feet, at end of month.
b Change in contents, in acre-feet, rounded to USGS standards.

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.--Lat 40°10'10", long 121°05'29", in NE 1/4 SW 1/4 sec.28, T.27 N., R.8 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.5 mi downstream from Almanor Dam, 4.5 mi southeast of Prattville, and 9 mi upstream from Butt Creek.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--June 1905 to current year (daily discharges for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). Records for water year 1911 incomplete, yearly estimate published in WSP 1315-A. Published as "below Prattville" prior to 1911. Supplemental records for Almanor-Butt Creek tunnel diversion computed November 1924 to Dec. 30, 1958, as difference of flow between Butt Creek above Almanor-Butt Creek tunnel (unpublished prior to 1936 and since 1964), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and 1960-64).

REVISED RECORDS.--WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries).

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 4,390.09 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within 0.5 mi of present site at various datums.

REMARKS.--Flow regulated by Lake Almanor (station 11399000) 0.5 mi upstream and Mountain Meadows Reservoir since 1924, capacity, 24,000 acre-ft. 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 change in contents in Lake Almanor and for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel at Outlet. Prior to 1984 adjusted for diversion through Butt Valley powerhouse and flows from Almanor-Butt tunnel at Outlet).--79 years, 917 ft^3/s, 664,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft^3/s Mar. 19, 1907, before construction of dam, gage height, 16.2 ft at former site, from rating curve extended above 3,700 ft^3/s; no flow at times during 1914, 1919, 1923.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 747 ft^3/s June 22; minimum daily discharge, 14 ft^3/s several days during February and March.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	38	37	37	36	14	37	35	36	492	242	36
2	36	38	37	37	36	14	37	35	36	493	35	36
3	36	38	37	36	36	14	37	35	273	493	35	36
4	36	38	37	36	37	14	37	35	507	492	35	36
5	36	38	37	36	37	14	37	35	506	492	35	36
6	36	38	37	36	37	14	38	35	507	492	34	35
7	36	38	37	36	34	14	38	36	507	491	34	35
8	36	38	37	36	31	14	38	36	508	490	35	35
9	36	38	37	36	31	14	38	36	506	489	35	35
10	36	39	37	36	31	14	38	35	505	488	35	35
11	35	38	37	36	31	14	38	35	505	487	35	35
12	35	39	37	36	31	14	33	35	505	487	35	35
13	36	39	37	36	35	15	35	35	504	486	35	35
14	36	39	37	36	38	18	35	36	504	485	35	35
15	37	40	37	36	38	22	35	35	503	487	35	35
16	37	40	37	36	38	22	35	35	503	485	35	35
17	37	40	37	35	38	22	36	36	502	484	35	35
18	37	39	36	35	38	22	36	36	501	483	35	35
19	37	37	36	36	38	22	36	36	501	483	35	35
20	37	37	36	37	38	22	36	36	500	483	35	35
21	37	37	36	37	38	22	36	36	620	482	36	35
22	37	37	36	37	38	22	36	36	747	481	36	35
23	37	37	36	36	38	31	36	36	689	480	36	35
24	34	38	36	36	30	37	36	36	688	479	30	35
25	24	37	37	36	15	37	36	36	688	479	36	35
26	15	37	37	36	15	35	36	36	688	478	36	35
27	15	37	37	36	15	37	36	36	687	477	36	35
28	23	37	37	36	15	37	35	36	688	475	36	35
29	38	37	37	36	14	37	35	36	586	475	36	35
30	38	37	37	36	---	37	35	36	492	475	36	35
31	38	---	37	36	---	37	---	36	---	474	36	---
TOTAL	1060	1140	1140	1119	927	702	1087	1104	15492	15017	1295	1055
MEAN	34.2	38.0	36.8	36.1	32.0	22.6	36.2	35.6	516	484	41.8	35.2
MAX	38	40	37	37	38	37	38	36	747	493	242	36
MIN	15	37	36	35	14	14	33	35	36	474	30	35
AC-FT	2100	2260	2260	2220	1840	1390	2160	2190	30730	29790	2570	2090
MEAN a	905	1692	1871	1280	1116	1447	1247	1643	1110	696	534	546
AC-FT a	55660	100700	115100	78710	64170	89000	74200	101000	66080	42810	32820	32460

CAL YR 1983	TOTAL	21239	MEAN	58.2	MAX	803	MIN	15	AC-FT	42130	MEAN a	1776	AC-FT a	1286000
WTR YR 1984	TOTAL	41138	MEAN	112	MAX	747	MIN	14	AC-FT	81600	MEAN a	1174	AC-FT a	852600

a Adjusted for change in contents in Lake Almanor and for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel at Outlet.

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA

LOCATION.--Lat 40°11'12", long 121°11'11", in NW 1/4 NW 1/4 sec.22, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, on right bank 400 ft downstream from outlet of old tunnel from Lake Almanor to Butt Creek, and 2.2 mi southwest of Prattville.

DRAINAGE AREA.--69.3 mi^2.

PERIOD OF RECORD.--October 1936 to September 1959, October 1964 to current year. Published as "below tunnel No. 1" 1938-40. Records for water years 1937-38 published in WSP 1515.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,400 ft, from topographic map. Prior to Oct. 5, 1937, at site 200 ft downstream at datum 4 ft lower.

REMARKS.--No regulation above station. Howell-Bunger valve in conduit from Lake Almanor to Butt Valley powerhouse is opened for short periods several times a year causing sharp peaks. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin. Leakage from Almanor-Butt Creek tunnel No. 1 at outlet was 7,780 acre-ft during the current year. See schematic diagram of North Fork Feather River basin.

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

AVERAGE DISCHARGE (adjusted for leakage from Almanor-Butt Creek tunnel No. 1 at Outlet since 1965).--48 years (including records for station 11400000 Butt Creek above Almanor-Butt Creek tunnel, near Prattville for water years 1937-64), 85.1 ft^3/s, 61,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft^3/s Dec. 23, 1964, gage height, 5.87 ft, from rating curve extended above 1,400 ft^3/s; minimum daily discharge, 26 ft^3/s several days during May and June 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 717 ft^3/s Dec. 25, gage height, 2.50 ft; minimum daily discharge, 53 ft^3/s several days during August and September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	91	117	245	92	105	154	145	95	65	57	57
2	69	81	121	213	91	117	146	161	91	65	56	56
3	68	72	118	192	90	116	142	166	88	64	57	55
4	66	72	108	180	90	112	143	164	96	64	56	55
5	66	70	102	175	91	111	141	154	96	64	56	55
6	66	81	103	167	90	112	144	146	114	63	56	55
7	66	90	125	159	89	117	138	142	127	62	56	55
8	66	74	133	151	89	122	167	143	100	62	55	54
9	66	76	180	145	109	127	149	149	92	62	54	54
10	66	183	218	140	107	131	155	151	87	62	54	54
11	65	273	180	135	97	133	147	165	86	60	54	55
12	65	166	153	130	98	133	139	168	85	60	54	54
13	66	162	145	125	160	264	137	169	87	59	54	55
14	66	125	169	122	186	372	139	168	85	59	54	55
15	65	106	203	118	142	291	146	155	80	58	55	55
16	65	116	181	116	140	242	153	140	78	59	54	55
17	65	248	190	115	125	214	154	134	76	60	53	53
18	65	168	163	121	118	199	164	129	76	62	53	53
19	65	151	149	114	115	195	162	125	74	60	53	54
20	65	173	138	109	113	201	148	125	71	60	53	58
21	65	123	127	105	123	213	139	123	69	60	53	55
22	65	106	120	102	114	191	140	120	68	59	53	55
23	71	102	115	99	108	184	146	119	68	60	53	55
24	70	247	139	98	107	188	146	117	66	62	53	54
25	66	208	462	98	104	188	141	111	66	60	53	55
26	66	141	543	95	100	197	137	109	66	59	54	55
27	66	121	359	93	100	194	132	106	65	59	54	55
28	65	113	283	93	100	180	128	104	65	57	53	55
29	65	106	235	93	100	174	126	103	65	57	53	54
30	87	103	363	92	---	164	126	101	65	57	59	54
31	86	---	316	92	---	163	---	98	---	57	67	---
TOTAL	2092	3948	6058	4032	3188	5450	4329	4210	2447	1877	1699	1644
MEAN	67.5	132	195	130	110	176	144	136	81.6	60.5	54.8	54.8
MAX	87	273	543	245	186	372	167	169	127	65	67	58
MIN	65	70	102	92	89	105	126	98	65	57	53	53
AC-FT	4150	7830	12020	8000	6320	10810	8590	8350	4850	3720	3370	3260

CAL YR 1983	TOTAL	67540	MEAN 185	MAX 835	MIN 58	AC-FT	134000	MEAN a	175	AC-FT a	126400	
WTR YR 1984	TOTAL	40974	MEAN 112	MAX 543	MIN 53	AC-FT	81270	MEAN a	101	AC-FT a	73490	

a Adjusted for leakage from Almanor-Butt Creek tunnel No. 1 at Outlet.

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA

LOCATION.--Lat 40°04'18", long 121°09'46", in SE 1/4 SW 1/4 sec.26, T.26 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.2 mi downstream from Belden Dam, 0.4 mi upstream from Deadwood Canyon, and 6.2 mi northeast of Belden.

DRAINAGE AREA.--612 mi^2.

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 National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Belden Reservoir 0.2 mi upstream, Lake Almanor (station 11399000), Butt Valley Reservoir (station 11401050), and Mountain Meadows Reservoir, combined capacity, 1,267,000 acre-ft. 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 (adjusted for diversion to Belden powerhouse).--15 years, 1,192 ft^3/s, 863,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft^3/s Nov. 18, 1974, gage height, 8.89 ft; minimum daily discharge, 2.3 ft^3/s Oct. 25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,010 ft^3/s Dec. 25, gage height, 6.23 ft; minimum daily discharge, 15 ft^3/s Oct. 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	50	61	240	69	109	60	140	140	142	142	141
2	61	60	61	61	61	110	60	139	137	141	142	140
3	30	61	61	61	61	123	61	140	138	141	142	138
4	15	61	61	60	61	100	61	139	137	141	141	93
5	33	61	61	60	60	97	61	140	136	142	141	62
6	64	60	60	61	60	143	60	141	140	141	141	62
7	62	60	61	60	60	98	60	140	142	141	142	60
8	63	60	61	61	61	95	60	140	142	141	142	60
9	63	61	61	60	61	95	60	141	143	141	141	60
10	61	60	61	60	60	97	60	140	142	141	141	60
11	61	60	60	61	62	99	60	140	142	142	142	61
12	62	61	61	60	61	99	60	140	142	141	142	61
13	63	61	148	60	61	172	60	140	141	141	141	61
14	62	61	402	61	61	329	60	140	142	142	142	60
15	62	60	393	61	61	113	61	140	142	141	142	60
16	62	60	392	61	61	61	60	138	141	141	141	61
17	62	62	392	60	60	60	60	135	141	141	142	60
18	63	69	390	60	61	61	60	135	141	141	141	60
19	62	60	75	60	60	60	60	135	141	141	141	60
20	365	60	61	60	61	61	60	138	141	141	142	59
21	130	60	61	60	61	60	60	151	141	142	141	59
22	32	61	61	60	64	61	60	145	142	142	142	60
23	38	61	61	61	100	61	60	142	142	141	141	60
24	35	61	61	61	124	61	60	140	142	141	142	60
25	31	60	520	60	119	61	60	140	142	142	141	60
26	31	61	748	61	109	61	60	141	141	142	142	59
27	31	61	556	60	109	61	134	141	142	141	142	60
28	31	61	472	60	109	61	140	141	142	142	137	60
29	31	61	451	60	109	61	140	139	142	141	134	60
30	32	61	465	60	---	61	140	139	141	141	146	60
31	35	---	486	60	---	61	---	140	---	141	153	---
TOTAL	1894	1816	6925	2051	2127	2852	2118	4340	4228	4380	4392	2077
MEAN	61.1	60.5	223	66.2	73.3	92.0	70.6	140	141	141	142	69.2
MAX	365	69	748	240	124	329	140	151	143	142	153	141
MIN	15	50	60	60	60	60	60	135	136	141	134	59
AC-FT	3760	3600	13740	4070	4220	5660	4200	8610	8390	8690	8710	4120
MEAN a	1190	1355	2388	2223	1232	278	644	837	1668	1686	1471	1482
AC-FT a	73170	80630	146800	136700	70880	17120	38330	51460	99260	103600	90450	88160

CAL YR 1983 TOTAL 71967 MEAN 197 MAX 1370 MIN 15 AC-FT 142700 MEAN a 1963 AC-FT a 1421000
WTR YR 1984 TOTAL 39200 MEAN 107 MAX 748 MIN 15 AC-FT 77750 MEAN a 1373 AC-FT a 996600

a Adjusted for diversion through Belden Powerhouse.

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA

LOCATION (REVISED).--Lat 40°04'41", long 120°55'37", in SW 1/4 SW 1/4 sec.25, T.26 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on left bank 0.7 mi upstream from Dixie Creek, and 1.5 mi south of Crescent Mills.

DRAINAGE AREA.--739 mi^2.

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, from topographic map. Prior to March 1918, nonrecording gage at site 800 ft upstream at different datum.

REMARKS.--Records good. Natural flow affected by storage in Round Valley Reservoir since 1865, capacity 5,000 acre-ft, Taylor Lake since 1929, capacity, 380 acre-ft, and Antelope Lake since November 1963, capacity, 22,500 acre-ft. Diversions above station for irrigation of about 11,800 acres of which 9,700 acres are in Indian and Genesee Valleys. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--63 years (water years 1907-9, 1912-17, 1931-84), 565 ft^3/s, 409,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 25,000 ft^3/s Mar. 19, 1907, gage height, 20.2 ft site and datum then in use; minimum daily, 0.90 ft^3/s July 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0715	2,880	7.47	Dec. 26	2230	*6,340	10.24
Nov. 17	1700	3,460	8.00	Feb. 13	2345	1,700	6.04
Nov. 24	2015	5,030	9.31	Mar. 14	0615	3,670	8.19
Dec. 11	2115	3,080	7.66				

Minimum daily, 37 ft^3/s Aug. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	481	938	3150	534	735	1250	741	448	104	56	64
2	168	392	1060	2370	515	850	1170	801	410	102	57	59
3	161	254	1300	2000	494	1010	1100	832	396	94	53	56
4	152	208	1250	1790	489	995	1070	881	382	94	50	54
5	153	186	1050	1670	488	932	1060	876	394	117	49	58
6	145	181	1050	1550	485	942	1040	850	433	167	52	58
7	139	197	1020	1430	478	993	1010	826	559	185	51	56
8	130	176	1040	1350	476	1070	1160	818	532	183	50	55
9	136	176	1500	1250	530	1120	1190	869	440	181	46	56
10	135	449	2410	1160	580	1110	1120	916	382	181	40	48
11	134	2330	2590	1110	530	1110	1140	971	352	174	44	42
12	135	1300	2400	1030	532	1090	1070	1030	330	171	40	42
13	136	1470	1830	969	977	1580	1020	1080	319	172	39	46
14	136	1020	1750	873	1390	3380	1100	1090	307	136	42	53
15	133	737	2020	849	1260	2970	1140	1050	299	106	44	52
16	136	750	1860	837	1370	2600	1220	955	271	104	43	53
17	138	2560	2110	751	1120	2360	1270	866	254	95	45	54
18	138	2380	1800	697	985	2120	1270	813	228	82	48	55
19	131	1400	1570	720	911	1940	1240	785	193	77	46	56
20	126	1690	1390	682	861	1910	1150	785	182	77	45	64
21	121	1230	1180	708	1110	1970	1050	790	176	72	43	66
22	124	948	1050	677	1010	1810	1010	753	171	55	47	63
23	145	823	982	648	931	1680	1020	733	179	66	40	61
24	183	2580	1350	636	913	1650	1030	729	168	93	37	61
25	176	4260	3680	639	871	1620	987	686	155	95	41	60
26	161	2350	6080	625	790	1640	959	648	146	85	43	60
27	152	1510	5870	581	763	1680	942	604	138	86	43	53
28	150	1220	4350	571	760	1540	907	583	127	76	47	53
29	149	1030	3040	559	718	1480	852	553	116	71	49	56
30	218	932	3450	548	---	1370	806	511	106	72	54	66
31	339	---	4040	541	---	1310	---	481	---	63	70	---
TOTAL	4747	35220	67010	32971	22871	48567	32353	24906	8593	3436	1454	1680
MEAN	153	1174	2162	1064	789	1567	1078	803	286	111	46.9	56.0
MAX	339	4260	6080	3150	1390	3380	1270	1090	559	185	70	66
MIN	121	176	938	541	476	735	806	481	106	55	37	42
AC-FT	9420	69860	132900	65400	45360	96330	64170	49400	17040	6820	2880	3330

CAL YR 1983 TOTAL 586717 MEAN 1607 MAX 12800 MIN 85 AC-FT 1164000
WTR YR 1984 TOTAL 283808 MEAN 775 MAX 6080 MIN 37 AC-FT 562900

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION (REVISED).--Lat 40°00'10", long 120°57'13", in SE 1/4 NE 1/4 sec.27, T.25 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on right bank 200 ft upstream from Blackhawk Creek, and 0.9 mi southeast of Keddie.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--October 1933 to current year. Prior to October 1953 published as "at Keddie." Records for October 1911 to September 1933 at site 1.2 mi downstream not equivalent owing to inflow.

REVISED RECORDS.--WSP 1041: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 3,129.86 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated above station (from information furnished by U.S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--51 years, 279 ft^3/s, 202,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft^3/s Dec. 22, 1964, gage height, 13.53 ft, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurement at gage height 12.47 ft; minimum, 3.8 ft^3/s Aug. 12, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0145	3,210	6.63	Dec. 25	2000	*8,000	9.96
Nov. 17	1000	3,690	7.03	Feb. 13	1900	2,360	5.87
Nov. 24	1545	4,880	7.97	Mar. 13	1930	2,250	5.76
Dec. 11	1900	3,170	6.60				

Minimum daily, 23 ft^3/s Aug. 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	276	288	1180	204	320	377	274	174	67	41	46
2	98	186	309	945	199	357	349	315	164	68	40	42
3	84	129	645	790	196	369	330	314	158	66	39	42
4	78	113	556	678	194	349	326	325	164	68	39	45
5	75	105	403	619	192	325	319	305	169	63	41	42
6	74	103	397	568	190	312	315	291	190	62	35	42
7	77	114	450	525	187	307	306	280	227	59	36	44
8	73	102	486	489	186	316	413	289	183	57	33	41
9	73	109	1030	452	244	327	353	310	164	57	35	42
10	72	729	1820	426	278	327	377	324	145	56	34	40
11	71	1530	2340	400	232	328	379	341	140	55	40	38
12	70	739	1590	374	230	319	350	343	137	50	39	41
13	70	892	933	356	1010	989	341	341	132	46	36	38
14	72	550	772	332	1040	1540	340	348	129	47	32	40
15	71	337	747	320	768	1490	367	336	127	46	23	40
16	71	391	701	317	882	1170	397	285	119	46	31	33
17	71	2080	781	294	612	1040	395	267	114	45	33	34
18	69	1090	622	277	502	861	400	254	99	50	35	35
19	69	630	532	272	437	785	407	239	94	52	33	40
20	69	764	463	262	404	786	363	258	94	54	36	46
21	69	514	407	266	649	799	335	261	95	56	26	50
22	69	381	370	256	538	669	325	248	96	54	28	48
23	81	328	367	245	458	593	336	255	86	54	31	46
24	84	2240	1490	237	438	560	347	258	84	59	29	46
25	74	1420	5720	234	409	543	331	241	81	56	24	44
26	72	706	4270	227	367	532	309	235	78	47	29	43
27	71	495	2640	219	346	515	293	225	77	48	32	44
28	73	399	1720	216	333	464	278	209	72	45	31	44
29	73	341	1260	213	322	443	269	203	69	41	35	44
30	130	301	1920	210	---	408	269	198	67	43	37	45
31	199	---	1610	207	---	398	---	185	---	37	53	---
TOTAL	2498	18094	37639	12406	12047	18541	10296	8557	3728	1654	1066	1265
MEAN	80.6	603	1214	400	415	598	343	276	124	53.4	34.4	42.2
MAX	199	2240	5720	1180	1040	1540	413	348	227	68	53	50
MIN	69	102	288	207	186	307	269	185	67	37	23	33
AC-FT	4950	35890	74660	24610	23900	36780	20420	16970	7390	3280	2110	2510

CAL YR 1983 TOTAL 257679 MEAN 706 MAX 6330 MIN 51 AC-FT 511100
WTR YR 1984 TOTAL 127791 MEAN 349 MAX 5720 MIN 23 AC-FT 253500

11403500 BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'45", long 121°12'10", in NW 1/4 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 northwest of Bucks Lodge, and 15 mi west of Quincy.

DRAINAGE AREA.--28.6 mi^2.

PERIOD OF RECORD.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to current year. Prior to October 1954, published as Bucks Creek Reservoir near Bucks Ranch.

GAGE.--Water-stage recorder and nonrecording gage monitored once daily. Datum of gage is 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 between elevations 5,064.75 ft, sill of outlet gate and 5,154.85 ft, 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. Records represent total contents at 2400 hours, of which 274 acre-ft 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 (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 106,720 acre-ft June 8-10, 1982, elevation, 5,157.6 ft; minimum, 12,330 acre-ft Feb. 27, 1929, elevation, 5,090.7 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 94,898 acre-ft June 26, elevation, 5,151.1 ft; minimum, 53,861 acre-ft Sept. 30, elevation, 5,125.9 ft.

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

5,064.75	274	5,075	2,400	5,100	21,180	5,125	52,545
5,066	388	5,080	4,744	5,105	26,642	5,130	59,997
5,068	635	5,085	7,921	5,110	32,519	5,140	75,894
5,070	977	5,090	11,742	5,115	38,794	5,150	92,950
5,072	1,438	5,095	16,183	5,120	45,472	5,160	111,223

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77217	66686	71325	83257	79883	77383	74089	76886	90319	93481	80889	67003
2	76886	66369	71163	83767	79716	77052	73926	77383	90319	93304	80386	66527
3	76390	65895	71487	84277	79548	76556	73763	77715	90319	92774	79883	66053
4	75894	65424	71325	84791	79047	76390	73436	78214	90668	92247	79381	65424
5	75566	65109	70679	85475	79047	76059	73273	78714	90843	91719	78880	64952
6	75073	64794	70518	85475	78880	75894	72947	79047	91544	91368	78361	64481
7	74580	64637	70679	85475	78714	75566	72621	79548	92247	91017	77881	64169
8	74089	64013	70357	85818	78214	75237	72947	80051	92423	91192	77383	63545
9	73600	63857	70840	85647	78048	74909	72621	80554	92774	91017	77052	63077
10	73110	66210	71649	85818	77881	74580	72621	81058	92950	90494	76556	62613
11	72621	66686	72297	85647	77548	74745	72459	81733	93127	89970	75894	62304
12	72297	67637	72784	85647	77217	73926	72135	82408	93304	89273	75401	61839
13	71811	68434	72621	85304	77881	75237	71811	82917	93658	88752	74909	61377
14	71649	68594	72947	84791	77715	75566	71649	83767	93835	88579	74580	60917
15	71487	68434	72784	84619	78048	75894	71649	84277	93835	88579	73926	60457
16	70518	68594	72784	84619	78547	75730	71487	85133	93835	88406	73439	59997
17	70036	69875	72784	84277	78381	75730	71487	85647	93835	87885	72947	59541
18	69392	70197	72947	83937	78381	75566	72135	85989	94012	87367	72459	59086
19	68913	70518	72947	83767	78880	75401	72621	86506	94012	86851	72135	58630
20	68753	70840	72947	83597	79047	74909	72947	87023	94189	86506	71487	58177
21	68114	70518	72621	83257	79213	75073	73273	87540	94366	85989	71001	57726
22	67637	70197	72135	83087	79213	74909	73437	87885	94366	85304	70518	57274
23	67161	69875	71811	82747	79213	74909	73926	88579	94543	84791	70197	56824
24	67003	71325	72784	82577	79213	74909	74580	88059	94720	84277	69714	56526
25	67003	72297	76225	82408	78880	75073	75073	88579	94720	83767	69714	56079
26	67003	72135	78214	82071	78547	74909	75073	88926	94898	83427	69553	55632
27	67161	71973	79047	81902	78547	74745	75237	89273	94543	83087	68913	55188
28	67161	71811	79883	81395	78048	74745	75730	89621	94543	82747	68434	54745
29	66844	71649	80386	81227	77715	74580	76059	89621	93481	82408	68114	54302
30	66686	71487	81902	80889	---	74252	76225	89970	93481	81902	67795	53861
31	66527	---	82747	80218	---	74252	---	90144	---	81395	67478	---
MAX	77217	72297	82747	85818	79883	77383	76225	90144	94898	93481	80889	67003
MIN	66527	63857	70357	80218	77217	73926	71487	76886	90319	81395	67478	53861
a	5134.2	5137.3	5144.1	5142.6	5141.1	5139.0	5140.2	5148.4	5150.3	5143.3	5134.8	5125.9
b	-11020	+4960	+11260	-2530	-2500	-3460	+1970	+13920	+3340	-12090	-13920	-13620

CAL YR 1983 b -23700
WTR YR 1984 b +28200

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet, rounded to USGS standards.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA

LOCATION.--Lat 39°47'39", long 121°27'03", in SW 1/4 NE 1/4 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 downstream from Flea Valley Creek and Pulga, and 1.5 mi downstream from Poe Dam.

DRAINAGE AREA.--1,953 mi^2.

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 1315-A. 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, National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1937, at site 1.1 mi upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

REMARKS.--Flow regulated by Lake Almanor (station 11399000), Bucks Lake (station 11403500), Mountain Meadows Reservoir, Butt Valley Reservoir (station 11401050), and five forebays, combined capacity, 1,386,000 acre-ft. Diversion through Poe powerhouse began on May 29, 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 through Poe powerhouse).--74 years, 3,026 ft^3/s, 2,192,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (prior to diversion to Poe powerhouse).--Maximum discharge, 72,400 ft^3/s Dec. 23, 1955, gage height, 35.60 ft present datum, from rating curve extended above 34,000 ft^3/s; minimum daily discharge, 235 ft^3/s Oct. 31, 1932.
1958 to current year: Maximum discharge, 73,000 ft^3/s Dec. 22, 1964, gage height, 35.80 ft, from rating curve extended above 34,000 ft^3/s; minimum daily discharge, 5.4 ft^3/s Sept. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39,300 ft^3/s Dec. 25, gage height, 26.85 ft; minimum daily discharge, 50 ft^3/s Nov. 8.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	60	429	6730	64	83	78	72	61	58	57	58
2	55	56	932	5060	64	80	77	72	71	58	57	58
3	54	54	1590	4090	63	77	75	69	57	58	57	59
4	56	53	1790	3590	62	77	73	67	57	63	59	57
5	56	53	1120	3330	66	74	71	65	56	58	56	58
6	54	57	1130	2730	63	75	231	65	61	57	63	58
7	56	55	1720	2520	61	74	71	65	82	57	57	57
8	54	50	1830	2240	68	83	81	65	57	57	56	58
9	56	57	3950	1980	76	73	72	66	62	57	57	59
10	56	3670	8110	1760	84	70	83	66	57	56	57	58
11	54	6740	8960	1740	63	71	83	65	59	60	59	59
12	54	2790	7400	1390	68	71	77	61	61	62	57	58
13	57	2300	4700	1240	600	1010	74	60	57	58	60	57
14	54	537	4370	1070	1640	5390	72	60	56	57	57	56
15	55	94	4420	957	680	4620	72	60	56	56	56	59
16	54	74	3960	929	836	3440	72	60	58	57	60	58
17	55	5090	4190	792	336	2330	73	60	93	64	58	57
18	55	5130	3490	640	102	1860	77	58	56	58	58	57
19	56	2610	2610	594	93	1370	81	58	58	56	58	58
20	54	2740	2110	573	88	1210	83	60	57	59	57	56
21	57	1930	1710	525	109	1250	75	56	56	58	57	57
22	54	1120	1380	529	95	899	72	56	59	57	66	57
23	55	781	1280	1420	89	607	71	56	57	56	57	58
24	52	6090	3900	2000	96	553	69	57	56	56	59	57
25	55	7700	19900	2030	92	388	68	57	59	58	67	56
26	55	3750	18200	1190	87	357	68	55	58	57	57	56
27	56	2240	13500	69	85	491	67	55	62	61	57	57
28	56	1660	9690	67	83	307	66	57	159	57	63	58
29	56	789	7250	56	119	166	65	57	55	57	56	58
30	66	377	9080	65	---	88	65	91	55	60	63	60
31	65	---	8640	64	---	83	---	74	---	56	61	---
TOTAL	1723	58707	163341	51970	6032	27327	2362	1945	1908	1799	1819	1729
MEAN	55.6	1957	5269	1676	208	882	78.7	62.7	63.6	58.0	58.7	57.6
MAX	66	7700	19900	6730	1640	5390	231	91	159	64	67	60
MIN	51	50	29	56	61	70	65	55	55	56	56	56
AC-FT	3420	116400	324000	103100	11960	54200	4690	3860	3780	3570	3610	3430
MEAN a	1872	4998	9130	5422	3666	4259	3233	3036	2710	2307	1999	1950
AC-FT a	115100	297400	561400	333400	210900	261900	192400	186700	161300	141900	122900	116000

CAL YR 1983 TOTAL 1148134 MEAN 3146 MAX 27000 MIN 49 AC-FT 2277000 MEAN a 6500 AC-FT 4706000
WTR YR 1984 TOTAL 320662 MEAN 876 MAX 19900 MIN 50 AC-FT 636000 MEAN a 3721 AC-FT 2701000

a Adjusted for diversion through Poe Powerhouse.

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA

LOCATION.--Lat 39°47'12", long 121°33'42", in SE 1/4 SE 1/4 sec.6, T.22 N., R.4 E., Butte County, Hydrologic Unit 18020121, on right bank 0.6 mi upstream from Griffin Gulch, and 4.0 mi northeast of Paradise.

DRAINAGE AREA.--110 mi^2.

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, from topographic map. Prior to June 1, 1970, on left bank at same datum.

REMARKS.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin for power development at DeSabla and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts about 50 ft^3/s to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir, usable capacity, 5,000 acre-ft and Philbrook Reservoir, capacity, 5,010 acre-ft.

AVERAGE DISCHARGE.--27 years, 325 ft^3/s, 235,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,300 ft^3/s Dec. 22, 1964, gage height, 26.2 ft from floodmarks, from rating curve extended above 14,000 ft^3/s; minimum daily discharge, 0.29 ft^3/s Aug. 24, 1977.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage-height (ft)
Nov. 10	0015	2,270	8.79	Dec. 25	1615	*10,400	16.34
Nov. 24	0015	2,430	9.00	Dec. 30	1015	3,140	9.83
Dec. 11	1630	3,370	10.08	Mar. 15	Peak above base may have occurred on this day		

Minimum daily discharge, 1.2 ft^3/s several days during September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	146	239	1250	170	289	413	315	68	4.0	2.7	37
2	45	220	391	1060	157	316	380	490	58	3.2	2.9	27
3	33	150	779	927	148	316	350	368	54	2.7	2.8	25
4	28	100	556	933	147	291	320	365	69	2.5	3.1	22
5	26	72	357	943	146	286	282	290	89	1.8	3.1	21
6	26	52	422	886	143	251	280	261	144	1.7	3.2	19
7	21	66	778	794	138	217	261	249	419	1.4	3.1	19
8	5.6	38	919	721	133	219	427	263	145	5.7	2.3	9.9
9	3.7	35	1640	655	292	217	342	294	106	5.5	1.9	1.7
10	2.5	2260	2730	599	281	212	408	288	84	5.0	1.7	1.5
11	2.4	1660	2970	554	191	211	379	257	71	5.8	2.5	1.5
12	2.1	861	1660	513	212	203	319	250	60	4.7	3.1	1.4
13	2.0	703	1160	476	1250	1200	306	265	68	4.3	3.1	1.4
14	1.9	374	1170	439	940	1550	309	301	53	4.2	3.0	1.4
15	1.9	221	1120	413	749	1700	335	286	42	4.0	2.5	1.4
16	1.8	272	933	402	721	1280	346	202	41	4.0	3.1	1.3
17	1.8	1780	917	357	569	1050	321	179	33	4.2	3.3	1.2
18	1.8	749	719	325	493	920	371	141	27	11	3.2	1.2
19	1.7	627	612	309	445	800	371	162	24	4.3	3.2	1.2
20	1.7	664	538	285	415	695	316	193	20	4.0	3.2	1.2
21	1.7	379	461	279	523	620	301	194	20	3.7	3.2	1.2
22	1.7	238	403	264	448	570	314	176	17	3.4	3.2	1.2
23	4.7	206	438	255	394	535	324	180	14	3.4	3.0	1.2
24	6.5	2430	1780	238	399	510	315	168	14	3.5	2.0	1.2
25	2.3	1160	7300	236	367	485	270	139	13	3.6	2.0	1.2
26	2.0	635	4470	221	340	460	241	141	10	3.6	1.9	1.2
27	1.8	456	3030	202	328	445	224	124	7.4	3.5	1.9	1.2
28	1.8	353	1940	192	309	433	212	126	6.6	3.6	17	1.2
29	1.8	275	1540	188	291	418	210	118	5.5	2.9	19	1.2
30	46	227	2390	183	---	405	217	92	4.7	2.9	37	1.2
31	153	---	1660	179	---	430	---	87	---	3.1	77	---
TOTAL	476.2	17409	46022	15278	11139	17534	9464	6964	1787.2	121.2	224.2	208.3
MEAN	15.4	580	1485	493	384	566	315	225	59.6	3.91	7.23	6.94
MAX	153	2430	7300	1250	1250	1700	427	490	419	11	77	37
MIN	1.7	35	239	179	133	203	210	87	4.7	1.4	1.7	1.2
AC-FT	945	34530	91280	30300	22090	34780	18770	13810	3540	240	445	413

CAL YR 1983 TOTAL 278152.1 MEAN 762 MAX 8250 MIN 1.7 AC-FT 551700
WTR YR 1984 TOTAL 126627.1 MEAN 346 MAX 7300 MIN 1.2 AC-FT 251200

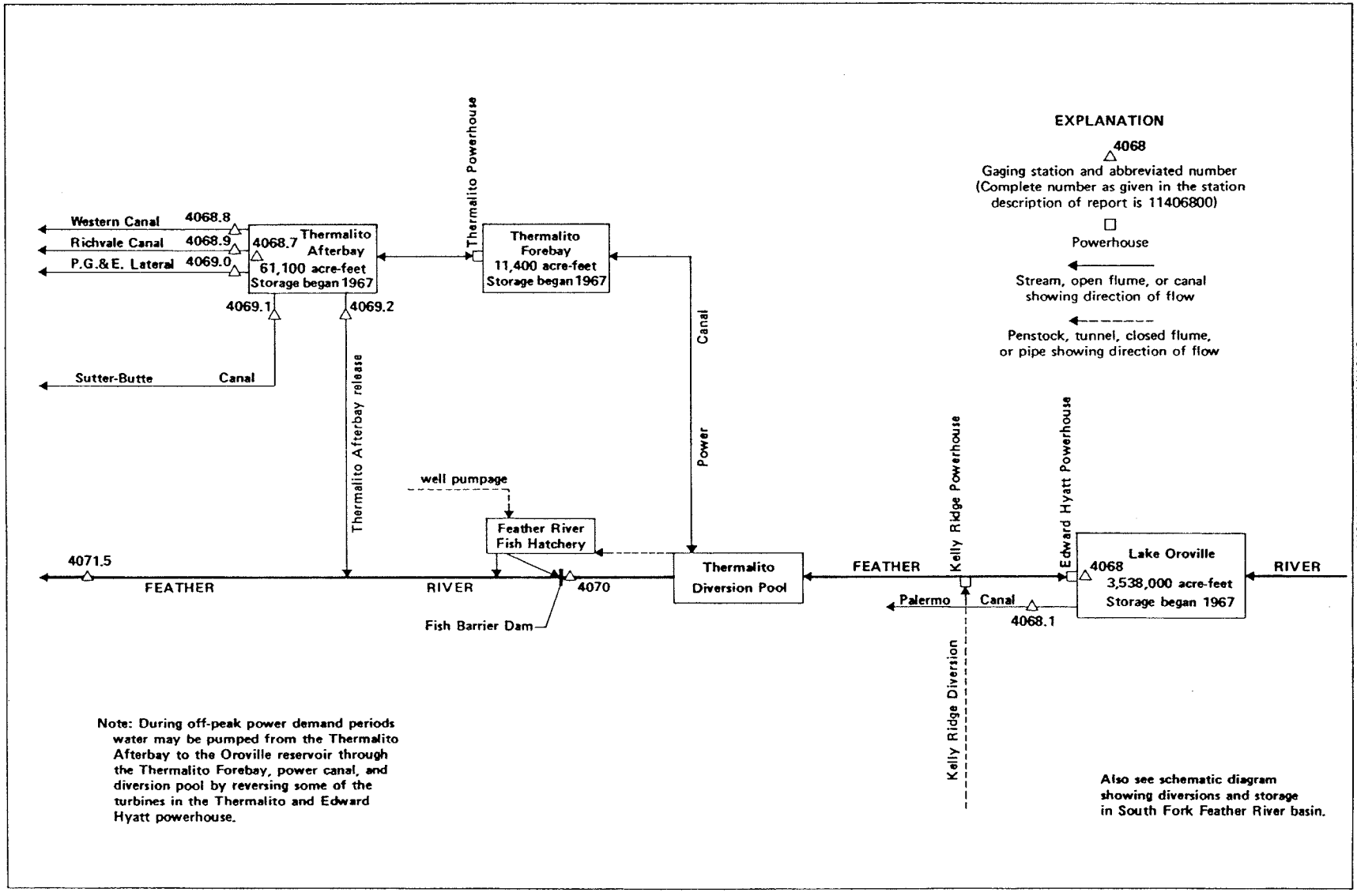

FIGURE 8. — Schematic diagram showing diversions and storage from Feather River at Lake Oroville.

11406800 LAKE OROVILLE NEAR OROVILLE, CA

LOCATION.--Lat 39°32'06", long 121°28'25", in NE 1/4 SW 1/4 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 downstream from North Fork Feather River, and 4.2 mi east of Oroville.
DRAINAGE AREA.--3,607 mi^2.
PERIOD OF RECORD.--November 1967 to current year.
GAGE.--Water-stage recorder. Datum of gage is 0.47 ft 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 between elevations 640.0 ft minimum power pool, and 900.0 ft normal maximum pool. Dead storage, 852,192 acre-ft. Total capacity at normal maximum pool, 3,537,577 acre-ft; temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft 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 June 4, 1973, gage height, 899.88 ft; minimum since initial storage began, 882,395 acre-ft Sept. 7, 1977, gage height, 645.11 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,377,907 acre-ft June 10, gage height 889.73 ft; minimum, 2,526,094 acre-ft Sept. 29, gage height, 828.18 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2816941	2730778	2825284	2821514	2757172	2888271	3107443	3321667	3362031	3227608	2856655	2628600
2	2817479	2729200	2814657	2819630	2759292	2886493	3111479	3324085	3365385	3212687	2847164	2627190
3	2813179	2729463	2813716	2820976	2761279	2883349	3120138	3327110	3371336	3199579	2838506	2629113
4	2807543	2728149	2808213	2819092	2766982	2881027	3125342	3329076	3369812	3190617	2828248	2617723
5	2807006	2729989	2798836	2816269	2767248	2877887	3130697	3324690	3372253	3177281	2820709	2614402
6	2801379	2736833	2791216	2816135	2764196	2872705	3136928	3332861	3374086	3162817	2811031	2614402
7	2794155	2737360	2786144	2816404	2770568	2874614	3145783	3327866	3374544	3148545	2798969	2604202
8	2790548	2736438	2782944	2818689	2775354	2877887	3159026	3322272	3372558	3138089	2792018	2599621
9	2786410	2735911	2788946	2816404	2780545	2871888	3163838	3318043	3368589	3123318	2782677	2601911
10	2782677	2757701	2814791	2813313	2791082	2872024	3172893	3322272	3377907	3109893	2774290	2598985
11	2776685	2791616	2830810	2809287	2806336	2877069	3181527	3320912	3370115	3097659	2769107	2593903
12	2768841	2813851	2831620	2804460	2822322	2884032	3190324	3321365	3366452	3084026	2765655	2588320
13	2766319	2841345	2824610	2798167	2838911	2898407	3194288	3330287	3373780	3071150	2755054	2582619
14	2758761	2857063	2828922	2791483	2851365	2929794	3200609	3329228	3368131	3054183	2744877	2574527
15	2761809	2863041	2833374	2784143	2864944	2955854	3215933	3328320	3360050	3041962	2735253	2571244
16	2767779	2869163	2838236	2777217	2879935	2975087	3222136	3324690	3360507	3029635	2726835	2572002
17	2761809	2901837	2843509	2768576	2894843	2996513	3229384	3325597	3353200	3017484	2717910	2565696
18	2761411	2900876	2844321	2758364	2900602	3013676	3238273	3326807	3345145	3014240	2712147	2557640
19	2762604	2908568	2842156	2750953	2904995	3021861	3249265	3333467	3337407	3005508	2710576	2548850
20	2763267	2912557	2837695	2749499	2903347	3031192	3258793	3341199	3331953	2993846	2700776	2541082
21	2755054	2907606	2830406	2749764	2910081	3040685	3269088	3336346	3326505	2979559	2692562	2535329
22	2754260	2898133	2821514	2750160	2909668	3049347	3281652	3336043	3317892	2968806	2685796	2533455
23	2754524	2885809	2812776	2750160	2909393	3056602	3283450	3337862	3310802	2957662	2677485	2537579
24	2746065	2900739	2825957	2750028	2902386	3063727	3294852	3344841	3305077	2944745	2668149	2535329
25	2740128	2890598	2906919	2749896	2897036	3070007	3303121	3347879	3294251	2931367	2660387	2532331
26	2732752	2877887	2929379	2750028	2894980	3071007	3308089	3348183	3281353	2916274	2656254	2532581
27	2731962	2868619	2925651	2749499	2888134	3073722	3312762	3356395	3271030	2902249	2647357	2529835
28	2730384	2859235	2900465	2749367	2888955	3080445	3314421	3358375	3254920	2887998	2643624	2526842
29	2731831	2849322	2866849	2752540	2887450	3084886	3321818	3354873	3245103	2884169	2639509	2526094
30	2735779	2837695	2850009	2753334	---	3086462	3321365	3365842	3234121	2870525	2636425	2529336
31	2731831	---	2830810	2754127	---	3092201	---	3363555	---	2860730	2633088	---
MAX	2817479	2912557	2929379	2821514	2910081	3092201	3321818	3365842	3377907	3227608	2856655	2629113
MIN	2730384	2728149	2782944	2749367	2757172	2871888	3107443	3318043	3234121	2860730	2633088	2526094
a	844.24	852.18	851.67	845.93	855.84	870.45	888.01	888.79	880.18	853.88	836.64	828.44
b	-86455	+105864	-6885	-76683	+133323	+204751	+229164	+42190	-129434	-373391	-227642	-103752
c	4821	1031	384	1290	1342	3568	4349	8191	9623	11310	9735	8308

CAL YR 1983 b +22060
WTR YR 1984 b -288950

a Gage-height, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.

11406810 PALERMO CANAL NEAR OROVILLE, CA

LOCATION.--Lat 39°31'59", long 121°28'54", in SW 1/4 SW 1/4 sec.1, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020106, on right bank 50 ft downstream from Oroville Dam, and 4.4 mi 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 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 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.--19 years, 11.3 ft^3/s, 8,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft^3/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 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	9.1	1.1	1.2	1.2	1.3	2.3	8.3	19	19	15	20
2	15	6.5	1.1	1.2	1.2	1.3	2.3	9.1	19	19	15	20
3	15	5.5	1.1	1.2	1.2	1.3	2.3	10	19	19	15	20
4	15	4.4	1.1	1.2	1.2	1.3	2.3	10	19	19	15	20
5	15	4.4	1.1	1.2	1.2	1.3	2.3	10	19	19	16	20
6	15	4.4	1.1	1.2	1.2	1.3	2.3	10	19	19	20	20
7	15	4.4	1.1	1.2	1.2	1.3	2.3	12	19	19	20	20
8	15	4.4	1.1	1.2	1.2	1.3	2.3	16	19	17	21	20
9	14	4.4	1.1	1.2	1.2	1.3	2.3	17	19	13	21	20
10	13	4.4	1.1	1.2	1.2	1.3	2.3	17	19	13	21	20
11	13	4.4	1.1	1.2	1.3	1.3	2.3	17	19	13	21	20
12	13	4.4	1.1	1.2	1.3	1.2	2.3	17	19	13	21	20
13	13	4.4	1.1	1.2	1.3	1.2	2.3	17	19	13	21	20
14	13	4.4	1.1	1.2	1.3	1.2	2.3	18	19	13	21	20
15	13	4.4	1.1	1.2	1.3	1.2	2.3	19	19	15	21	20
16	13	4.4	1.1	1.2	1.3	1.2	2.3	19	19	20	21	20
17	13	2.2	1.1	1.2	1.3	1.2	3.6	19	19	20	21	20
18	13	1.2	1.1	1.2	1.3	1.2	4.3	17	19	20	21	20
19	13	1.2	1.0	1.2	1.3	1.2	4.3	15	19	20	21	20
20	13	1.1	1.0	1.2	1.3	1.2	4.3	15	19	20	21	20
21	13	1.1	1.2	1.1	1.3	1.2	4.3	15	20	20	21	20
22	13	1.1	1.2	1.2	1.3	1.2	4.3	16	20	20	21	20
23	13	1.1	1.2	1.2	1.3	1.2	4.3	19	20	20	21	20
24	13	1.1	1.2	1.2	1.3	1.2	4.3	19	20	19	21	20
25	13	1.1	1.3	1.2	1.3	1.2	4.3	20	20	19	20	20
26	13	1.1	1.2	1.2	1.3	1.2	5.6	20	20	20	21	20
27	13	1.1	1.2	1.2	1.3	1.2	7.5	20	20	19	21	20
28	13	1.1	1.2	1.2	1.3	1.2	7.5	20	20	19	21	20
29	13	1.1	1.2	1.2	1.3	2.2	7.5	20	20	18	21	20
30	13	1.1	1.2	1.2	---	2.6	7.9	20	20	15	20	19
31	13	---	1.2	1.2	---	2.3	---	20	---	15	20	---
TOTAL	421	95.0	35.1	37.1	36.7	41.8	110.8	501.4	580	547	617	599
MEAN	13.6	3.17	1.13	1.20	1.27	1.35	3.69	16.2	19.3	17.6	19.9	20.0
MAX	16	9.1	1.3	1.2	1.3	2.6	7.9	20	20	20	21	20
MIN	13	1.1	1.0	1.1	1.2	1.2	2.3	8.3	19	13	15	19
AC-FT	835	188	70	74	73	83	220	995	1150	1080	1220	1190

CAL YR 1983 TOTAL 3409.0 MEAN 9.34 MAX 21 MIN 1.0 AC-FT 6760
WTR YR 1984 TOTAL 3621.9 MEAN 9.90 MAX 21 MIN 1.0 AC-FT 7180

SACRAMENTO RIVER BASIN

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.--Lat 39°27'30", long 121°38'17", in NE 1/4 SE 1/4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, at dam 195 ft northeast of centerline of outlet structure, and 5.7 mi southwest of Oroville.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft southwest of centerline of Western Canal outlet, and 7.2 mi 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 between gage heights 120.0 ft and 139.0 ft extreme operating levels. Normal operating range is 123 ft to 136.5 ft. Water is released to four canals (stations 11406880, 11406890, 11406900, and 11406910), and to the Feather River (station 11406920) from the reservoir. Total maximum release to the four canals is approximately 4,000 ft^3/s. 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 May 24, 1969, gage height, 136.56 ft; minimum since initial operation began, 5,590 acre-ft Mar. 1, 1968, gage height, 119.09 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 44,762 acre-ft Feb. 9, gage height, 133.50 ft; minimum, 16,910 acre-ft Feb. 19, gage height, 124.73 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31227	35556	29705	40183	24675	21966	23717	25087	28791	21141	24324	24939
2	27968	39925	30090	40961	24208	19404	25502	27473	23602	25353	24353	23803
3	29290	40442	31688	40887	25353	17481	22946	28688	17656	26403	23458	18727
4	31688	42274	32285	41073	25562	17306	23717	28972	20199	24266	24881	28468
5	29067	40627	33088	40553	31227	20978	24675	32685	19142	26252	22272	29131
6	32152	35765	33460	35521	40368	26191	25981	21882	18315	27906	23602	25711
7	34175	35382	33223	35940	40109	25205	23803	23602	24063	29353	27689	31227
8	30478	36115	32853	32819	41484	22946	20066	27380	27380	24324	26191	30770
9	28093	38070	32853	32853	44762	30607	23861	30705	29353	25562	28531	22748
10	25353	41484	32385	32218	43337	31754	24792	25562	20306	25205	29801	21060
11	25353	44491	32152	32152	35451	27257	25771	26252	25981	25146	26041	21772
12	27257	39522	31820	31919	27473	22861	25294	27380	28531	25087	21634	22272
13	27813	29641	31391	31227	31754	25413	29705	20119	20439	24675	24063	22160
14	36010	28531	31391	30542	35069	24324	30705	21579	22918	29513	26615	26312
15	34106	30998	31162	30478	34346	25353	23259	24324	27104	28751	28093	23861
16	29194	34483	29577	30090	30998	24734	24121	29417	21689	29353	29801	18188
17	33765	36010	27751	29865	23516	20386	25146	28468	23774	31227	30998	18443
18	33868	38322	27257	29131	17833	20172	25413	29641	26737	22664	29290	20199
19	33156	31293	26191	31391	16910	25146	24734	24412	28249	20439	21827	23060
20	31523	31523	25711	30510	20627	25087	25146	18443	28249	21141	24675	24208
21	37104	31820	24792	31162	19641	24646	24675	25146	27257	23316	26676	24675
22	35451	31986	24412	30933	22664	24208	20066	27042	26737	19826	26041	24005
23	32152	31589	28468	31064	24324	22411	26524	29929	24208	20627	27165	18908
24	36010	33697	35451	30607	31064	22355	23116	26615	20306	20816	30316	19588
25	37818	35695	39156	30770	33697	20816	19773	26828	21689	22748	28625	19694
26	40813	37818	41934	31162	32152	26524	21060	30154	26403	25981	26403	18315
27	37926	40109	44028	31162	33765	28531	21442	24470	24881	28688	28093	19588
28	38034	37675	42085	31391	30154	24939	24412	25294	28846	31457	25502	22216
29	34414	32152	38684	28031	27104	25353	19853	30705	27042	24208	25621	21387
30	29417	28972	39595	25981	---	30542	22748	22216	26464	27596	23659	17581
31	31919	---	39412	26403	---	31820	---	26191	---	28688	22861	---
MAX	40813	44491	44028	41073	44762	31820	30705	32685	29353	31457	30998	31227
MIN	25353	28531	24412	25981	16910	17306	19773	18443	17656	19826	21634	17581
a	129.93	129.02	132.08	128.19	128.42	129.90	126.94	128.12	128.21	129.93	126.98	125.00
b	-1406	-2947	+10440	-13009	+701	+4716	-9072	+3443	+273	+2224	-5827	-5280
c	1041	421	231	299	288	787	1154	1815	1946	2194	2104	1741

CAL YR 1983 b +15146
WTR YR 1984 b -15744

a Gage-height, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.

11406880 WESTERN CANAL AT INTAKE, NEAR OROVILLE, CA

ATION.--Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020105, on left bank 500 ft downstream from Thermalito Afterbay Dam, and 7.3 mi west of Oroville.

ERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft 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.--16 years, 310 ft^3/s, 224,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,200 ft^3/s May 12, 1981, May 6,7, 1984; no flow for several months most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	272					0	1030	696	945	858	323
2	123	252					0	1030	721	945	859	283
3	123	248					0	1070	765	933	860	256
4	126	246					0	1100	783	938	860	216
5	123	246					0	1180	784	945	855	192
6	124	247					0	1200	767	950	840	170
7	202	247					0	1200	757	916	846	154
8	251	253					0	1190	758	902	840	153
9	251	254					32	1160	756	898	841	116
10	251	210					58	1090	754	880	838	93
11	250	177					80	1030	756	882	841	95
12	250	176					103	968	812	884	834	96
13	250	58					103	940	886	885	834	96
14	250	0					103	852	934	885	855	95
15	250	0					99	694	945	884	847	96
16	250	0					101	598	972	873	798	95
17	250	0					139	597	960	861	745	57
18	250	0					206	597	942	858	705	31
19	258	0					320	597	941	869	669	34
20	278	0					416	597	939	877	638	36
21	302	0					418	597	941	894	600	36
22	302	0					415	598	939	896	587	36
23	301	0					416	599	927	881	530	36
24	301	0					416	598	923	870	485	34
25	301	0					417	598	927	866	477	142
26	302	0					480	599	948	858	472	251
27	301	0					623	597	957	860	473	252
28	301	0					771	605	940	855	473	252
29	301	0					865	637	930	848	448	251
30	301	0					951	672	939	852	417	251
31	301	---					---	686	---	856	376	---
TOTAL	7547	2886	0	0	0	0	7532	25506	25999	27546	21601	4228
MEAN	243	96.2	0	0	0	0	251	823	867	889	697	141
MAX	302	272	0	0	0	0	951	1200	972	950	860	323
MIN	123	0	0	0	0	0	0	597	696	848	376	31
AC-FT	14970	5720	0	0	0	0	14940	50590	51570	54640	42850	8390

CAL YR 1983 TOTAL 79003 MEAN 216 MAX 709 MIN 0 AC-FT 156700
WTR YR 1984 TOTAL 122845 MEAN 336 MAX 1200 MIN 0 AC-FT 243700

11406890 RICHVALE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020105, on right bank 500 ft downstream from axis of Thermalito Afterbay Dam, and 7.3 mi west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft 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.--16 years, 116 ft^3/s, 84,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 511 ft^3/s May 16, 1974; no flow for several months in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	293	249	339	300	104
2							6.0	321	279	339	300	92
3							16	335	287	333	299	70
4							15	335	288	329	298	68
5							11	320	308	330	298	66
6							4.0	304	343	330	298	66
7							0	304	351	331	298	67
8							0	331	351	328	298	68
9							0	347	352	330	299	66
10							0	369	352	323	298	65
11							0	379	353	326	294	68
12							15	377	352	326	298	68
13							24	316	350	320	297	68
14							69	238	352	320	288	68
15							138	218	356	320	288	67
16							163	218	349	320	287	66
17							170	190	341	320	288	54
18							170	176	335	320	289	46
19							117	175	340	321	290	38
20							88	176	363	320	288	31
21							86	176	360	320	279	31
22							85	176	342	320	276	30
23							113	177	340	320	277	30
24							121	190	342	310	238	10
25							177	222	338	308	218	0
26							202	234	338	307	219	0
27							213	234	339	308	168	0
28							262	236	336	309	155	0
29							280	200	338	310	155	0
30							280	180	340	306	137	0
31							---	220	---	310	124	---
TOTAL	0	0	0	0	0	0	2825.0	7967	10066	9953	8139	1407
MEAN	0	0	0	0	0	0	94.2	257	336	321	263	46.9
MAX	0	0	0	0	0	0	280	379	363	339	300	104
MIN	0	0	0	0	0	0	0	175	249	306	124	0
AC-FT	0	0	0	0	0	0	5600	15800	19970	19740	16140	2790

CAL YR 1983	TOTAL	31536	MEAN	86.4	MAX	432	MIN	0	AC-FT	62550
WTR YR 1984	TOTAL	40357	MEAN	110.0	MAX	379	MIN	0	AC-FT	80050

11406900 PACIFIC GAS AND ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°29'22", long 121°41'12", in SE 1/4 NW 1/4 sec.19, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on right bank 82 ft downstream from axis of Thermalito Afterbay Dam, and 7.2 mi west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft 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.--16 years, 4.85 ft^3/s, 3,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 46 ft^3/s Apr. 24, 1977, May 16, 1978; no flow for several months in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0						0	39	16	13	11	0
2	0						0	37	16	13	11	0
3	0						0	33	14	13	11	0
4	0						0	25	13	13	11	0
5	0						0	20	13	13	11	0
6	0						0	20	11	14	11	0
7	0						0	17	9.0	13	11	0
8	0						0	14	9.0	12	12	0
9	0						0	13	12	12	11	0
10	0						0	12	15	12	10	0
11	0						0	10	15	12	10	0
12	0						0	9.7	17	12	10	0
13	1.2						0	9.7	15	12	9.2	0
14	.80						0	9.2	14	12	9.0	0
15	0						0	2.5	12	12	9.0	0
16	0						0	2.2	11	12	9.0	0
17	0						0	2.2	11	12	9.0	0
18	0						0	2.2	13	12	9.2	0
19	0						0	3.3	13	13	9.0	0
20	0						0	3.9	13	14	9.9	0
21	0						0	3.9	15	13	11	0
22	0						0	7.4	16	12	12	0
23	0						0	11	16	12	10	0
24	0						0	12	16	12	9.2	0
25	0						4.6	11	15	12	9.2	0
26	0						13	11	14	12	9.2	1.3
27	0						15	13	14	11	8.8	.80
28	0						25	14	14	11	8.3	0
29	0						27	16	14	11	4.6	0
30	0						33	16	14	11	2.0	0
31	0						---	16	---	11	1.1	---
TOTAL	2.00	0	0	0	0	0	117.6	416.2	410.0	379	288.7	2.10
MEAN	.065	0	0	0	0	0	3.92	13.4	13.7	12.2	9.31	.070
MAX	1.2	0	0	0	0	0	33	39	17	14	12	1.3
MIN	0	0	0	0	0	0	0	2.2	9.0	11	1.1	0
AC-FT	4.0	0	0	0	0	0	233	826	813	752	573	4.2

CAL YR 1983	TOTAL	1322.10	MEAN	3.62	MAX	34	MIN	0	AC-FT 2620
WTR YR 1984	TOTAL	1615.60	MEAN	4.41	MAX	39	MIN	0	AC-FT 3200

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 downstream from Thermalito Afterbay Dam, and 6.8 mi southwest of Oroville.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 109.97 ft National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 109.50 ft 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.--16 years, 645 ft^3/s, 467,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft^3/s Apr. 22-24, 1968; no flow for several months in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386					0	471	1720	1440	1590	1520	882
2	378					0	538	1760	1430	1590	1530	860
3	379					0	620	1810	1430	1590	1520	832
4	379					0	603	1840	1430	1590	1490	810
5	367					0	603	1850	1470	1610	1470	772
6	341					0	603	1850	1470	1590	1450	734
7	331					0	633	1860	1460	1580	1440	700
8	332					0	661	1860	1480	1560	1460	636
9	332					0	689	1850	1480	1560	1450	607
10	368					0	667	1880	1440	1590	1440	619
11	380					0	627	1780	1450	1590	1450	616
12	393					0	645	1650	1480	1580	1460	604
13	389					0	730	1600	1510	1560	1420	586
14	383					0	815	1540	1570	1560	1380	567
15	382					0	863	1460	1550	1560	1370	523
16	383					0	1040	1390	1560	1560	1360	513
17	380					0	1080	1360	1540	1560	1340	511
18	361					0	1130	1400	1510	1580	1340	501
19	362					0	1100	1380	1560	1560	1330	500
20	361					0	1110	1350	1570	1570	1300	488
21	362					0	1130	1350	1590	1560	1250	497
22	362					0	1160	1320	1590	1550	1160	500
23	363					0	1280	1310	1580	1550	1140	489
24	362					0	1420	1300	1580	1550	1150	483
25	363					0	1540	1300	1610	1560	1100	485
26	366					67	1660	1300	1620	1560	1090	479
27	375					283	1710	1300	1620	1560	1060	474
28	376					305	1790	1290	1620	1560	1060	469
29	375					308	1800	1360	1620	1540	1060	455
30	376					353	1760	1440	1620	1510	1030	454
31	174					434	---	1470	---	1500	933	---
TOTAL	11221	0	0	0	0	1750	30478	47930	45880	48530	40553	17646
MEAN	362	0	0	0	0	56.5	1016	1546	1529	1565	1308	588
MAX	393	0	0	0	0	434	1800	1880	1620	1610	1530	882
MIN	174	0	0	0	0	0	471	1290	1430	1500	933	454
AC-FT	22260	0	0	0	0	3470	60450	95070	91000	96260	80440	35000

CAL YR 1983 TOTAL 187702 MEAN 514 MAX 1800 MIN 0 AC-FT 372300
WTR YR 1984 TOTAL 243988 MEAN 667 MAX 1880 MIN 0 AC-FT 484000

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER, NEAR OROVILLE, CA

LOCATION.--Lat 39°27'23", long 121°38'10", in NW 1/4 SE 1/4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on left bank of outlet channel 955 ft downstream from centerline of Thermalito Afterbay Dam, and 5.7 mi southwest of Oroville.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 13.00 ft lower.

REMARKS.--Flow regulated by gates of Thermalito Afterbay outlet 955 ft 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.--16 years, 4,537 ft^3/s, 3,287,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft^3/s Jan. 28, 1970, gage height, 23.30 ft previous datum; no flow for many days in 1968.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 17,200 ft^3/s Nov. 28, Jan. 4, 5; minimum daily, 1,240 ft^3/s Oct. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4550	1970	13900	17000	5570	8070	3570	1300	1880	5510	4050	2560
2	4530	1960	14000	17000	5540	8070	3610	1290	1700	5550	4080	2580
3	4560	1950	14000	17100	4560	8530	3600	1320	1690	5810	4090	2570
4	4560	1950	14000	17200	3590	6280	2610	2080	1700	6050	4090	2600
5	4540	1950	13900	17200	3090	5550	2600	2880	1690	6340	4090	2600
6	4570	1950	14000	15700	3070	5020	2600	3560	1670	6580	4100	2870
7	5110	1980	14500	13000	2570	5040	2110	3620	2160	6570	3820	3570
8	5580	1990	14500	13000	2560	5060	2090	3620	2170	6510	3560	3560
9	5560	2030	14500	13000	2100	5110	2110	3600	2170	6570	3580	3530
10	5570	2030	14600	13000	2090	5100	2100	3100	2150	6560	3570	3570
11	5310	2030	14600	13000	3050	5060	2100	3120	2180	6570	3550	3830
12	4340	2020	15300	13000	3070	4540	2110	3120	2170	6540	3550	4060
13	3340	2020	16900	13000	3100	4560	2110	3080	2170	6520	3570	4060
14	2360	2340	15100	13000	5530	4560	2110	3090	2690	5590	3570	4070
15	1970	3830	14300	13000	5530	5580	2090	3070	3090	5560	3570	4060
16	1960	4340	14300	13000	6040	6570	2110	2610	3560	5570	3570	4030
17	1980	9240	14300	13000	8020	5600	1890	2580	3580	5580	3570	4080
18	1240	16100	14400	13000	9130	4550	1700	2090	3590	5530	3590	4560
19	1990	14300	14400	10500	7530	5180	1490	2070	3580	5550	3580	4560
20	1980	14400	14400	8030	7200	6570	1290	2070	3570	5560	3610	4540
21	1980	14400	14400	7080	7040	6580	1290	2100	3860	5570	3600	3800
22	1970	14400	14500	7060	7540	6580	1290	2090	4560	5540	3600	2810
23	1960	15500	14400	7070	7560	6580	1300	2100	4550	5560	3600	2070
24	1970	16900	16000	7070	7570	6320	1290	2090	4520	5570	3590	2080
25	1980	17000	17100	7070	8220	6240	1290	2080	4560	5570	3560	2090
26	1990	16900	17100	7080	8520	6590	1300	2090	4550	5580	3550	2090
27	1970	17100	17000	7080	8510	6590	1290	2070	5360	5550	3540	2100
28	1980	17200	17000	7040	7520	6560	1300	2100	5590	5070	3070	2100
29	1970	17100	17100	7030	7500	5580	1290	2100	5550	4530	3070	2090
30	1940	16000	17000	7010	---	4570	1300	2060	5530	4580	3060	2070
31	1960	---	17100	6060	---	3620	---	2080	---	4550	3030	---
TOTAL	97270	252880	468600	352380	162920	180410	58940	76230	97790	178290	112030	95160
MEAN	3138	8429	15120	11370	5618	5820	1965	2459	3260	5751	3614	3172
MAX	5580	17200	17100	17200	9130	8530	3610	3620	5590	6580	4100	4560
MIN	1240	1950	13900	6060	2090	3620	1290	1290	1670	4530	3030	2070
AC-FT	192900	501600	929500	698900	323200	357800	116900	151200	194000	353600	222200	188700

CAL YR 1983 TOTAL 3725270 MEAN 10210 MAX 17400 MIN 1240 AC-FT 7389000
WTR YR 1984 TOTAL 2132900 MEAN 5828 MAX 17200 MIN 1240 AC-FT 4231000

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 upstream from fish barrier dam on Feather River, and 0.8 mi northeast of Oroville Post Office.
DRAINAGE AREA.--3,624 mi^2.
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 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 ft^3/s at Thermalito diversion dam 0.4 mi upstream from gage. Diverted flow returns to Feather River approximately 0.3 mi 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).--83 years, 6,022 ft^3/s, 4,363,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge observed, 230,000 ft^3/s Mar. 19, 1907, elevation, 167.5 ft above mean sea level; minimum daily, 89 ft^3/s Sept. 19, 1972.
Combined flow (since construction of Oroville Dam): Maximum discharge, 69,600 ft^3/s Jan. 15, 1980; minimum daily, 222 ft^3/s Sept. 19, 1972.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of February 1881 reached a stage of 25 ft from floodmarks, site and datum in use from Dec. 16, 1912, to Sept. 30, 1934.
EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 31,000 ft^3/s Dec. 26, gage height, 10.36 ft; minimum daily, 240 ft^3/s Aug. 13.
Combined flow: Maximum daily discharge, 30,600 ft^3/s Dec. 26; minimum daily, 347 ft^3/s Aug. 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	426	414	398	11400	404	401	421	403	413	422	358	426
2	424	414	399	3760	405	403	423	405	411	422	361	421
3	426	413	418	413	407	407	422	409	411	425	373	424
4	425	411	398	409	410	407	420	409	412	429	448	424
5	422	411	396	406	410	404	420	408	412	429	429	413
6	421	406	399	402	406	404	420	408	420	427	365	414
7	422	409	407	409	407	403	420	410	420	433	358	424
8	423	415	408	405	404	401	418	409	411	430	350	425
9	428	418	412	404	405	405	417	406	409	435	349	422
10	429	424	2720	404	411	394	412	404	409	435	354	422
11	424	421	10500	404	411	392	414	406	414	435	427	423
12	421	413	9780	402	409	392	412	405	415	435	431	420
13	425	418	5940	401	409	396	416	403	414	430	347	419
14	421	418	457	402	410	428	411	408	413	427	352	416
15	409	414	418	404	414	450	410	411	413	424	385	415
16	402	412	415	402	414	446	410	407	413	424	368	415
17	424	418	410	400	414	445	411	408	417	422	423	417
18	1260	412	410	401	420	446	413	409	420	418	421	420
19	429	407	411	402	412	446	416	402	420	430	426	419
20	416	414	414	397	412	438	415	408	422	432	362	422
21	417	408	411	398	430	434	411	411	417	431	423	425
22	418	403	415	400	413	433	411	409	416	430	422	423
23	417	412	418	400	415	436	413	409	414	432	425	423
24	414	3210	477	401	413	437	401	408	420	426	424	417
25	409	10500	11900	405	410	431	401	411	422	428	423	418
26	410	5470	30600	403	410	436	411	412	418	427	425	420
27	412	399	30500	395	412	420	408	408	417	425	426	423
28	410	397	30500	397	406	412	409	408	424	428	420	423
29	398	400	27800	397	402	422	404	410	421	426	420	421
30	392	398	25500	400	---	416	405	407	421	365	424	420
31	396	---	21500	402	---	421	---	414	---	360	427	---
TOTAL	13770	30279	215531	26825	11905	13006	12395	12645	12479	13142	12346	12614
MEAN	444	1009	6953	865	411	420	413	408	416	424	398	420
MAX	1260	10500	30600	11400	430	450	423	414	424	435	448	426
MIN	392	397	396	395	402	392	401	402	409	360	347	413
AC-FT	27310	60060	427500	53210	23610	25800	24590	25080	24750	26070	24490	25020
MEAN a	2877	11290	22150	11030	8392	9789	7539	6457	4497	3215	2742	2748
AC-FT a	176900	672000	1362000	678000	482700	601900	448600	397000	267600	197700	168600	163500

CAL YR 1983 TOTAL 1029916 MEAN 2822 MAX 43100 MIN 334 AC-FT 2043000 MEAN a 14020 AC-FT a 10150000
WTR YR 1984 TOTAL 386937 MEAN 1057 MAX 30600 MIN 347 AC-FT 767500 MEAN a 7718 AC-FT a 5603000

a Adjusted for diversions in and out of, change in contents in, and evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay.

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 upstream from highway bridge, and 2.7 mi east of Gridley.

DRAINAGE AREA.--3,676 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. January 1944 to September 1964 are published in reports by California Department of Water Resources.

REVISED RECORDS.--WDR CA-66-2: 1965. WDR CA-80-4: 1967 (M), 1968 (M).

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft 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 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.--20 years, 5,468 ft^3/s, 3,962,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 151,000 ft^3/s Dec. 23, 1964, gage height, 100.43 ft, present datum; minimum daily, 117 ft^3/s June 27, 1966. Maximum discharge since construction of Oroville Dam in 1967, 90,100 ft^3/s Jan. 15, 1980, gage height, 94.45 ft; minimum daily, 366 ft^3/s July 26, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 102.25 ft present datum, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,700 ft^3/s Dec. 29, gage height 89.39 ft; minimum daily, 1,560 ft^3/s Apr. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5060	2310	14700	33700	6150	8420	4080	1620	2220	6040	4550	3000
2	5030	2310	14800	25900	6070	8520	4120	1610	2030	6110	4510	2970
3	5050	2290	15000	18900	5200	8990	4120	1640	1970	6310	4540	2950
4	5050	2280	14900	18400	4210	7100	3240	2280	2010	6660	4610	2970
5	5020	2300	14800	18100	3640	6020	3080	3160	1980	6910	4620	2970
6	5040	2310	14800	17300	3570	5550	3040	3960	1970	7200	4570	3160
7	5550	2310	15200	14100	3060	5520	2620	4110	2390	7200	4340	3960
8	6020	2320	15200	13900	2980	5550	2530	4150	2490	7170	4020	4050
9	6060	2400	15400	13900	2570	5570	2520	4160	2470	7200	3980	4020
10	6050	2510	15700	13800	2440	5570	2540	3650	2450	7200	3990	4060
11	5860	2520	25200	13700	3270	5530	2510	3620	2480	7200	4030	4260
12	4930	2440	26200	13800	3470	5070	2510	3620	2500	7190	4030	4610
13	3920	2450	25600	13700	3540	5060	2520	3600	2490	7180	3980	4620
14	2890	2600	16900	13700	5600	5050	2530	3570	2980	6260	3950	4680
15	2360	4160	15300	13700	6020	5850	2510	3550	3440	6170	3980	4650
16	2290	4800	15200	13700	6360	7110	2500	3100	4000	6160	3990	4610
17	2310	8530	15100	13700	8160	6400	2330	3030	4090	6130	4020	4680
18	2320	17000	15100	13700	9540	5090	2140	2570	4100	6100	4050	5200
19	2460	15100	15100	11600	8110	5480	1900	2470	4090	6110	4050	5300
20	2320	15200	15100	9160	7790	7110	1680	2460	4060	6120	4030	5290
21	2300	15100	15100	7970	7460	7070	1650	2460	4260	6140	4050	4530
22	2300	15200	15100	7790	7990	7070	1650	2450	5030	6100	4050	3400
23	2280	15900	15100	7750	8020	7110	1640	2440	5100	6120	4070	2470
24	2270	18400	16700	7750	8080	6980	1600	2440	5070	6140	4060	2360
25	2280	27800	23800	7720	8550	6690	1560	2420	5090	6130	4030	2370
26	2300	25700	46900	7680	8960	7140	1590	2410	5060	6150	4020	2370
27	2310	18100	49000	7680	8970	7120	1600	2410	5800	6150	4040	2380
28	2300	17900	49300	7650	8110	7130	1600	2420	6180	5670	3540	2390
29	2290	17700	48300	7610	7970	6210	1610	2450	6120	5090	3490	2380
30	2270	17000	45400	7610	---	5210	1610	2400	6060	5050	3500	2380
31	2280	---	43800	6740	---	4280	---	2390	---	5040	3460	---
TOTAL	110770	286940	703800	402410	175860	196570	71130	88620	109980	196400	126150	109040
MEAN	3573	9565	22700	12980	6064	6341	2371	2859	3666	6335	4069	3635
MAX	6060	27800	49300	33700	9540	8990	4120	4160	6180	7200	4620	5300
MIN	2270	2280	14700	6740	2440	4280	1560	1610	1970	5040	3460	2360
AC-FT	219700	569100	1396000	798200	348800	389900	141100	175800	218100	389600	250200	216300

CAL YR 1983 TOTAL 4838040 MEAN 13250 MAX 57600 MIN 2270 AC-FT 9596000
WTR YR 1984 TOTAL 2577670 MEAN 7043 MAX 49300 MIN 1560 AC-FT 5113000

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1980-81.
WATER TEMPERATURES: Water years 1965-81.
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 RECORD.--
WATER TEMPERATURES: (water years 1965-69, 1971-78): Maximum recorded, 29.5°C June 25, 1977, minimum recorded, 4.0°C several days in December and January of most years.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,340 mg/L Dec, 25, minimum daily mean, 1 mg/L Dec. 12, 1968, Dec. 4, 1969, Sept. 1, 1970, Dec. 14, 1971, several days in 1982 and 1984.
SEDIMENT DISCHARGE: Maximum, 527,000 tons Dec. 23, 1964; minimum daily, 1.4 tons Oct. 27, 1966.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 40 mg/L Nov. 25, minimum daily mean, 12 mg/L several days.
SEDIMENT DISCHARGE: Maximum daily, 3,000 tons Nov. 25; minimum daily, 6.20 tons Oct. 16.

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

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	5060	3	41	2310	2	12	14700	6	238
2	5030	3	41	2310	2	12	14800	6	240
3	5050	3	41	2290	3	19	15000	11	446
4	5050	3	41	2280	2	12	14900	16	644
5	5020	3	41	2300	2	12	14800	10	400
6	5040	3	41	2310	2	12	14800	9	360
7	5550	3	45	2310	2	12	15200	9	369
8	6020	3	49	2320	2	13	15200	9	369
9	6060	4	65	2400	2	13	15400	9	374
10	6050	3	49	2510	3	20	15700	9	382
11	5860	2	32	2520	4	27	25200	20	1360
12	4930	2	27	2440	3	20	26200	20	1410
13	3920	2	21	2450	3	20	25600	17	1180
14	2890	3	23	2600	4	28	16900	11	502
15	2360	2	13	4160	5	56	15300	11	454
16	2290	1	6.2	4800	7	91	15200	10	410
17	2310	2	12	8530	11	253	15100	10	408
18	2320	1	6.3	17000	16	734	15100	9	367
19	2460	2	13	15100	11	448	15100	9	367
20	2320	2	13	15200	15	616	15100	9	367
21	2300	2	12	15100	18	734	15100	8	326
22	2300	2	12	15200	16	657	15100	8	326
23	2280	2	12	15900	14	601	15100	8	326
24	2270	2	12	18400	27	1340	16700	12	541
25	2280	2	12	27800	40	3000	23800	36	2310
26	2300	3	19	25700	21	1460	46900	20	2530
27	2310	2	12	18100	10	489	49000	14	1850
28	2300	2	12	17900	8	387	49300	12	1600
29	2290	2	12	17700	9	430	48300	10	1300
30	2270	3	18	17000	7	321	45400	8	981
31	2280	1	6.2	---	---	---	43800	8	946
TOTAL	110770	---	759.7	286940	---	11849	703800	---	23683

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

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	33700	6	546	6150	2	33	8420	5	114
2	25900	6	420	6070	3	49	8520	5	115
3	18900	8	408	5200	3	42	8990	5	121
4	18400	6	298	4210	3	34	7100	4	77
5	18100	9	440	3640	2	20	6020	4	65
6	17300	8	374	3570	2	19	5550	4	60
7	14100	7	266	3060	2	17	5520	3	45
8	13900	6	225	2980	2	16	5550	3	45
9	13900	7	263	2570	2	14	5570	7	105
10	13800	6	224	2440	2	13	5570	3	45
11	13700	6	222	3270	3	26	5530	3	45
12	13800	5	186	3470	3	28	5070	4	55
13	13700	5	185	3540	4	38	5060	7	96
14	13700	5	185	5600	5	76	5050	5	68
15	13700	5	185	6020	4	65	5850	5	79
16	13700	5	185	6360	4	69	7110	4	77
17	13700	5	185	8160	6	132	6400	4	69
18	13700	5	185	9540	9	232	5090	4	55
19	11600	4	125	8110	7	153	5480	5	74
20	9160	4	98	7790	6	126	7110	5	96
21	7970	4	86	7460	5	101	7070	5	95
22	7790	4	84	7990	5	108	7070	5	95
23	7750	4	84	8020	4	87	7110	5	96
24	7750	4	84	8080	4	87	6980	6	113
25	7720	4	83	8550	2	46	6690	7	126
26	7680	3	62	8960	2	48	7140	6	116
27	7680	7	30	8970	2	48	7120	6	115
28	7650	3	62	8110	3	66	7130	6	116
29	7610	4	82	7970	4	86	6210	7	117
30	7610	3	62	---	---	---	5210	6	84
31	6740	2	36	---	---	---	4280	5	58
TOTAL	402410	---	5960	175860	---	1879	196570	---	2637

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	4080	4	44	1620	7	31	2220	8	48
2	4120	4	44	1610	7	30	2030	7	38
3	4120	4	44	1640	7	31	1970	7	37
4	3240	4	35	2280	7	43	2010	7	38
5	3080	5	42	3160	7	60	1980	7	37
6	3040	6	49	3960	8	86	1970	8	43
7	2620	8	57	4110	8	89	2390	8	52
8	2530	7	48	4150	7	78	2490	8	54
9	2520	7	48	4160	6	67	2470	7	47
10	2540	6	41	3650	7	69	2450	7	46
11	2510	6	41	3620	8	78	2480	7	47
12	2510	6	41	3620	9	88	2500	7	47
13	2520	7	48	3600	8	78	2490	7	47
14	2530	6	41	3570	8	77	2980	7	56
15	2510	5	34	3550	6	58	3440	7	65
16	2500	6	41	3100	5	42	4000	7	76
17	2330	7	44	3030	5	41	4090	8	88
18	2140	7	40	2570	4	28	4100	8	89
19	1900	7	36	2470	4	27	4090	7	77
20	1680	7	32	2460	4	27	4060	8	88
21	1650	7	31	2460	4	27	4260	8	92
22	1650	6	27	2450	5	33	5030	9	122
23	1640	5	22	2440	5	33	5100	9	124
24	1600	5	22	2440	6	40	5070	10	137
25	1560	5	21	2420	7	46	5090	11	151
26	1590	10	43	2410	8	52	5060	10	137
27	1600	7	30	2410	8	52	5800	10	157
28	1600	6	26	2420	8	52	6180	10	167
29	1610	6	26	2450	6	40	6120	11	182
30	1610	7	30	2400	7	45	6060	8	131
31	---	---	---	2390	7	45	---	---	---
TOTAL	71130	---	---	88620	---	1593	109980	---	2520

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

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

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	6040	6	98	4550	3	37	3000	2	16
2	6110	7	115	4510	4	49	2970	2	16
3	6310	9	153	4540	4	49	2950	2	16
4	6660	9	162	4610	3	37	2970	2	16
5	6910	9	168	4620	3	37	2970	3	24
6	7200	9	175	4570	3	37	3160	3	26
7	7200	10	194	4340	4	47	3960	3	32
8	7170	9	174	4020	4	43	4050	2	22
9	7200	9	175	3980	3	32	4020	2	22
10	7200	8	156	3990	3	32	4060	1	11
11	7200	7	136	4030	3	33	4260	1	12
12	7190	9	175	4030	3	33	4610	2	25
13	7180	11	213	3980	4	43	4620	1	12
14	6260	9	152	3950	4	43	4680	1	13
15	6170	7	117	3980	2	21	4650	1	13
16	6160	5	83	3990	1	11	4610	1	12
17	6130	6	99	4020	1	11	4680	2	25
18	6100	7	115	4050	2	22	5200	3	42
19	6110	8	132	4050	2	22	5300	2	29
20	6120	7	116	4030	3	33	5290	2	29
21	6140	6	99	4050	2	22	4530	2	24
22	6100	3	49	4050	1	11	3400	3	28
23	6120	1	17	4070	0	.00	2470	4	27
24	6140	4	66	4060	1	11	2360	2	13
25	6130	4	66	4030	2	22	2370	1	6.4
26	6150	4	66	4020	3	33	2370	2	13
27	6150	4	66	4040	3	33	2380	4	26
28	5670	5	77	3540	3	29	2390	4	26
29	5090	4	55	3490	3	28	2380	4	26
30	5050	3	41	3500	2	19	2380	3	19
31	5040	3	41	3460	2	19	---	---	---
TOTAL	196400	---	3551	126150	---	899.00	109040	---	621.4
YEAR	2577670		57080.10						

11407500 SOUTH HONCUT CREEK NEAR BANGOR, CA

LOCATION.--Lat 39°22'04", long 121°22'16", in SE 1/4 SE 1/4 sec.35, T.18 N., R.5 E., Butte County, Hydrologic Unit 18020124, on right bank 2.3 mi southeast of Bangor, 3.3 mi upstream from Tennessee Creek, and 16.3 mi southeast of Oroville.

DRAINAGE AREA.--30.6 mi^2.

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 620 ft, from topographic map.

REMARKS.--Records fair. Some small diversions upstream for irrigation.

AVERAGE DISCHARGE.--34 years, 38.2 ft^3/s, 27,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum dishcarge, 17,600 ft^3/s Dec. 26, 1964, gage height, 19.25 ft, from rating curve extended above 2,200 ft^3/s on basis of slope-area measurements at gage heights 11.15 ft and 19.25 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2400	1,930	7.69	Dec. 25	1600	*3,240	8.87
Nov. 17	0700	2,910	8.60	Dec. 30	1200	1,830	7.59
Nov. 24	1330	2,580	8.30	Feb. 13	1715	1,960	7.72

Minimum daily, 0.45 ft^3/s Sept. 14, 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	16	24	152	20	39	26	13	3.4	1.7	1.5	1.4
2	4.5	11	23	114	19	36	26	19	3.2	1.3	1.3	1.3
3	4.5	6.3	272	94	19	34	25	12	3.3	1.3	1.2	1.2
4	4.6	4.8	108	81	19	32	25	11	4.4	1.2	1.3	1.1
5	4.9	4.3	62	72	20	30	25	10	5.8	1.3	1.3	1.0
6	4.6	4.5	60	64	19	28	23	9.9	7.6	1.4	1.2	.88
7	4.3	7.0	59	58	17	27	21	9.4	11	1.4	1.2	.98
8	4.1	5.5	85	53	17	26	27	9.2	6.5	1.3	1.0	.95
9	4.2	7.0	194	48	43	25	24	8.7	4.3	1.3	.84	.97
10	4.2	319	296	44	34	24	40	8.4	3.7	1.3	.79	.92
11	3.5	280	588	41	24	24	29	8.5	3.2	1.2	.67	.80
12	2.7	83	189	38	46	24	22	8.4	3.9	1.1	.59	.74
13	2.6	105	105	37	504	98	19	8.0	3.2	.88	.63	.50
14	3.0	42	80	34	175	77	18	7.6	3.1	.79	.80	.45
15	3.3	20	64	34	271	134	16	11	2.9	.85	.80	.45
16	3.2	118	60	67	174	122	17	8.8	2.6	1.1	.86	.55
17	3.0	959	68	43	102	170	18	8.1	2.4	1.4	.94	.58
18	2.8	86	50	37	79	85	26	7.5	2.1	1.5	.95	.67
19	3.9	96	44	34	65	67	35	7.3	2.1	1.3	.91	.94
20	3.7	183	40	32	61	56	27	6.6	2.2	1.1	1.1	1.4
21	3.0	81	35	32	199	47	18	6.0	2.4	1.1	1.0	1.6
22	3.1	43	32	30	100	42	17	5.4	2.5	1.1	.90	1.4
23	3.0	44	115	28	77	38	17	5.1	2.2	1.3	.82	1.3
24	3.0	658	1070	27	85	35	16	5.0	2.1	1.6	.71	1.6
25	2.9	153	1730	26	70	32	16	4.9	1.7	1.6	.64	1.4
26	2.7	73	537	24	58	31	16	4.5	1.4	1.4	.75	1.3
27	2.8	49	587	23	51	28	16	4.0	1.4	1.2	.76	1.2
28	2.7	37	224	22	46	26	15	3.8	1.7	1.3	.75	1.3
29	3.2	31	143	21	42	25	12	3.6	1.5	1.4	.64	1.2
30	7.7	27	651	21	---	24	10	3.3	1.8	1.4	.77	2.0
31	19	---	254	20	---	28	---	3.6	---	1.8	1.4	---
TOTAL	132.5	3553.4	7849	1451	2456	1514	642	241.6	99.6	39.92	29.02	32.08
MEAN	4.27	118	253	46.8	84.7	48.8	21.4	7.79	3.32	1.29	.94	1.07
MAX	19	959	1730	152	504	170	40	19	11	1.8	1.5	2.0
MIN	2.6	4.3	23	20	17	24	10	3.3	1.4	.79	.59	.45
AC-FT	263	7050	15570	2880	4870	3000	1270	479	198	79	58	64

CAL YR 1983 TOTAL 36737.60 MEAN 101.0 MAX 1730 MIN 1.10 AC-FT 72870
WTR YR 1984 TOTAL 18040.12 MEAN 49.3 MAX 1730 MIN .45 AC-FT 35780

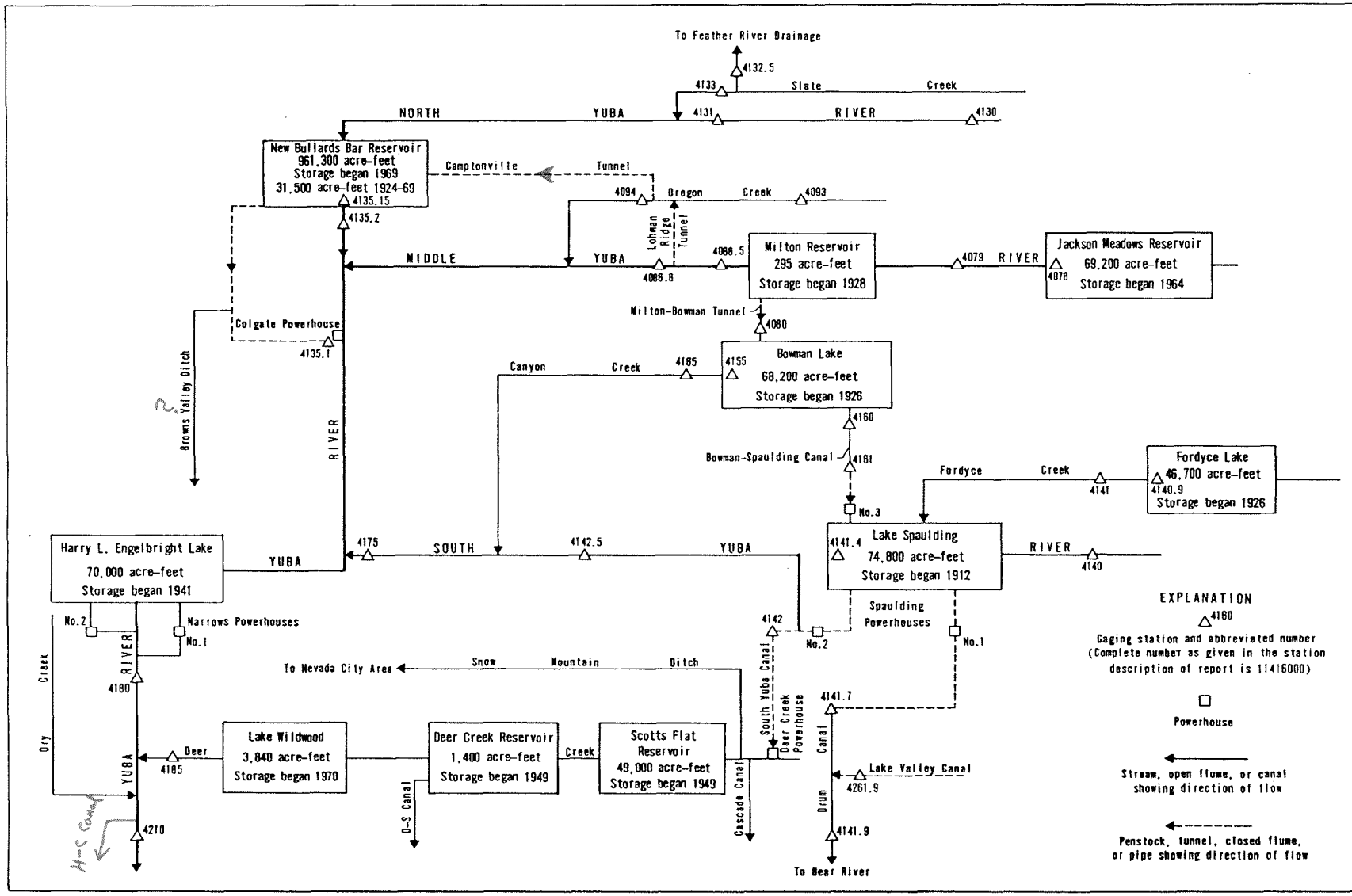

FIGURE 9. — Schematic diagram showing diversions and storage in Yuba River basin.

11407800 JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CA

LOCATION (REVISED).--Lat 39°30'33", long 120°33'08", in NW 1/4 SE 1/4 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 downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2.

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 between elevations 5,933.0 ft, bottom of intake tower, and 6,036.0 ft, top of radial spillway gates. Dead storage, 2,500 acre-ft. 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 on several days in 1969-71, elevation, 6,037.7 ft; minimum since reservoir first filled, 2,500 acre-ft Sept. 27-29, 1976, elevation, 5,933.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 70,300 acre-ft May 23, elevation, 6,037.0 ft; minimum, 46,100 acre-ft Nov. 9, elevation, 6,012.4 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58200	48700	54800	55400	54500	54400	54700	55000	70200	69700	69300	68700
2	58000	48300	54800	55300	54500	54500	54700	55000	70200	69700	69300	68700
3	58100	47900	54900	55100	54500	54500	54700	55200	70000	69700	69300	68700
4	58100	47600	54800	55100	54500	54400	54700	55700	70200	69600	69300	68600
5	58100	47200	54700	55000	54500	54400	54700	56400	70000	69600	69300	68600
6	58100	47000	54700	55000	54500	54400	54700	57000	70200	69600	69300	68300
7	58000	46700	54700	54900	54500	54500	54700	57700	70000	69500	69300	67600
8	57900	46400	54800	54900	54500	54500	54800	58700	69900	69500	69300	67000
9	57600	46100	54900	54900	54500	54500	54800	59800	69900	69500	69200	66300
10	57100	46700	54900	54800	54500	54500	54800	61000	69800	69500	69200	65700
11	56700	47800	54900	54800	54500	54500	54800	62400	69800	69500	69200	64900
12	56300	48300	54800	54800	54500	54500	54700	63900	69700	69500	69100	64200
13	55800	48500	54800	54700	54600	54900	54800	65400	69700	69500	69100	63600
14	55400	48400	54800	54700	54600	54900	54800	66700	69800	69400	69100	63000
15	54900	48200	54900	54700	54700	54900	55000	67500	69900	69400	69100	62400
16	54500	48900	54900	54700	54600	54800	55100	68400	70000	69400	69000	61800
17	54000	51200	54900	54600	54600	54800	55200	68800	70000	69500	69000	61100
18	53700	52900	54800	54600	54500	54700	55100	69000	70000	69500	69000	60500
19	53100	53000	54800	54600	54500	54700	55100	69300	70000	69400	69000	60000
20	52600	53900	54700	54600	54500	54700	55000	69800	69900	69400	69000	59400
21	52200	54400	54700	54600	54500	54800	54900	70000	69900	69400	69000	58700
22	51800	54700	54700	54500	54500	54800	54900	70200	69800	69400	68900	58100
23	51300	54900	54800	54500	54500	54800	55000	70300	69800	69400	68900	57500
24	50900	56000	55200	54600	54500	54800	55100	70200	69800	69400	68900	56800
25	50400	55600	56400	54500	54500	54800	55000	70000	69800	69400	68900	56400
26	50000	55300	56300	54500	54500	54900	55000	70000	69800	69400	68800	55700
27	49500	55100	55900	54500	54400	54900	54900	70000	69800	69400	68800	55100
28	49100	55000	55500	54500	54400	54900	54900	70000	69700	69400	68800	54500
29	48700	54900	55300	54500	54400	54800	54900	70000	69700	69400	68800	53800
30	48600	54900	56000	54500	---	54800	54900	70000	69700	69400	68700	53300
31	48600	---	55700	54500	---	54800	---	70000	---	69300	68700	---
MAX	58200	56000	56400	55400	54700	54900	55200	70300	70200	69700	69300	68700
MIN	48600	46100	54700	54500	54400	54400	54700	55000	69700	69300	68700	53300
a	6015.1	6021.8	6022.6	6021.4	6021.3	6021.7	6021.8	6036.8	6036.5	6036.1	6035.5	6020.1
b	-10000	+6300	+800	-1200	-100	+400	+100	+15100	-300	-400	-600	-15400

CAL YR 1983 b +18000
WTR YR 1983 b -5300

a Elevation, in feet NGVD, at end of month.
b 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°33'37" (revised), in SE 1/4 NW 1/4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 0.6 mi downstream from Jackson Meadows Dam, and 5.2 mi southeast of Sierra City.

DRAINAGE AREA.--38.3 mi^2.

PERIOD OF RECORD.--October 1964 to current year. If record for Milton-Bowman tunnel near Graniteville is added to record published as Middle Yuba River at Milton, a record equivalent to this site can be obtained for the period 1928-64.

GAGE.--Water-stage recorder. Datum of gage is 5,717.20 ft National Geodetic Vertical Datum of 1929 (levels by Nevada Irrigation District). Prior to Aug. 12, 1982, at site 160 ft downstream at same datum.

REMARKS.--Records good. Flow regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Jackson Meadows Reservoir).--20 years, 121 ft^3/s, 87,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft^3/s Dec. 20, 1981, gage height, 9.61 ft, from rating curve extended above 400 ft^3/s on basis of computation of flow over Milton Dam, adjusted for diversion and inflow; maximum gage height, 15.23 ft June 11, 1983; no flow on many days in 1976-77.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1925, 10,000 ft^3/s Jan. 31, 1963, gage height, 10.57 ft from floodmarks, by computation of flow over Milton Dam, adjusted for diversion and inflow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft^3/s Dec. 26, gage height, 14.88 ft; minimum daily, 5.0 ft^3/s several days in August.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	230	156	504	73	57	150	206	302	65	6.4	10
2	143	229	150	373	70	60	136	224	310	61	6.0	9.5
3	5.5	229	171	295	68	61	127	260	296	56	5.2	8.8
4	5.4	229	157	252	68	60	127	147	320	52	5.0	8.6
5	5.4	227	131	233	68	59	130	10	332	47	5.4	8.6
6	5.4	227	126	220	68	61	127	9.7	332	42	5.1	119
7	39	228	117	207	67	63	129	9.3	348	38	5.0	354
8	85	221	116	196	67	68	172	9.3	294	31	5.0	345
9	141	223	148	183	82	74	163	9.3	250	27	5.3	340
10	229	235	186	174	90	79	164	9.1	223	24	5.3	339
11	229	250	197	162	81	82	155	9.0	203	21	5.3	335
12	229	244	170	149	80	83	141	9.0	191	19	5.3	328
13	229	234	145	138	105	134	140	9.0	184	17	5.3	324
14	229	232	149	128	114	225	154	8.8	148	16	5.3	309
15	228	231	173	123	117	218	200	8.7	146	15	5.2	311
16	227	149	179	123	129	187	264	8.7	170	14	5.0	308
17	224	56	182	111	108	165	316	164	181	15	5.0	308
18	224	21	162	101	92	138	314	324	184	18	5.0	308
19	224	23	144	98	84	127	286	324	177	16	5.0	306
20	224	21	131	94	76	130	239	353	162	14	5.0	304
21	229	17	119	93	96	146	205	474	147	12	5.0	302
22	228	67	115	90	85	148	196	537	132	7.8	5.0	297
23	228	161	126	85	76	145	223	577	124	7.3	5.1	304
24	227	551	196	82	75	147	264	607	118	10	5.3	298
25	225	630	696	82	74	155	270	557	112	8.9	5.3	295
26	224	416	1160	78	67	174	240	530	103	9.0	5.4	295
27	224	304	886	75	63	191	214	502	94	9.2	5.3	299
28	229	237	582	74	61	182	194	499	85	8.1	5.3	298
29	229	195	415	74	59	176	191	519	77	6.4	5.3	294
30	230	168	564	74	---	163	192	522	70	5.5	9.2	291
31	231	---	697	74	---	158	---	372	---	5.2	11	---
TOTAL	5657.7	6485	8646	4745	2363	3916	5823	7807.9	5815	697.4	172.3	7656.5
MEAN	183	216	279	153	81.5	126	194	252	194	22.5	5.56	255
MAX	231	630	1160	504	129	225	316	607	348	65	11	354
MIN	5.4	17	115	74	59	57	127	8.7	70	5.2	5.0	8.6
AC-FT	11220	12860	17150	9410	4690	7770	11550	15490	11530	1380	342	15190

CAL YR 1983 TOTAL 81003.9 MEAN 222 MAX 1290 MIN 5.4 AC-FT 160700 MEAN a 247 AC-FT a 178700
WTR YR 1984 TOTAL 59784.8 MEAN 163 MAX 1160 MIN 5.0 AC-FT 118600 MEAN a 156 AC-FT a 113300

a Adjusted for change in contents in Jackson Meadows Reservoir.

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA

LOCATION (REVISED).--Lat 39°27'37", long 102°36'37", in NW 1/4 NE 1/4 sec.3, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 100 ft downstream from tunnel outlet near upper end of Bowman Lake, and 6.9 mi 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 National Geodetic Vertical Datum of 1929. Prior to Sept. 22, 1964, at datum 0.56 ft 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.--56 years, 73.7 ft^3/s, 53,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 492 ft^3/s Feb. 11, 1941; minimum daily, 0.4 ft^3/s Oct. 7, 1944.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	251	22	25	16	65	144	14	163	72	4.1	8.8
2	196	245	22	23	16	67	143	14	165	64	4.4	8.2
3	15	236	21	22	79	69	143	15	164	60	4.0	7.7
4	8.1	233	21	22	102	68	143	15	165	55	3.6	7.4
5	7.1	234	20	21	70	66	143	14	165	50	3.5	7.1
6	6.6	235	20	21	70	69	143	14	167	44	3.6	49
7	21	240	19	20	69	72	143	14	168	39	3.5	256
8	90	237	20	20	69	77	145	14	166	32	3.6	264
9	121	237	22	20	83	83	144	14	165	27	3.5	265
10	225	248	23	20	94	88	144	14	163	24	3.5	265
11	234	279	21	19	83	92	144	15	160	21	3.5	265
12	235	275	20	19	81	93	143	14	159	18	3.5	265
13	236	271	20	19	99	114	144	14	161	17	3.4	291
14	237	266	20	19	119	149	144	14	170	15	3.4	314
15	234	260	21	18	119	146	146	13	166	15	2.9	309
16	234	254	20	18	127	145	147	13	166	14	3.0	307
17	233	148	20	17	125	144	148	13	174	13	3.2	306
18	232	30	20	17	111	144	148	13	181	16	3.2	305
19	232	32	20	18	91	143	147	13	184	14	3.1	306
20	231	31	20	17	85	143	83	13	180	13	3.1	306
21	233	28	19	18	102	144	14	13	170	11	3.2	304
22	233	26	19	17	97	144	14	13	155	8.0	3.2	303
23	234	26	19	17	85	144	15	13	136	6.6	3.3	302
24	233	36	24	17	83	144	15	13	125	8.4	3.3	301
25	232	30	35	17	84	145	14	13	107	7.7	3.2	300
26	231	27	33	17	76	146	14	13	95	7.4	3.4	300
27	231	26	31	17	71	146	14	12	97	7.2	3.4	302
28	233	25	26	17	68	145	13	12	96	6.8	3.3	302
29	233	25	24	17	66	145	13	12	92	5.8	3.3	301
30	242	23	31	16	---	144	13	12	85	4.8	4.4	298
31	250	---	28	16	---	144	---	91	---	4.2	9.5	---
TOTAL	5845.8	4514	701	581	2440	3628	2968	494	4510	700.9	113.1	7125.2
MEAN	189	150	22.6	18.7	84.1	117	98.9	15.9	150	22.6	3.65	238
MAX	250	279	35	25	127	149	148	91	184	72	9.5	314
MIN	6.6	23	19	16	16	65	13	12	85	4.2	2.9	7.1
AC-FT	11600	8950	1390	1150	4840	7200	5890	980	8950	1390	224	14130

CAL YR 1983 TOTAL 27420.8 MEAN 75.1 MAX 279 MIN 6.6 AC-FT 54390
WTR YR 1984 TOTAL 33621.0 MEAN 91.9 MAX 314 MIN 2.9 AC-FT 66690

11408850 MIDDLE YUBA RIVER NEAR CAMPTONVILLE, CA

LOCATION.--Lat 30°25'01", long 120°57'06", in SW 1/4 SE 1/4 sec.15, T.18 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 0.6 mi downstream from Kanaka Creek, and 5.8 mi southeast of Camptonville.

DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,170 ft, 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.--17 years, 365 ft^3/s, 264,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft^3/s Jan. 13, 1980, gage height, 16.00 ft; minimum daily, 11 ft^3/s July 29, Aug. 17, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown ft^3/s Dec. 26, gage height, unknown; minimum daily, 35 ft^3/s Sept. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	303	526	2040	265	302	392	613	373	83	46	42
2	130	222	537	1670	257	313	360	747	373	78	46	40
3	89	126	845	1350	250	314	333	762	355	74	46	40
4	69	101	766	1110	209	300	321	800	385	72	46	38
5	62	90	585	960	191	286	312	489	423	69	45	38
6	59	86	574	855	188	277	307	449	416	68	45	39
7	58	182	566	800	183	276	297	419	475	67	45	37
8	57	136	643	740	180	277	410	435	376	64	45	67
9	58	132	940	690	241	274	392	468	308	62	45	97
10	58	403	1840	660	236	269	476	489	262	62	43	98
11	56	1690	1830	645	208	266	498	505	231	60	43	98
12	55	908	1350	624	226	255	419	520	211	60	43	97
13	54	950	1010	601	725	577	391	551	190	60	43	97
14	55	590	923	553	693	996	398	551	183	58	43	72
15	56	420	918	516	671	1020	448	475	165	56	42	41
16	54	754	876	512	827	845	579	397	146	57	42	37
17	53	3780	957	469	586	784	700	388	139	56	41	37
18	53	1380	817	422	475	679	731	660	134	56	41	37
19	53	1170	731	389	418	640	694	678	130	55	40	37
20	52	1500	675	371	394	636	613	724	123	53	40	39
21	52	894	602	370	564	658	678	835	118	52	40	39
22	51	655	556	369	488	606	646	909	112	51	40	36
23	54	629	578	361	451	536	679	944	105	51	40	36
24	58	2860	1590	352	403	507	728	973	101	52	40	36
25	53	2290	3700	348	379	498	712	915	97	53	39	36
26	51	1370	6000	331	347	508	653	863	94	51	39	36
27	49	1020	4570	318	332	490	592	815	90	50	39	36
28	48	813	3530	314	323	470	538	815	87	50	39	36
29	49	676	2620	299	308	455	518	830	84	48	40	35
30	114	584	3400	280	---	423	517	830	84	48	41	38
31	295	---	2720	272	---	418	---	697	---	47	47	---
TOTAL	2139	26714	47775	19591	11009	15155	15332	20546	6370	1823	1314	1492
MEAN	69.0	890	1541	632	380	489	511	663	212	58.8	42.4	49.7
MAX	295	3780	6000	2040	827	1020	731	973	475	83	47	98
MIN	48	86	526	272	180	255	297	388	84	47	39	35
AC-FT	4240	52990	94760	38860	21840	30060	30410	40750	12630	3620	2610	2960

CAL YR 1983 TOTAL 312563 MEAN 856 MAX 6990 MIN 48 AC-FT 620000
WTR YR 1984 TOTAL 169260 MEAN 462 MAX 6000 MIN 35 AC-FT 335700

NOTE.--No gage-height record Dec. 25 to Jan. 11.

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°24'42", long 120°59'49", in SW 1/4 NW 1/4 sec.20, T.18 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 400 ft downstream from Our House Dam, and 4.0 mi southeast of Camptonville.

DRAINAGE AREA.--145 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,957.51 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1970, at datum 10.0 ft 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 400 ft upstream to Oregon Creek and then to New Bullards Bar Reservoir via Camptonville tunnel. Other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--16 years, 151 ft^3/s, 109,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft^3/s Jan. 13, 1980, gage height, 23.01 ft present datum; minimum daily, 2.1 ft^3/s Jan. 10, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,120 ft^3/s Dec. 25, gage height, 19.46 ft; minimum daily, 21 ft^3/s Jan. 10-13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	27	28	1620	35	37	33	55	58	34	44	38
2	30	27	28	1040	35	39	32	57	58	34	47	38
3	32	26	206	716	35	40	32	55	58	34	51	38
4	30	26	86	592	35	40	31	58	57	34	50	39
5	29	31	29	430	35	38	31	53	57	34	50	39
6	30	36	29	229	35	38	31	52	57	34	49	38
7	30	38	28	133	35	39	31	55	57	34	48	38
8	34	38	28	57	35	38	31	59	57	34	49	39
9	38	36	220	22	35	40	33	59	56	34	48	47
10	38	94	1200	21	35	39	34	59	56	34	42	57
11	38	1020	1230	21	35	39	35	60	55	34	43	59
12	37	268	671	21	35	38	36	60	55	34	43	62
13	38	277	286	21	207	105	46	60	55	34	43	47
14	38	29	183	24	190	213	56	61	55	34	43	45
15	37	25	169	31	44	281	56	61	44	34	41	41
16	37	69	121	34	94	78	56	60	35	34	40	37
17	37	3490	217	33	47	44	56	60	35	34	38	32
18	37	815	62	33	46	38	57	62	35	34	40	34
19	37	467	23	30	45	37	58	63	35	36	39	37
20	37	878	23	27	44	37	57	63	35	35	39	34
21	37	201	22	28	45	37	57	65	35	32	38	33
22	35	26	22	28	45	36	57	68	35	35	38	35
23	34	26	22	28	44	36	57	91	35	40	38	35
24	34	2270	948	30	44	35	57	121	35	43	38	34
25	33	1630	4870	31	43	35	58	77	35	41	38	33
26	32	660	5210	32	43	34	58	68	35	40	38	33
27	32	298	4100	32	43	34	57	66	35	40	38	31
28	31	71	2290	32	43	34	55	65	35	40	38	29
29	31	29	1490	33	40	33	55	65	32	40	38	29
30	31	28	2760	33	---	33	55	65	32	40	38	29
31	34	---	2380	34	---	33	---	63	---	40	38	---
TOTAL	1058	12956	28981	5476	1527	1678	1398	1986	1354	1114	1305	1160
MEAN	34.1	432	935	177	52.7	54.1	46.6	64.1	45.1	35.9	42.1	38.7
MAX	38	3490	5210	1620	207	281	58	121	58	43	51	62
MIN	29	25	22	21	35	33	31	52	32	32	38	29
AC-FT	2100	25700	57480	10860	3030	3330	2770	3940	2690	2210	2590	2300
a	2530	30900	44120	30110	21650	30580	31520	41250	11140	1750	270	940

CAL YR 1983 TOTAL 133637 MEAN 366 MAX 5880 MIN 22 AC-FT 265100
WTR YR 1984 TOTAL 59993 MEAN 164 MAX 5210 MIN 21 AC-FT 119000

a Lohman Ridge tunnel diversion, in acre-feet, to Oregon Creek.

11409300 OREGON CREEK AT CAMPTONVILLE, CA

LOCATION.--Lat 39°26'46", long 121°02'43", in SE 1/4 NE 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 25 ft downstream from county bridge, 0.5 mi southeast of Camptonville, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--23.0 mi^2.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,230 ft, from topographic map.

REMARKS.--Records good prior to June and fair thereafter. No regulation or diversion above station. Swimmers ofte build dams on control during summer months. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--17 years, 76.2 ft^3/s, 55,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft^3/s Jan. 13, 1980, gage height, 10.83 ft; minimum daily, 0.53 ft^3/s Aug. 14-16, 1977.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 17	0830	1,190	7.25	Dec. 11	1615	843	6.53
Nov. 24	1345	1,340	7.54	Dec. 25	1730	*2,170	8.87

Minimum daily, 1.9 ft^3/s Aug. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	46	71	430	32	91	71	76	16	5.9	2.2	3.9
2	12	28	71	326	31	90	68	92	15	5.5	2.2	2.9
3	12	19	223	262	30	89	63	86	15	5.1	2.1	2.6
4	10	16	190	219	29	86	60	83	20	4.9	2.2	2.4
5	9.8	15	123	192	29	81	58	79	19	4.6	2.3	2.5
6	9.5	15	153	169	28	77	55	72	23	4.4	2.6	2.6
7	9.4	24	173	150	27	74	52	66	23	4.2	2.5	2.3
8	9.4	20	211	134	27	71	71	60	18	3.8	2.5	2.3
9	9.8	22	291	119	42	68	63	56	16	3.8	2.3	2.4
10	10	74	664	108	44	66	102	53	15	3.6	1.9	2.5
11	9.8	202	705	99	36	64	113	50	14	3.6	2.1	2.2
12	9.6	109	483	90	46	62	96	47	13	3.3	2.1	2.1
13	9.4	134	328	84	185	125	88	44	13	3.1	2.3	2.1
14	9.7	92	255	77	210	198	82	42	13	3.0	2.2	2.1
15	9.9	59	214	72	224	268	78	42	13	2.9	2.2	2.0
16	9.9	114	194	73	285	238	76	40	12	2.9	2.1	2.0
17	9.9	752	204	65	199	213	73	36	11	2.8	2.2	2.0
18	9.9	268	174	61	160	193	78	34	10	3.0	2.1	2.0
19	9.7	242	151	57	136	174	91	32	9.8	2.7	2.1	2.1
20	9.7	331	135	54	123	161	87	30	9.5	2.4	2.1	2.3
21	9.6	192	114	52	182	149	85	29	9.5	2.4	2.1	2.3
22	9.6	127	103	49	154	135	79	28	8.9	2.4	2.2	2.2
23	10	108	111	47	137	121	75	26	8.5	2.3	2.1	2.1
24	12	762	515	44	132	110	72	25	8.1	2.4	2.0	2.0
25	10	455	1410	43	120	102	69	24	7.6	2.3	2.1	2.1
26	10	248	1410	41	110	96	65	23	7.3	2.3	2.7	2.1
27	9.9	165	1320	39	104	90	61	21	7.0	2.1	3.0	2.1
28	9.9	122	780	37	99	83	57	20	6.8	2.0	2.8	2.1
29	10	97	493	36	95	78	53	19	6.5	2.1	2.5	2.0
30	19	82	746	35	---	73	50	18	6.2	2.0	3.9	2.7
31	48	---	597	33	---	76	---	17	---	2.1	6.3	---
TOTAL	359.4	4940	12612	3297	3056	3602	2191	1370	374.7	99.9	76.0	69.0
MEAN	11.6	165	407	106	105	116	73.0	44.2	12.5	3.22	2.45	2.30
MAX	48	762	1410	430	285	268	113	92	23	5.9	6.3	3.9
MIN	9.4	15	71	33	27	62	50	17	6.2	2.0	1.9	2.0
AC-FT	713	9800	25020	6540	6060	7140	4350	2720	743	198	151	137

CAL YR 1983 TOTAL 59940.8 MEAN 164 MAX 1480 MIN 4.3 AC-FT 118900
WTR YR 1984 TOTAL 32047.0 MEAN 87.6 MAX 1410 MIN 1.9 AC-FT 63570

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°26'22", long 121°03'29", in SW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 500 ft downstream from Log Cabin Dam, 670 ft upstream from High Point Ravine, and 1.1 mi southwest of Camptonville.

DRAINAGE AREA.--29.1 mi^2.

PERIOD OF RECORD.--August 1968 to current year.

REVISED RECORDS.--WDR CA-81-4: 1980(M).

GAGE.--Water-stage recorder. Datum of gage is 1,919.96 ft National Geodetic Vertical Datum of 1929 (levels by Yuba County Water Agency). Prior to July 24, 1973, at site 470 ft downstream at datum 8.40 ft lower.

REMARKS.--Records good. Camptonville tunnel, maximum capacity, about 1,000 ft^3/s, 520 ft 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.--16 years, 35.4 ft^3/s, 25,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft^3/s Jan. 12, 1980, gage height, 9.80 ft; minimum daily, 0.34 ft^3/s Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,590 ft^3/s Dec. 25, gage height, 7.66 ft; minimum daily, 1.9 ft^3/s Mar. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	12	15	11	15	2.3	6.5	13	13	8.7	7.2	8.7
2	11	11	15	9.1	15	2.3	6.3	14	14	8.6	6.5	8.3
3	11	11	19	8.4	14	2.3	6.1	14	14	8.6	5.6	8.3
4	10	13	18	7.9	14	2.3	5.9	15	14	8.4	5.7	7.3
5	9.6	12	17	7.9	14	1.9	5.9	14	15	8.3	5.5	7.5
6	9.2	12	16	8.3	14	5.3	5.9	14	15	8.3	5.5	7.6
7	9.0	14	17	8.0	14	8.3	6.7	13	15	8.3	5.4	6.9
8	8.6	13	18	7.9	13	8.3	8.8	13	15	8.3	5.4	17
9	7.3	13	45	7.7	15	8.3	8.7	14	14	8.3	5.2	33
10	7.2	16	352	7.4	15	8.3	9.3	14	13	8.3	6.2	29
11	6.9	24	412	7.1	14	8.3	9.4	14	13	8.3	6.5	29
12	6.4	18	134	6.8	15	8.3	9.1	14	13	8.3	5.6	29
13	5.9	19	21	6.5	19	9.6	8.8	14	13	8.3	6.4	42
14	6.0	17	19	6.2	20	12	9.4	14	12	8.4	6.3	32
15	6.0	15	19	5.9	20	13	10	14	12	8.3	6.4	3.4
16	5.8	17	18	5.9	22	12	11	14	11	8.8	6.3	2.7
17	5.7	403	18	5.6	19	11	11	14	9.6	9.1	6.5	5.1
18	5.6	20	18	5.4	18	8.9	11	15	9.6	9.1	5.6	6.4
19	5.5	19	18	5.2	18	8.5	12	15	9.6	9.1	6.1	2.8
20	4.8	21	17	5.1	17	8.3	12	15	9.6	8.7	4.8	9.2
21	4.2	19	16	4.8	19	8.3	13	16	9.6	8.8	6.5	15
22	4.7	18	16	4.8	18	8.2	13	16	9.2	8.7	6.5	12
23	5.8	17	16	10	18	7.8	13	16	9.1	8.3	5.9	3.7
24	6.2	482	316	15	17	7.6	13	16	8.8	8.6	5.9	6.4
25	6.0	89	1400	15	17	7.4	13	16	8.7	8.7	6.0	6.4
26	5.7	19	1370	15	17	7.2	13	16	8.7	8.7	7.9	7.1
27	5.6	17	1200	15	16	7.2	13	16	8.7	8.7	8.3	19
28	5.4	17	412	15	16	7.2	13	16	8.7	8.7	7.8	21
29	5.1	16	55	15	9.2	6.9	13	16	8.7	8.7	8.1	19
30	7.7	15	372	15	---	6.6	12	16	8.7	8.4	7.8	23
31	13	---	168	15	---	6.6	---	16	---	8.3	8.6	---
TOTAL	220.9	1409	6567	282.9	472.2	230.5	302.8	457	343.3	265.1	198.0	427.8
MEAN	7.13	47.0	212	9.13	16.3	7.44	10.1	14.7	11.4	8.55	6.39	14.3
MAX	13	482	1400	15	22	13	13	16	15	9.1	8.6	42
MIN	4.2	11	15	4.8	9.2	1.9	5.9	13	8.7	8.3	4.8	2.7
AC-FT	438	2790	13030	561	937	457	601	906	681	526	393	849
a	3000	41880	64840	39360	27590	38130	35400	43170	11390	1470	68	264

CAL YR 1983 TOTAL 20348.1 MEAN 55.7 MAX 1560 MIN 4.2 AC-FT 40360
WTR YR 1984 TOTAL 11176.5 MEAN 30.5 MAX 1400 MIN 1.9 AC-FT 22170

a 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 1/4 SW 1/4 sec.11, T.19 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 200 ft downstream from St. Catherine Creek, 3.1 mi southwest of Goodyears Bar, and 6.4 mi southwest of Downieville.

DRAINAGE AREA.--250 mi^2.

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 National Geodetic Vertical datum of 1929 (river-profile survey).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--54 years, 778 ft^3/s, 563,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft^3/s Feb. 1, 1963, gage height, 25.8 ft from floodmarks, from rating curve extended above 8,500 ft^3/s on basis of one float measurement at 17,900 ft^3/s and slope-area measurements at gage heights 19.15 ft and 23.8 ft; minimum daily, 60 ft^3/s Sept. 7-14, 1977.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0430	7,200	10.95	Dec. 25	1830	*12,400	13.69
Nov. 17	1115	9,830	12.45	Mar. 13	1900	3,480	8.15
Nov. 24	Unknown	Unknown	Unknown				

Minimum daily, 156 ft^3/s Sept. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	1010	992	3320	709	796	1060	1220	1530	455	229	191
2	408	656	1080	2700	690	836	1010	1360	1390	438	226	183
3	308	426	1510	2310	675	840	973	1580	1290	422	226	179
4	263	352	1420	2180	671	818	993	1710	1510	407	223	175
5	248	318	1210	2120	667	788	963	1600	1400	392	221	179
6	241	335	1120	2000	656	792	948	1540	1480	380	217	176
7	236	685	1270	1870	653	800	958	1520	1500	367	215	173
8	237	433	1470	1720	642	827	1210	1690	1190	362	211	170
9	242	434	1900	1610	782	845	1040	1940	1070	345	207	168
10	237	1430	2030	1520	729	854	1100	2050	1010	330	204	167
11	230	3820	3600	1430	656	845	1080	2240	951	319	204	165
12	224	2250	3160	1340	713	831	1050	2450	920	311	202	164
13	223	1940	2360	1260	1580	1900	1060	2560	892	303	199	164
14	250	1350	2010	1200	1440	2180	1140	2500	894	295	198	163
15	236	1020	1730	1140	1320	1990	1310	2080	912	295	197	162
16	228	1900	1740	1110	1550	1710	1460	1680	893	292	197	161
17	224	5370	1610	1040	1230	1550	1520	1620	883	288	195	158
18	220	2920	1810	998	1080	1400	1460	1630	856	287	192	159
19	218	2360	1430	963	988	1430	1360	1760	812	279	191	171
20	215	2800	1280	920	958	1460	1230	2040	766	271	188	182
21	213	2170	1190	905	1160	1590	1170	2120	716	265	187	172
22	211	1540	1130	863	1040	1440	1190	2090	671	260	186	164
23	228	1250	1120	836	973	1340	1310	2140	647	262	185	162
24	239	5100	2600	822	953	1330	1390	2090	626	311	183	161
25	217	3650	8530	813	900	1320	1320	1920	612	272	181	159
26	212	2500	8560	784	854	1410	1190	1880	576	258	186	159
27	209	1600	6480	756	831	1370	1110	1820	543	249	183	159
28	207	1460	4330	740	813	1300	1060	1850	515	244	181	157
29	209	1250	3300	732	792	1280	1060	1900	497	240	180	156
30	531	1100	5410	724	---	1140	1070	1890	478	236	189	168
31	1020	---	4530	716	---	1140	---	1730	---	233	212	---
TOTAL	8502	53429	81912	41442	26705	38152	34795	58200	28030	9668	6195	5027
MEAN	274	1781	2642	1337	921	1231	1160	1877	934	312	200	168
MAX	1020	5370	8560	3320	1580	2180	1520	2560	1530	455	229	191
MIN	207	318	992	716	642	788	948	1220	478	233	180	156
AC-FT	16860	106000	162500	82200	52970	75670	69020	115400	55600	19180	12290	9970

CAL YR 1983 TOTAL 609481 MEAN 1670 MAX 10600 MIN 207 AC-FT 1209000
WTR YR 1984 TOTAL 392057 MEAN 1071 MAX 8560 MIN 156 AC-FT 777600

NOTE.--No gage-height record Nov. 16, 17, Nov. 21 to Dec. 22.

11413100 NORTH YUBA RIVER ABOVE SLATE CREEK, NEAR STRAWBERRY VALLEY, CA.

LOCATION.--Lat 39°31'29", long 121°05'26", in NE 1/4 SW 1/4 sec.9, T.19 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 500 ft upstream from Slate Creek, and 2.8 mi southeast of Strawberry Valley.

DRAINAGE AREA.--351 mi^2.

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,953.44 ft 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.--16 years, 1,305 ft^3/s, 945,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,600 ft^3/s Jan. 13, 1980, gage height, 22.12 ft; minimum daily, 71 ft^3/s Sept. 7-15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 20.8 ft from floodmarks, discharge, 63,400 ft^3/s from slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0430	10,800	12.83	Dec. 25	2215	*17,800	14.85
Nov. 17	1215	12,400	13.36	Dec. 30	1730	9,730	12.46
Nov. 24	1545	14,300	13.93	Feb. 13	1945	5,250	10.56
Dec. 10	0330	5,910	10.89	Mar. 13	2015	5,940	10.90

Minimum daily, 178 ft^3/s Sept. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	417	1540	1460	4930	955	1230	1600	1720	1840	556	276	227
2	526	997	1530	4020	937	1290	1510	2070	1670	534	273	215
3	427	591	2200	3460	913	1320	1450	2210	1560	515	270	207
4	349	479	2110	3200	905	1270	1470	2410	1760	498	268	203
5	325	428	1660	3110	901	1220	1420	2220	1700	479	264	207
6	312	407	1660	2940	890	1220	1400	2120	1740	464	261	207
7	304	862	1780	2720	872	1220	1420	2070	1880	447	257	200
8	303	589	1950	2530	859	1240	1780	2240	1450	446	251	195
9	308	538	2700	2330	1130	1270	1540	2480	1290	429	246	192
10	307	1770	5260	2190	1090	1270	1660	2620	1230	411	237	192
11	296	6360	5070	2060	957	1260	1660	2750	1150	401	237	190
12	286	3390	3960	1910	1020	1240	1600	2970	1110	392	234	186
13	282	3250	2920	1790	2750	3110	1580	3100	1070	376	231	186
14	307	2220	2640	1690	2750	3990	1650	3080	1060	348	228	187
15	297	1590	2650	1610	2260	3640	1840	2640	1090	320	227	186
16	286	2280	2470	1590	2710	3040	2020	2150	1060	366	226	184
17	281	9300	2720	1450	2090	2670	2080	2040	1050	355	227	183
18	275	4280	2340	1380	1780	2380	2030	2030	1020	357	222	182
19	271	3060	2110	1330	1620	2310	1970	2140	965	346	218	192
20	270	3970	1930	1270	1530	2380	1770	2460	911	335	218	211
21	270	2690	1730	1240	1950	2540	1690	2560	856	329	215	203
22	267	2060	1620	1190	1730	2310	1710	2500	800	321	215	189
23	280	1760	1610	1140	1560	2130	1840	2540	768	319	210	186
24	318	7590	3690	1110	1540	2070	1940	2520	748	371	209	183
25	280	5530	12100	1100	1440	2020	1860	2300	729	334	207	181
26	268	3340	12900	1070	1350	2090	1680	2250	691	318	213	180
27	261	2520	10100	1030	1310	2100	1570	2190	654	305	213	180
28	260	2080	6950	1010	1280	1890	1500	2210	623	296	209	180
29	260	1770	5030	992	1240	1840	1490	2240	597	290	207	178
30	563	1580	7160	974	---	1700	1500	2240	576	287	215	190
31	1410	---	6790	967	---	1710	---	2070	---	282	257	---
TOTAL	10866	78821	120800	59333	42339	60970	50230	73140	33648	11827	7241	5782
MEAN	351	2627	3897	1914	1460	1967	1674	2359	1122	382	234	193
MAX	1410	9300	12900	4930	2750	3990	2080	3100	1880	556	276	227
MIN	260	407	1460	967	859	1220	1400	1720	576	282	207	178
AC-FT	21550	156300	239600	117700	83980	120900	99630	145100	66740	23460	14360	11470

CAL YR 1983 TOTAL 908223 MEAN 2488 MAX 17100 MIN 260 AC-FT 1801000
WTR YR 1984 TOTAL 554997 MEAN 1516 MAX 12900 MIN 178 AC-FT 1101000

11413250 SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'57", long 121°03'03", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., Plumas County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 30 ft upstream from diversion dam on Slate Creek, 0.3 mi upstream from Feney Ravine, and 4.5 mi 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.--18 years, 94.6 ft^3/s, 68,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 863 ft^3/s Apr. 6, 1963; no flow many days in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	294	209	0	97	0	244	281	88	23	6.0	3.6
2	24	107	300	0	95	0	228	378	79	22	5.6	1.7
3	16	50	401	0	91	0	214	425	74	21	5.4	.79
4	11	36	338	0	91	0	203	391	92	20	5.2	.36
5	9.2	29	282	0	92	0	199	345	83	19	5.0	.26
6	8.4	34	275	0	90	0	193	309	128	18	4.7	.23
7	8.0	67	310	0	88	0	190	285	144	17	4.3	.22
8	7.6	42	402	0	86	0	284	286	93	16	3.9	.21
9	8.3	64	622	0	207	0	227	292	77	16	3.4	.21
10	8.1	283	189	171	178	0	251	283	69	15	2.9	.21
11	7.2	285	355	300	142	0	250	284	64	15	2.8	.21
12	6.3	271	247	111	173	116	244	289	58	14	2.7	.21
13	5.8	258	0	0	554	609	239	287	55	14	2.4	.20
14	7.2	299	0	0	713	828	250	272	53	13	2.2	.21
15	6.9	272	0	0	213	355	281	243	51	12	2.1	.21
16	6.2	485	0	0	0	0	296	202	49	12	1.9	.21
17	5.9	763	0	0	0	0	290	184	47	12	1.5	.21
18	5.9	672	0	0	0	0	306	173	44	12	.99	.21
19	5.9	617	0	0	0	0	307	174	42	11	1.0	.21
20	5.5	626	0	0	0	0	275	183	40	10	.78	.21
21	5.0	493	0	0	0	0	272	175	38	9.8	.60	.21
22	4.8	332	0	0	0	0	278	163	36	9.4	.49	.19
23	10	317	204	0	0	0	289	161	34	9.2	.34	.19
24	12	180	224	0	0	0	286	151	33	11	.27	.19
25	7.4	695	290	83	0	0	260	138	31	9.9	.25	.19
26	6.2	617	0	112	0	205	232	133	29	9.1	1.3	.20
27	5.5	479	0	105	0	318	211	123	28	8.1	.82	.20
28	5.2	374	0	97	0	324	196	120	27	7.6	.34	.20
29	6.2	310	0	96	0	305	188	117	25	7.2	.29	.20
30	90	267	0	96	---	274	184	110	24	6.8	3.8	1.6
31	166	---	0	98	---	268	---	98	---	6.3	10	---
TOTAL	501.7	9618	4648	1269	2910	3602	7367	7055	1735	406.4	83.27	13.25
MEAN	16.2	321	150	40.9	100	116	246	228	57.8	13.1	2.69	.44
MAX	166	763	622	300	713	828	307	425	144	23	10	3.6
MIN	4.8	29	0	0	0	0	184	98	24	6.3	.25	.19
AC-FT	995	19080	9220	2520	5770	7140	14610	13990	3440	806	165	26

CAL YR 1983 TOTAL 34617.78 MEAN 94.8 MAX 845 MIN 0 AC-FT 68660
WTR YR 1984 TOTAL 39208.62 MEAN 107.0 MAX 828 MIN 0 AC-FT 77770

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'52", long 121°03'04", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., Plumas County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 300 ft downstream from diversion dam, 0.2 mi upstream from Feney Ravine, and 4.5 mi northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 mi^2.

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

GAGE.--Water-stage recorder and 130° V-notch weir since October 1982. Altitude of gage is 3,570 ft, from topographic map.

REMARKS.--Records good. Slate Creek tunnel (station 11413250) diverts at diversion dam, 300 ft upstream, up to 900 ft^3/s from Slate Creek Reservoir, capacity, 223 acre-ft 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).--24 years, 221 ft^3/s, 160,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 13,100 ft^3/s Dec. 22, 1964, gage height, 16.42 ft, from rating curve extended above 5,500 ft^3/s on basis of computed flow over dam at gage heights 12.75 ft and 15.90 ft; minimum, 0.3 ft^3/s Mar. 4, 5, 1962.
Combined flow: Maximum discharge, 13,900 ft^3/s Dec. 22, 1964; minimum daily, 2.3 ft^3/s Nov. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 6,230 ft^3/s Dec. 25, gage height, 13.49 ft; minimum daily, 6.9 ft^3/s Jan. 11.
Combined flow: Maximum discharge, 6,230 ft^3/s Dec. 25; minimum daily, 8.7 ft^3/s Sept. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	57	832	13	170	16	13	11	11	11	11
2	12	11	31	638	13	190	16	12	11	11	11	11
3	12	11	12	517	13	197	15	12	11	11	11	11
4	12	11	12	502	13	188	17	12	11	11	11	11
5	12	11	12	494	13	177	17	12	11	11	11	11
6	12	11	12	467	13	173	17	12	11	11	11	11
7	12	11	12	428	13	178	17	11	11	11	11	11
8	12	11	12	391	13	185	17	12	11	11	11	11
9	12	11	259	347	13	190	17	12	11	11	11	11
10	12	510	737	157	13	191	17	12	10	11	11	11
11	12	887	530	6.9	13	189	17	12	9.2	11	11	11
12	12	485	277	152	13	98	15	12	12	11	11	11
13	12	275	300	239	351	378	13	12	11	11	11	11
14	12	80	569	217	172	374	13	12	11	11	11	11
15	12	11	582	202	323	435	13	12	11	11	11	11
16	12	12	558	193	431	515	13	12	11	11	11	10
17	11	1330	632	173	345	396	13	12	11	11	11	10
18	11	159	500	161	297	318	13	12	11	11	11	10
19	11	107	423	153	269	311	13	12	11	11	11	10
20	11	118	372	143	256	325	13	12	11	11	11	10
21	11	17	319	141	280	357	13	12	11	11	11	10
22	11	39	284	133	241	274	13	12	11	11	11	10
23	11	12	110	126	218	264	13	12	11	11	11	10
24	11	1260	455	125	208	263	13	12	11	11	11	10
25	11	347	3860	59	187	282	13	11	11	11	11	8.5
26	11	47	3150	11	176	118	13	11	11	11	11	8.7
27	11	12	2210	11	173	36	13	11	11	11	11	8.7
28	11	12	1370	15	170	17	13	11	11	11	11	9.0
29	11	12	945	15	166	16	13	11	11	11	11	9.1
30	12	12	1570	14	---	16	13	11	11	11	11	9.1
31	12	---	1190	13	---	16	---	11	---	11	11	---
TOTAL	359	5843	21362	7075.9	4419	6837	432	365	328.2	341	341	308.1
MEAN	11.6	195	689	228	152	221	14.4	11.8	10.9	11.0	11.0	10.3
MAX	12	1330	3860	832	431	515	17	13	12	11	11	11
MIN	11	11	12	6.9	13	16	13	11	9.2	11	11	8.5
AC-FT	712	11590	42370	14040	8770	13560	857	724	651	676	676	611
MEAN a	27.8	515	839	269	253	337	260	239	68.7	24.1	13.7	10.7
AC-FT a	1710	30670	51590	16560	14540	20700	15470	14710	4090	1480	840	637

CAL YR 1983 TOTAL 130654.0 MEAN 358 MAX 4720 MIN 7.8 AC-FT 259200 MEAN a 453 AC-FT a 327900
WTR YR 1984 TOTAL 48011.2 MEAN 131 MAX 3860 MIN 6.9 AC-FT 95230 MEAN a 238 AC-FT a 173000

a Adjusted for diversion to Slate Creek tunnel.

11413510 NEW COLGATE POWERPLANT NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°19'51", long 121°11'23", in NE 1/4 SE 1/4 sec.16, T.17 N., R.7 E., Yuba County, Hydrologic Unit 18020125, at powerplant on right bank of Yuba River, 0.3 mi upstream from Dobbins Creek, and 2.3 mi northwest of French Corral.

PERIOD OF RECORD.--October 1966 to current year. Prior to October 1969, published as "Colgate powerplant."

GAGE.--Recorded output from powerplant turbines.

REMARKS.--Water is diverted from North Yuba River at New Bullards Bar Dam (station 11413515). Colgate powerplant was rebuilt during the 1970 water year with an increased capacity. Browns Valley ditch diverted up to 10 ft^3/s 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.--18 years, 1,498 ft^3/s, 1,085,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,200 ft^3/s June 2, 1971; no flow for several days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2510	1890	3410	3420	3460	3480	2060	1020	2310	1640	2800	2990
2	2490	1810	3450	3510	3460	2540	2400	1290	3200	2590	2700	3070
3	2670	2040	3190	3520	3450	3420	2040	664	2860	3250	2750	3040
4	2780	2100	3040	3510	1870	2790	2200	1180	2760	2780	2460	3230
5	2520	2870	3450	3510	1670	2560	2590	563	1600	2570	2290	1360
6	2730	2960	3460	3510	2790	2370	1990	1210	1980	2240	3090	3210
7	2670	1970	3460	3520	3350	1780	2320	1030	1470	2660	3450	3290
8	2680	1730	3450	3520	3340	1830	2120	1190	1150	2030	3440	3210
9	2740	1740	3450	3510	2080	2280	1810	681	1810	2510	3230	2980
10	2860	1340	2630	3510	1710	2350	1380	959	1870	2500	3450	2880
11	2760	141	3480	3510	1040	2200	719	1450	2150	1580	3340	2870
12	2580	270	3490	3510	690	2090	1510	976	1890	2280	3150	3190
13	2540	278	3490	3510	1730	1840	1420	1630	2270	2580	2880	3210
14	2710	727	3490	3510	965	1330	1030	1310	2330	2760	3430	3210
15	2780	1580	3500	3510	1580	555	1220	1150	1620	1960	3430	2710
16	2330	1690	3500	3510	2900	2370	1280	568	2080	2290	3420	3160
17	2230	245	3500	3510	2780	2190	1830	883	1710	2660	3420	3220
18	2300	334	3510	3510	3170	2540	1020	1090	1380	2770	2800	3170
19	2270	274	3510	3500	3190	2700	1580	1530	2010	2410	2790	3090
20	2360	254	3510	3490	3090	2330	1520	1030	2330	2710	3090	3220
21	2220	345	3510	3490	3290	2560	1090	2220	1850	2830	3320	3200
22	2290	815	3500	3490	2730	2070	1170	2150	2230	3380	3320	3190
23	2120	2930	3510	3490	2890	2020	955	1560	1980	3150	3350	3190
24	1680	893	3510	3480	3030	1670	910	1210	2320	2940	3350	2010
25	1800	319	3330	3490	3300	1610	1280	2130	2480	2520	3360	1670
26	2270	751	2900	3480	3440	2460	1020	2160	2200	2450	3360	1660
27	2220	1160	2200	3480	3210	2540	1010	2530	2420	2720	2830	1660
28	2220	2850	2040	3470	3460	2500	623	1720	1740	2490	3310	1520
29	2050	2900	1960	3470	3450	2190	1950	2840	2890	2570	3270	1230
30	2400	2890	1870	3470	---	2160	835	2200	2340	2360	2980	1630
31	1740	---	2410	3470	---	2510	---	2420	---	2960	3180	---
TOTAL	74520	42096	98710	108390	77115	69835	44882	44544	63230	79140	97040	81270
MEAN	2404	1403	3184	3496	2659	2253	1496	1437	2108	2553	3130	2709
MAX	2860	2960	3510	3520	3460	3480	2590	2840	3200	3380	3450	3290
MIN	1680	141	1870	3420	690	555	623	563	1150	1580	2290	1230
AC-FT	147800	83500	195800	215000	153000	138500	89020	88350	125400	157000	192500	161200

CAL YR 1983 TOTAL 999300 MEAN 2738 MAX 3890 MIN .00 AC-FT 1982000
WTR YR 1984 TOTAL 880772 MEAN 2406 MAX 3520 MIN 141 AC-FT 1747000

11413515 NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'34", long 121°08'25", in SE 1/4 NW 1/4 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 upstream from Middle Yuba River, and 2.4 mi northwest of North San Juan.

DRAINAGE AREA.--489 mi^2.

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 by 53-ft radial gates. Storage began in January 1969. Usable capacity, 727,380 acre-ft between elevations 1,732.0 ft minimum power pool, and 1,955.0 ft normal gross pool. Dead storage, 233,920 acre-ft. Total capacity at normal gross pool, 961,300 acre-ft, elevation, 1,955.0 ft. 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, 966,103 acre-ft June 12, 1982, elevation, 1,956.00 ft; minimum since reservoir first filled, 178,230 acre-ft Dec. 29, 1980, elevation, 1,700.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 956,278 acre-ft June 9, elevation, 1,953.95 ft; minimum, 476,213 acre-ft Sept. 30, elevation, 1,830.00.

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	389,977
1,660	122,993	1,850	539,748
1,690	162,983	1,900	721,130
1,720	211,768	1,960	985,471

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	688921	576055	732565	796060	739233	733086	797329	854000	955085	916505	792095	619447
2	685230	576881	730564	795638	734769	732685	796906	857544	952939	913263	787638	613883
3	681300	572657	732565	795047	730884	731884	797329	862434	951272	908092	783030	608351
4	676940	569783	733967	795665	728807	729086	796906	866716	950606	904043	778857	602142
5	672646	565216	733086	797118	729325	728288	795638	871370	951510	900373	775112	600058
6	668144	560638	732044	797287	726295	727490	795722	874063	952510	897171	769724	594218
7	663737	558982	731684	796483	722122	728288	794921	877302	954416	893521	763534	588101
8	659459	557161	731884	795005	718595	728687	795638	880142	955896	890789	757383	582543
9	654977	555478	735492	793528	717923	728488	796483	884889	956278	886702	751871	576846
10	650143	559793	749633	793190	717962	728009	799022	889425	955562	883079	745818	571526
11	645333	576296	761482	792769	718516	727490	802415	893065	954464	880819	739757	566576
12	640912	582716	768897	792263	720852	727371	803902	898542	953654	877662	733887	560469
13	636875	591766	772746	791589	726693	733486	805391	902437	951986	873839	729166	554403
14	632125	600199	776150	790748	733086	743389	807734	907723	950035	869355	722717	548378
15	627398	601612	779440	789318	738628	754399	810166	911876	949751	866671	716776	543721
16	623414	605153	782195	787303	743713	760949	813075	916042	948420	863325	710631	537440
17	620167	633950	785626	786087	744765	766173	815561	919058	947471	859320	704598	531532
18	615854	644595	787638	783867	744927	769104	819301	922315	947186	854442	699530	525503
19	612453	655349	788772	781359	744360	772208	822318	925160	945812	850906	694874	519840
20	608529	667351	789276	778857	743713	775528	824607	929273	943723	846500	688503	513736
21	605153	674544	789006	776775	744846	779065	827464	932040	942260	841845	682936	507806
22	601258	679876	788478	773867	745373	782320	830110	934717	939898	836247	676900	501981
23	597732	679991	788058	770965	745575	785542	833371	938483	938059	830484	670752	495696
24	595271	704207	795638	767658	745373	788688	837076	943206	935657	826202	664714	492104
25	592466	719545	833893	764525	744037	791842	839918	945100	932086	822274	658441	489304
26	588798	727969	859498	761072	742097	793781	842766	947500	930117	818526	652445	486359
27	584970	733486	864216	757588	740402	794794	845620	948420	927215	814104	647365	483641
28	581263	734769	850245	753705	738065	795216	847820	951272	925347	810081	641647	480932
29	578086	735091	827637	750040	735613	795638	848701	951986	921384	806157	635412	478661
30	575127	734368	813932	746466	---	796483	850906	953654	918362	801778	630559	476213
31	575471	---	801990	742662	---	796906	---	954607	---	796906	624861	---
MAX	688921	735091	864216	797287	745575	796906	850906	954607	956278	916505	792095	619447
MIN	575127	555478	730564	742662	717923	727371	794921	854000	918362	796906	624861	476213
a	1860.60	1903.32	1919.70	1905.38	1903.63	1918.50	1931.00	1953.60	1945.90	1918.50	1874.60	1830.00
b	-117082	+158897	+67622	-59328	-7049	+61293	+54000	+103701	-36245	-121456	-172045	-148648

CAL YR 1983 b +287549
WTR YR 1984 b -216340

a Elevation, in feet NGVD, at end of month.
b 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 SW 1/4 NE 1/4 sec.36, T.18 N., R.7 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 1.1 mi downstream from New Bullards Bar Dam, and 2 mi northwest of North San Juan.

DRAINAGE AREA.--490 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,280 ft, from topographic map.

REMARKS.--Records poor. Flow regulated by New Bullards Bar Reservoir since 1969 (station 11413515). Colgate powerplant (station 11413510) diverts from New Bullards Bar Dam 1.1 mi 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).--15 years (water years 1970-84), 251 ft^3/s, 181,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft^3/s Jan. 22, 1970, gage height, 35.29 ft, from rating curve extended above 40,000 ft^3/s on basis on computation of flow over old Colgate Dam; minimum daily, 0.42 ft^3/s Nov. 5, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 49.8 ft from floodmarks, discharge, 91,600 ft^3/s, from computation of flow over old Colgate Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,600 ft^3/s Dec. 29, gage height, 23.29 ft; minimum daily, 2.4 ft^3/s Oct. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	5.4	3.9	8260	4.7	6.7	5.5	8.3	8.5	7.9	11	10
2	3.3	3.7	3.9	3130	5.3	6.7	5.3	9.5	8.5	7.2	11	10
3	3.2	3.2	5.6	2260	5.3	6.4	5.3	9.9	8.5	5.7	10	9.9
4	3.1	3.0	5.3	1340	5.3	6.4	5.3	9.6	8.5	9.0	10	9.5
5	3.1	2.9	4.7	1070	5.3	6.4	5.3	9.5	8.4	11	10	9.6
6	3.0	3.0	4.9	1400	5.3	6.1	5.3	9.5	6.7	12	10	8.5
7	3.0	3.2	5.0	1530	5.3	5.7	5.0	9.0	6.6	12	9.3	8.0
8	3.0	3.0	5.8	1570	5.4	5.6	5.4	9.3	7.0	12	8.0	7.6
9	2.9	3.3	6.1	1290	8.0	5.6	4.9	9.1	7.2	12	8.3	8.1
10	2.6	6.8	7.6	402	8.6	5.6	6.3	9.0	7.2	11	8.5	8.5
11	2.4	7.9	9.7	8.6	7.4	5.6	5.5	9.0	7.2	11	8.8	8.1
12	2.9	6.3	7.9	5.8	7.1	5.6	5.2	9.0	7.2	11	9.0	8.0
13	3.3	6.0	6.1	5.1	13	7.1	5.2	9.0	7.2	11	9.0	7.9
14	3.4	4.7	5.3	5.0	11	7.0	5.0	9.0	7.2	11	9.3	6.4
15	3.4	3.6	4.9	4.7	11	7.6	5.0	8.9	7.5	11	9.5	5.6
16	3.2	6.1	5.0	5.0	11	7.6	4.7	8.9	7.6	11	9.5	5.6
17	3.3	14	5.1	4.9	9.0	7.8	4.4	11	7.6	9.7	9.3	5.6
18	3.2	7.4	4.8	4.6	7.8	7.1	4.8	11	7.6	9.3	9.5	5.6
19	3.2	6.4	4.5	4.6	7.6	6.5	5.6	11	7.6	11	9.5	5.6
20	3.2	6.3	4.4	4.6	7.2	6.3	5.6	11	7.8	11	9.5	5.6
21	3.2	5.3	4.3	4.6	12	5.9	5.6	12	8.0	11	9.3	5.3
22	3.2	4.5	4.3	4.6	10	5.6	5.6	12	8.0	11	9.0	5.3
23	3.3	4.7	6.1	4.6	8.8	5.6	5.6	12	8.0	11	9.3	5.3
24	3.3	10	12	4.6	8.5	5.6	5.8	7.3	8.0	11	9.5	5.3
25	3.2	8.4	1720	4.6	7.3	5.6	6.0	5.8	8.0	11	9.5	5.2
26	3.1	6.0	8000	4.6	6.7	5.6	5.9	7.0	8.0	11	9.3	4.6
27	3.1	5.0	16000	4.6	6.7	5.3	7.3	8.0	8.0	11	9.5	4.8
28	3.0	4.5	21000	4.6	7.2	5.0	7.2	8.5	8.0	11	9.9	5.0
29	3.1	4.2	23100	4.6	7.1	5.0	7.4	8.5	8.0	10	10	5.0
30	3.5	4.0	22300	4.6	---	5.0	7.6	8.5	8.0	9.9	10	5.4
31	5.0	---	18400	4.6	---	5.6	---	8.7	---	11	10	---
TOTAL	99.5	162.8	110657.2	22355.5	224.9	189.2	168.6	288.8	231.6	325.7	294.3	204.9
MEAN	3.21	5.43	3570	721	7.76	6.10	5.62	9.32	7.72	10.5	9.49	6.83
MAX	5.0	14	23100	8260	13	7.8	7.6	12	8.5	12	11	10
MIN	2.4	2.9	3.9	4.6	4.7	5.0	4.4	5.8	6.6	5.7	8.0	4.6
AC-FT	197	323	219500	44340	446	375	334	573	459	646	584	406

CAL YR 1983 TOTAL 395978.3 MEAN 1085 MAX 23100 MIN 2.4 AC-FT 785400
WTR YR 1984 TOTAL 135203.0 MEAN 369 MAX 23100 MIN 2.4 AC-FT 268200

11414000 SOUTH YUBA RIVER NEAR CISCO, CA

LOCATION.--Lat 39°19'12", long 120°33'38", in SE 1/4 SW 1/4 sec.19, T.17 N., R.13 E., Nevada County, Hydrologic Unit 18020125, on right bank 0.7 mi downstream from Rattlesnake Creek, 1.3 mi west of Cisco Grove, and 1.5 mi northwest of Cisco.

DRAINAGE AREA.--51.8 mi^2.

PERIOD OF RECORD.--April 1942 to current year. Prior to October 1949, published as South Fork Yuba River near Cisco.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft, from river-profile map. Prior to October 1945, water-stage recorder at site 200 ft upstream at same datum.

REMARKS.--Records good. Low flow regulated by several small lakes operated by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--42 years, 206 ft^3/s, 149,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft^3/s Jan. 31, 1963, gage height, 19.6 ft from floodmarks in gage house, 20.6 ft from outside floodmarks, from rating curve extended above 5,000 ft^3/s on basis of slope-area measurement at gage height 15.8 ft; minimum daily, 0.1 ft^3/s Nov. 5-7, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0345	4,110	9.59	Dec. 30	1745	2,130	7.23
Nov. 17	0300	*4,380	9.88	May 13	2115	1,900	7.01
Nov. 24	1215	3,820	9.27	May 23	2045	1,850	6.94
Dec. 25	1845	3,350	8.74	June 4	1415	1,530	6.46

Minimum daily, 1.3 ft^3/s Aug. 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	950	179	456	144	106	199	384	683	101	4.9	7.4
2	103	397	182	332	136	134	178	390	621	97	4.4	7.2
3	71	207	165	280	129	146	188	715	552	90	4.1	7.0
4	62	162	162	324	123	145	231	775	970	86	3.9	13
5	56	142	150	379	132	132	214	649	698	69	3.6	62
6	53	181	145	359	133	156	205	610	657	66	3.3	59
7	42	461	138	312	130	180	267	699	611	53	3.1	49
8	50	194	160	267	123	203	374	939	445	46	3.0	33
9	45	253	304	237	150	221	244	1080	414	40	2.6	30
10	42	935	263	222	129	228	208	1080	392	34	2.3	29
11	38	1990	224	194	116	219	197	1270	352	29	2.1	28
12	36	1020	174	176	120	196	220	1330	343	25	1.9	27
13	34	509	179	161	221	630	283	1340	350	23	1.9	27
14	35	350	302	148	186	448	442	1250	395	21	1.8	26
15	35	298	372	142	173	254	652	841	404	21	1.7	25
16	33	997	302	137	166	196	716	483	410	19	1.6	24
17	31	2750	278	117	138	173	649	565	410	18	1.7	24
18	29	702	223	110	125	165	509	762	374	17	1.6	25
19	28	999	194	110	119	209	349	998	335	16	1.5	25
20	27	900	177	110	118	291	274	1200	287	14	1.4	23
21	52	394	159	112	113	363	262	1170	241	12	1.3	21
22	53	275	152	114	108	285	359	1140	225	11	4.2	20
23	58	244	141	110	101	281	530	1240	234	12	8.9	19
24	75	1860	637	116	96	318	576	1100	225	15	8.4	18
25	61	696	2540	131	91	331	460	994	200	14	8.0	17
26	55	369	1750	127	89	497	315	972	172	12	8.2	16
27	53	283	1030	119	92	386	258	981	145	9.8	8.0	15
28	52	243	560	123	97	312	248	1060	139	7.7	7.9	13
29	54	209	380	129	96	312	305	1090	134	6.7	7.6	11
30	383	189	1380	131	---	247	368	1020	117	6.0	8.1	9.6
31	822	---	926	142	---	243	---	856	---	5.5	8.6	---
TOTAL	2645	19159	13928	5927	3694	8007	10280	28983	11535	996.7	131.6	710.2
MEAN	85.3	639	449	191	127	258	343	935	384	32.2	4.25	23.7
MAX	822	2750	2540	456	221	630	716	1340	970	101	8.9	62
MIN	27	142	138	110	89	106	178	384	117	5.5	1.3	7.0
AC-FT	5250	38000	27630	11760	7330	15880	20390	57490	22880	1980	261	1410

CAL YR 1983 TOTAL 160203.1 MEAN 439 MAX 2750 MIN 3.6 AC-FT 317800
WTR YR 1984 TOTAL 105996.5 MEAN 290 MAX 2750 MIN 1.3 AC-FT 210200

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION (REVISED).--Lat 39°22'44", long 120°29'40", in NE 1/4 SE 1/4 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 northeast of Cisco.

DRAINAGE AREA.--31.7 mi^2.

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 National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Prior to November 29, 1976, nonrecording gage on upstream side of dam at same datum.

REMARKS.--Lake is formed by a rockfill dam; storage began in 1926. In 1980 the capacity of Fordyce Lake was increased by the addition of 3 ft of flashboards. Capacity, 49,903 acre-ft between gage heights 0.85 ft, bottom of outlet valve and 114.6 ft, 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 PERIOD OF RECORD.--Maximum contents, 49,903 acre-ft June 27, July 4, 6, 1982 and June 9, 15-17, 1984, gage height 114.60 ft; minimum, 250 acre-ft Oct. 31 to Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 49,903 acre-ft June 9, 15-17, gage height, 114.60 ft; minimum, 2,883 acre-ft Sept. 16, gage height, 21.18 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)

4	219	40	8,183
5	278	50	11,797
10	774	60	16,174
15	1,570	70	21,196
20	2,608	80	26,770
25	3,827	90	32,820
30	5,170	100	39,342
35	6,628	114.6	49,903

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14207	12240	26811	35788	38606	23063	7482	15815	46568	49818	27609	9768
2	14104	12671	27004	36388	38364	22501	7019	16093	46895	49841	27586	9104
3	13972	12913	27138	37001	38036	21933	6583	16478	47358	49844	27442	8450
4	13822	13106	27232	37054	37690	21334	6456	16598	48921	49857	26642	7702
5	13496	13263	27332	37863	37352	21334	6631	16651	49610	49818	25802	7152
6	13047	13587	27450	37930	37001	20257	6810	16892	49687	49757	25022	6699
7	12601	14065	27573	37996	36475	19709	7053	19673	49664	49365	24252	6249
8	12130	14242	27697	37996	35913	19142	7357	19889	49687	48700	22132	5799
9	11682	14425	27934	37996	35459	18552	7554	21987	49903	48124	22086	5349
10	11215	15419	28130	37996	34872	17925	7683	23267	49680	47418	22041	4899
11	10736	15970	28314	37996	34282	17329	7909	24815	49680	46575	22011	4188
12	10250	16469	28386	38956	33703	16660	8105	26508	49787	45617	21991	4142
13	9751	16718	28499	38976	33279	16297	8366	28231	49810	44676	21836	3778
14	9253	18312	28690	39044	32701	15815	8631	29693	49772	43718	21036	3420
15	8761	18537	28690	39105	32151	15262	9466	30524	49903	42777	20236	3055
16	8310	19279	29181	39166	31611	14709	10228	31124	49903	41855	19486	2883
17	7845	21112	29350	39186	30971	14091	10884	31809	49903	40937	18627	2935
18	7721	21112	29458	39186	30323	13483	11387	32807	49780	40009	17827	2935
19	7861	22338	29566	39206	29723	12950	11761	34129	49695	39125	17027	3140
20	7989	23003	29675	39206	29103	12457	12042	35725	49557	38197	16277	3218
21	8115	23278	29741	39220	28553	12029	12293	37272	49757	37259	15527	3283
22	8225	23600	29838	39220	27934	11536	12654	38808	49834	36357	14897	3352
23	8376	23710	29862	39220	27297	11022	13182	40496	49864	35478	14186	3427
24	8514	23900	29886	39220	26694	10627	13717	41597	49872	34602	13297	3522
25	8631	25728	31389	39220	26097	10221	14109	42023	49880	33716	13276	3607
26	8741	26010	32188	39220	25464	9942	14403	42481	49864	32830	13276	3705
27	8842	26224	32788	39220	24855	9590	14646	43061	49787	31921	13280	3786
28	8947	26380	33388	39220	24246	9215	14891	43954	49841	31921	12540	3875
29	9060	26537	33988	39220	23638	8785	15170	44843	49864	30165	11800	3968
30	9823	26682	34588	39159	---	8372	15484	45653	49849	29308	11185	4061
31	10976	---	35188	38902	---	7944	---	46198	---	28469	10442	---
MAX	14207	26682	35188	39220	38606	23063	15484	46198	49903	49857	27609	9768
MIN	7721	12240	26811	35788	23638	7944	6456	15815	46568	28469	10442	2883
a	47.90	79.85	93.72	99.35	74.50	39.26	58.53	109.69	114.53	82.88	46.49	25.91
b	-3337	+15706	+8506	+3714	-15264	-15694	+7540	+30714	+3651	-21380	-18027	-6381

CAL YR 1983 b +27821
WTR YR 1984 b -10252

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA

LOCATION (REVISED).--Lat 39°22'48", long 102°29'54", in NW 1/4 SE 1/4 sec.34, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 850 ft downstream from Fordyce Dam, and 5.3 mi northeast of Cisco.

DRAINAGE AREA.--31.7 mi^2.

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

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

REMARKS.--Flow regulated by Fordyce Lake (station 11414090). 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.--18 years, 142 ft^3/s, 102,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft^3/s July 9, 1974, gage height, 7.90 ft in gage well, 6.82 ft from high-water marks, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft^3/s Jan. 2-9, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 716 ft^3/s June 20, gage height, 4.14 ft; minimum daily, 9.2 ft^3/s Apr. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	594	19	26	35	182	336	317	16	440	150	452	342
2	590	17	26	35	180	330	308	16	364	139	449	333
3	592	17	26	35	193	329	301	20	268	137	444	327
4	591	17	26	35	210	325	147	18	155	126	439	320
5	424	17	26	36	209	325	9.2	18	339	109	435	315
6	309	18	26	36	209	321	9.3	18	535	112	431	311
7	307	18	26	36	292	314	9.8	18	511	252	429	305
8	305	18	26	36	344	355	10	19	353	397	187	300
9	300	19	26	36	345	402	11	20	293	316	25	295
10	298	25	26	36	354	398	11	20	492	397	25	290
11	293	25	26	36	351	395	11	21	361	460	25	285
12	295	24	26	36	344	390	11	23	307	514	25	278
13	297	21	26	36	343	393	12	24	382	510	236	274
14	293	21	26	36	373	391	12	24	403	508	423	268
15	288	21	27	36	386	395	13	25	350	505	413	149
16	286	26	27	41	390	390	13	25	413	498	413	55
17	281	29	27	44	388	390	14	25	585	496	411	55
18	117	23	27	46	385	377	14	26	542	494	402	55
19	13	28	27	47	379	359	14	26	487	493	399	51
20	13	25	27	47	374	356	14	28	401	487	392	50
21	13	25	27	48	380	356	14	29	201	482	387	49
22	13	25	27	48	376	345	15	30	251	478	384	41
23	13	25	27	48	368	345	15	31	305	477	229	34
24	13	31	30	48	370	340	15	231	307	473	18	32
25	13	26	39	48	369	335	16	495	264	470	18	27
26	13	26	34	48	364	334	16	497	216	464	209	25
27	13	26	33	47	355	333	16	499	257	459	368	18
28	13	26	33	46	350	328	16	501	172	455	361	14
29	13	26	33	46	345	328	16	507	174	263	357	14
30	15	26	38	104	---	320	16	510	182	117	352	14
31	17	---	35	182	---	317	---	519	---	279	346	---
TOTAL	6635	690	882	1474	9508	10952	1416.3	4279	10310	11517	9484	4926
MEAN	214	23.0	28.5	47.5	328	353	47.2	138	344	372	306	164
MAX	594	31	39	182	390	402	317	519	585	514	452	342
MIN	13	17	26	35	180	314	9.2	16	155	109	18	14
AC-FT	13160	1370	1750	2920	18860	21720	2810	8490	20450	22840	18810	9770

CAL YR 1983 TOTAL 83711.9 MEAN 229 MAX 1170 MIN 5.4 AC-FT 166000
WTR YR 1984 TOTAL 72073.3 MEAN 197 MAX 594 MIN 9.2 AC-FT 143000

11414140 LAKE SPAULDING NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'35", long 120°38'32", in SE 1/4 NE 1/4 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 northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft 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 between gage heights 0.6 ft, bottom of outlet and 205.0 ft, 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 diagram 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 July 13, 1967, gage height, 205.5 ft; minimum, 914 acre-ft Feb. 28, 1976, gage height, 25.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 74,801 acre-ft June 16, gage height, 205.04 ft; minimum, 30,246 acre-ft Sept. 25, gage height, 126.52 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69176	53252	60444	62893	42419	36683	46463	43280	72852	71491	61279	40307
2	68710	53497	60097	62240	41856	36571	46332	43444	73736	70915	61098	39960
3	68186	52880	59676	61762	41302	36459	46261	44593	74333	70228	60911	39600
4	67282	52175	58956	61850	40777	36269	46087	45707	74375	69571	60717	39226
5	66313	51422	58210	61950	40296	36061	45491	46190	74689	68863	60487	38935
6	65546	50902	57408	61931	39757	35944	44812	46567	74696	68107	59750	38669
7	64874	51416	56564	61638	39353	35882	44336	47098	74598	67466	58999	38339
8	64462	50902	55930	61279	39080	35906	44406	48208	74598	67223	58009	37972
9	64122	50481	56354	60786	39065	36094	44001	49791	74654	66797	56456	37581
10	63693	53234	56715	60276	38869	36284	43635	51411	74661	66509	55031	37148
11	63279	59510	56811	59608	38594	36434	43217	53479	74633	66366	53380	36732
12	62885	61988	56294	58944	38464	36483	42875	55739	74689	66209	51846	36274
13	62512	62284	55709	58088	39433	38809	42644	58040	74675	66014	50561	35814
14	62064	61837	55733	57275	39666	40235	42749	60047	74543	65884	49791	35448
15	61592	61448	55894	56414	39920	40818	43444	61048	74710	65754	48899	35829
16	61110	63789	55816	55572	40164	41055	44294	61129	74801	65605	48058	36157
17	60624	65773	55774	54706	40052	41122	44941	61223	74347	65481	47334	35329
18	60053	63693	55263	53824	39849	41163	45286	61856	74125	65261	46588	34505
19	58846	64816	54688	52897	39666	41498	45302	63108	74445	65068	46190	33554
20	57857	63955	53947	52025	39433	42116	44989	64900	74473	64900	45848	32899
21	56757	62708	53730	51125	39297	42896	44684	66601	74062	64244	45539	31770
22	55786	61580	52359	50255	39040	43296	44657	68133	73715	63508	45215	31606
23	54807	61454	51657	49403	38784	43550	45043	69778	73736	63076	44925	31416
24	53783	65462	53293	48425	38524	43921	45447	70443	73826	62974	44925	30429
25	52781	63661	62588	47704	38165	44342	45512	70915	73840	62759	43571	30246
26	51829	62607	64906	47312	37823	45264	45151	71200	73625	62569	42612	30652
27	50783	61957	64443	45853	37497	45816	44619	71430	73383	62322	41882	31042
28	49718	61580	63222	45232	37192	46098	44059	71845	72997	62322	41586	31430
29	48759	61235	62581	44256	36942	46332	43645	72248	72481	61856	41271	31793
30	49162	60842	65171	43486	---	46419	43444	72385	72043	61630	40952	32195
31	51039	---	64045	42980	---	46496	---	72228	---	61461	40623	---
MAX	69176	65773	65171	62893	42419	46496	46463	72385	74801	71491	61279	40307
MIN	48759	50481	51657	42980	36942	35882	42644	43280	72043	61461	40623	30246
a	167.45	183.88	188.95	152.75	140.86	159.31	153.63	201.32	201.05	184.87	148.21	130.84
b	-18639	+9803	+3203	-21065	-6038	+9554	-3052	+28784	-185	-10582	-20838	-8428

CAL YR 1983 b +29231
WTR YR 1984 b -37483

a Gage height, in feet, at end of month.
b 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 SE 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, 100 ft downstream from tunnel outlet, 1.0 mi downstream from Spaulding No. 1 powerhouse, and 1.7 mi 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, from topographic map. Prior to Oct. 1, 1968, in powerhouse 0.7 mi 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.--20 years, 552 ft^3/s, 399,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 858 ft^3/s July 4, 1978; no flow for several days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	796	789	836	837	836	837	837	832	773	809	744	749
2	793	801	834	837	835	837	839	831	824	813	742	746
3	804	817	835	836	836	836	838	837	824	808	740	748
4	813	820	835	837	837	837	838	837	820	807	739	749
5	804	825	837	838	836	837	835	836	827	809	740	749
6	799	822	838	838	835	820	837	838	824	810	738	747
7	796	809	838	837	834	835	838	836	769	808	736	748
8	796	817	837	839	830	837	832	835	810	810	740	790
9	797	820	833	840	834	837	838	836	821	808	747	815
10	794	788	833	836	836	839	837	837	821	809	745	816
11	792	779	834	839	835	839	838	834	818	808	745	815
12	798	824	838	837	823	840	836	834	820	808	745	811
13	798	833	834	835	819	840	837	835	819	808	745	815
14	806	834	838	837	835	840	840	834	817	810	745	734
15	813	839	838	836	835	838	839	832	815	809	747	278
16	815	839	837	838	834	841	838	832	817	810	748	235
17	817	837	836	839	836	841	834	831	816	809	748	688
18	815	838	838	838	836	841	832	830	814	808	742	705
19	822	829	837	837	837	838	835	831	815	808	748	772
20	825	835	834	837	837	839	835	830	816	741	749	764
21	820	838	835	838	823	838	839	830	813	772	749	665
22	822	834	826	838	838	839	837	828	814	809	747	263
23	820	830	830	837	837	841	838	828	812	811	750	272
24	823	826	832	838	835	839	838	826	812	804	750	679
25	823	830	823	838	837	840	838	829	813	811	749	78
26	826	836	835	836	836	839	839	825	812	811	751	0
27	826	836	836	836	835	839	838	826	811	810	703	0
28	826	835	838	834	837	839	836	825	811	809	741	0
29	826	832	835	833	812	839	838	827	811	808	741	0
30	826	837	823	836	---	839	840	824	809	759	746	0
31	808	---	837	835	---	837	---	824	---	745	747	---
TOTAL	25139	24729	25870	25947	24166	25978	25114	25770	24398	24859	23047	16231
MEAN	811	824	835	837	833	838	837	831	813	802	743	541
MAX	826	839	838	840	838	841	840	838	827	813	751	816
MIN	792	779	823	833	812	820	832	824	769	741	703	0
AC-FT	49860	49050	51310	51470	47930	51530	49810	51110	48390	49310	45710	32190

CAL YR 1983 TOTAL 283493 MEAN 777 MAX 842 MIN 0 AC-FT 562300
WTR YR 1984 TOTAL 291248 MEAN 796 MAX 841 MIN 0 AC-FT 577700

11414190 DRUM CANAL ABOVE DRUM FOREBAY, NEAR BLUE CANYON, CA

LOCATION (REVISED).--Lat 39°15'54", long 120°43'44", in NE 1/4 SW 1/4 sec.10, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on right bank 1.2 mi northwest of Blue Canyon, and 1.5 mi upstream from Drum Forebay.

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

GAGE.--Water-stage recorder. Altitude of gage is 4,800 ft, 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.--20 years, 557 ft^3/s, 403,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 856 ft^3/s May 8, 1982; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	824	823	845	844	837	836	837	840	781	836	773	773
2	825	815	820	845	838	836	837	839	823	839	772	774
3	833	828	818	845	838	838	836	837	836	837	771	773
4	843	826	827	845	838	826	836	843	831	834	771	773
5	840	828	838	843	839	834	838	843	831	835	771	775
6	840	828	842	841	836	836	831	842	832	835	769	772
7	838	823	839	843	836	837	832	838	788	833	767	783
8	840	824	821	841	824	838	832	836	822	834	770	796
9	839	831	819	840	838	839	832	836	829	833	773	795
10	837	821	810	840	837	840	833	835	832	833	771	793
11	837	783	806	837	840	839	834	836	837	831	771	793
12	838	805	802	840	819	789	837	832	838	830	769	775
13	838	792	835	842	835	806	839	828	837	828	772	775
14	836	822	841	841	819	812	837	833	838	826	771	775
15	830	843	841	842	838	834	832	834	838	827	772	300
16	830	807	838	840	836	834	830	831	837	828	772	300
17	833	790	825	842	836	837	832	833	837	827	771	617
18	829	805	841	842	835	837	832	830	835	827	771	775
19	838	829	840	838	826	839	840	829	834	827	770	775
20	840	811	838	840	835	835	841	827	835	763	771	775
21	836	830	839	840	836	835	842	832	832	799	771	605
22	836	844	834	839	834	840	842	832	834	834	769	314
23	835	820	804	838	832	835	838	830	832	835	774	314
24	836	793	777	836	832	840	835	828	832	829	775	673
25	835	803	795	838	841	841	836	828	833	833	774	371
26	837	842	783	837	836	839	841	829	831	832	776	31
27	838	840	839	836	836	838	843	832	830	831	732	0
28	836	838	838	837	815	839	841	830	834	830	775	0
29	837	836	778	839	837	839	843	825	839	829	774	0
30	842	846	842	838	---	838	843	828	837	791	773	0
31	834	---	837	840	---	838	---	828	---	776	772	---
TOTAL	25910	24626	25552	26049	24179	25844	25102	25824	24905	25582	23883	16775
MEAN	836	821	824	840	834	834	837	833	830	825	770	559
MAX	843	846	845	845	841	841	843	843	839	839	776	796
MIN	824	783	777	836	815	789	830	825	781	763	732	0
AC-FT	51390	48850	50680	51670	47960	51260	49790	51220	49400	50740	47370	33270

CAL YR 1983 TOTAL 290133.8 MEAN 795 MAX 850 MIN 7.8 AC-FT 575500
WTR YR 1984 TOTAL 294231.0 MEAN 804 MAX 846 MIN 0 AC-FT 583600

11414200 SOUTH YUBA CANAL NEAR EMIGRANT GAP, CA

LOCATION (REVISED).--Lat 39°18'49", long 120°39'43", in SE 1/4 NE 1/4 sec.30, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank of concrete flume 400 ft downstream from Bowman Lake Road, and 2.5 mi northeast of Emigrant Gap.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,590 ft (revised), 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.--20 years, 96.2 ft^3/s, 69,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 165 ft^3/s Aug. 3, 1965; no flow Apr. 20-22, 1966 and Apr. 6-11, 1971.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	62	35	153	158	146	133	150	136	85	93	79
2	58	62	55	153	158	144	4.1	150	150	87	90	79
3	49	64	134	154	157	146	32	150	149	88	89	79
4	45	63	135	153	156	147	129	150	150	89	89	79
5	50	62	139	154	156	146	129	150	149	89	88	78
6	49	65	146	157	156	143	128	150	149	90	88	80
7	52	66	152	157	155	145	128	150	132	91	89	82
8	52	65	156	156	156	145	83	150	149	90	89	71
9	51	65	153	154	155	146	128	151	149	89	89	67
10	50	63	147	154	156	145	128	150	150	90	88	68
11	50	82	148	156	156	145	128	151	149	90	87	69
12	52	108	147	157	136	145	127	149	149	90	87	69
13	53	108	148	157	127	138	140	150	149	91	88	67
14	53	121	152	154	154	131	150	150	149	92	91	69
15	68	134	154	153	155	136	151	149	149	92	92	75
16	73	137	152	156	154	135	151	148	149	98	91	79
17	73	126	148	146	153	136	151	146	149	104	91	79
18	75	129	152	158	154	136	151	149	149	105	91	78
19	75	129	149	155	154	136	150	148	149	104	90	80
20	75	129	151	155	154	135	149	149	149	94	90	82
21	74	130	154	154	154	134	149	150	149	105	88	80
22	74	131	155	154	152	135	149	151	148	105	85	79
23	73	131	154	154	146	135	149	149	99	83	82	82
24	75	125	149	154	146	135	151	147	53	71	83	82
25	76	128	141	154	145	135	150	149	53	70	84	79
26	76	129	139	156	145	133	150	150	58	71	84	78
27	78	132	143	155	146	132	150	151	70	92	85	78
28	77	51	150	155	146	132	150	150	80	93	86	78
29	77	20	154	156	138	133	149	149	84	93	85	78
30	78	37	153	157	---	133	149	149	85	93	84	79
31	78	---	153	158	---	134	---	149	---	93	81	---
TOTAL	2016	2854	4398	4799	4378	4297	3966.1	4634	3832	2817	2717	2302
MEAN	65.0	95.1	142	155	151	139	132	149	128	90.9	87.6	76.7
MAX	78	137	156	158	158	147	151	151	150	105	93	82
MIN	45	20	35	146	127	131	4.1	146	53	70	81	67
AC-FT	4000	5660	8720	9520	8680	8520	7870	9190	7600	5590	5390	4570

CAL YR 1983 TOTAL 40116.0 MEAN 110 MAX 156 MIN 20 AC-FT 79570
WTR YR 1984 TOTAL 43010.1 MEAN 118 MAX 158 MIN 4.1 AC-FT 85310

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'07", long 120°39'27", in SW 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 50 ft (revised) downstream from road bridge, 0.8 mi downstream from Spaulding Nos. 1 and 2 powerplants, and 1.6 mi northeast of Emigrant Gap.

DRAINAGE AREA.--120 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Lake Spaulding (station 11414140). See schematic diagram 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.--18 years (water years 1967-84), 106 ft^3/s, 76,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft^3/s Jan. 13, 1980, gage height, 19.6 ft, from floodmarks; minimum daily, 2.1 ft^3/s on several days during July and September 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,670 ft^3/s Nov 17, gage height, 13.88 ft; minimum daily, 5.0 ft^3/s Aug. 13, 19, 20, 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	43	19	981	18	28	80	9.9	516	12	5.3	5.1
2	13	18	25	383	12	27	116	13	60	16	7.2	5.1
3	7.8	11	118	168	6.9	26	188	16	65	15	11	5.1
4	6.3	13	104	87	5.9	26	238	14	1260	15	11	5.1
5	6.0	18	94	149	5.9	25	150	9.8	616	15	11	5.3
6	7.0	20	91	152	5.9	23	43	8.3	1220	7.5	22	5.7
7	6.5	27	85	106	5.9	20	43	7.8	1210	5.4	16	5.7
8	5.9	20	99	71	5.9	20	104	7.4	388	5.5	7.8	5.4
9	5.9	27	143	63	8.4	24	79	7.0	146	5.4	6.0	7.9
10	5.9	74	157	42	10	26	71	6.6	384	5.4	5.4	8.6
11	5.9	178	154	36	8.3	27	45	6.6	296	6.4	5.2	8.8
12	5.9	198	112	45	10	25	33	6.8	91	13	5.1	9.0
13	6.0	348	102	43	72	75	21	6.6	226	13	5.0	6.9
14	6.0	252	109	42	33	115	11	6.2	539	13	5.2	5.8
15	6.0	148	100	35	33	99	10	22	251	13	5.3	5.1
16	6.0	311	89	29	36	92	11	32	258	13	5.3	5.7
17	6.0	5890	88	40	29	88	9.5	30	789	8.3	5.2	6.0
18	6.0	2400	67	33	23	87	11	29	575	8.6	5.1	6.1
19	5.9	1170	59	42	22	91	17	29	225	13	5.0	6.0
20	5.9	2290	50	51	21	87	18	32	170	11	5.0	6.0
21	6.6	920	24	51	27	86	15	43	167	6.4	5.5	6.0
22	7.3	335	22	45	24	82	13	61	108	6.3	5.7	6.0
23	7.7	162	23	44	21	79	11	159	27	6.3	5.3	6.0
24	5.4	2090	128	43	16	78	11	736	26	6.2	5.0	5.9
25	5.1	2230	331	42	28	76	9.3	1200	11	5.6	5.1	6.2
26	6.2	821	2370	37	28	77	8.8	1290	19	5.4	5.1	6.8
27	6.2	307	2430	32	28	75	8.6	1320	17	5.4	5.1	6.5
28	6.0	114	1340	24	27	74	8.2	1380	16	5.4	5.1	6.5
29	6.3	36	529	20	26	74	7.8	1450	12	5.3	5.1	6.0
30	19	30	1290	18	---	73	7.7	1480	10	5.3	5.1	6.1
31	49	---	2350	18	---	73	---	1320	---	5.3	5.1	---
TOTAL	255.8	20501	12702	2972	597.1	1878	1398.9	10739.0	9698	277.4	211.3	186.4
MEAN	8.25	683	410	95.9	20.6	60.6	46.6	346	323	8.95	6.82	6.21
MAX	49	5890	2430	981	72	115	238	1480	1260	16	22	9.0
MIN	5.1	11	19	18	5.9	20	7.7	6.2	10	5.3	5.0	5.1
AC-FT	507	40660	25190	5890	1180	3730	2770	21300	19240	550	419	370

CAL YR 1983 TOTAL 163931.9 MEAN 449 MAX 5890 MIN 5.1 AC-FT 325200
WTR YR 1984 TOTAL 61416.9 MEAN 168 MAX 5890 MIN 5.0 AC-FT 121800

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION (REVISED).--Lat 39°27'01", long 120°39'09", in SE 1/4 SW 1/4 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, 4.6 mi east of Graniteville, and 8 mi south of Sierra City.

DRAINAGE AREA.--27.1 mi^2.

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 between elevations 5,400 ft, bottom of outlet tunnel and 5,563 ft, crest of concrete-arch dam. Flashboards are occasionally added, increasing elevation to 5,565.8 ft and capacity to 70,400 acre-ft, 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.

COOPERATION.--Selected gage-height readings furnished by Nevada Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft May 30, 1965, elevation 5,566.5 ft; Lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966, Oct. 4-29, 1972, and Sept. 21-30, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 69,000 acre-ft on several days in June, elevation, 5,564.0 ft; minimum, 40,400 acre-ft Sept. 6-10, elevation, 5526.5 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51700	51800	63800	65100	56400	51300	55000	58500	68800	66500	51400	43000
2	51800	52400	63600	64800	56000	51100	55100	58600	69000	66100	50800	42500
3	51500	52700	63700	64600	55700	50800	55100	59000	69000	65700	50300	42000
4	51400	52700	63600	64500	55500	50500	55100	59400	69000	65300	49700	41400
5	51400	52600	63300	64500	55200	50300	55200	59700	69000	64800	49500	40800
6	51500	52800	63200	64400	54800	50000	55200	60000	69000	64400	49500	40400
7	51300	53300	62900	64400	54500	49700	55300	60300	69000	63900	49700	40400
8	51000	53500	62800	64300	54200	49600	55600	60600	69000	63400	49700	40400
9	50800	53900	63000	64200	54000	49400	55600	61200	68900	62800	49700	40400
10	50600	55900	63300	64000	53900	49300	55900	61800	68800	62300	49800	40400
11	50500	59100	63600	63900	53600	49200	56000	62500	68900	61700	49800	40500
12	50400	60900	63600	63700	53500	49000	56000	63400	68800	61200	49900	40600
13	50400	62000	63400	63400	53600	49900	56200	64200	68900	60600	50000	40600
14	50400	62700	63400	63200	53800	50800	56400	64800	68900	60100	50000	40800
15	50300	63100	63500	62900	54000	51300	56900	65200	69000	59600	50000	41000
16	50200	64400	63600	62600	54100	51700	57400	65200	69000	59000	50100	41300
17	50000	66800	63700	62200	54200	51800	58000	65100	69000	58400	50200	41500
18	50000	65600	63600	61900	54100	52000	58400	65000	68900	57800	49900	41700
19	49900	65600	63500	61600	54000	52100	58800	65100	68900	57200	49400	41900
20	49700	65500	63200	61200	53800	52400	59000	65300	68800	56900	49000	42100
21	49700	65000	63000	60800	53700	52600	58900	65600	68800	56800	48700	42400
22	49500	64700	62800	60400	53500	52900	58900	65700	68800	56800	48200	42700
23	49400	64400	62800	60000	53300	53200	59000	65800	68600	56500	47600	42900
24	49300	66100	63600	59700	53100	53400	59100	66000	68400	56000	47100	43200
25	49200	65400	66700	59200	52800	53600	59200	66400	68300	55400	46600	43400
26	49000	64900	66400	58800	52500	54000	59100	66800	68000	54900	46200	43600
27	48900	64600	65900	58400	52300	54300	58900	67000	67700	54300	45700	43800
28	48800	64400	65200	58000	52000	54500	58800	67300	67500	53700	45200	43900
29	48700	64200	64900	57600	51600	54700	58700	67600	67200	53200	44700	44100
30	49200	64000	65800	57200	---	54800	58500	68000	66800	52600	44100	44200
31	50400	---	65500	56800	---	54900	---	68400	---	52000	43600	---
MAX	51800	66800	66700	65100	56400	54900	59200	68400	69000	66500	51400	44200
MIN	48700	51800	62800	56800	51600	49000	55000	58500	66800	52000	43600	40400
a	5540.8	5557.8	5559.6	5548.8	5542.3	5546.4	5550.9	5563.2	5561.3	5542.8	5531.1	5532.0
b	-1300	+13600	+1500	-8700	-5200	+3300	+3600	+9900	-1600	-14800	-8400	+600

CAL YR 1983 b +18900
WTR YR 1984 b -7500

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

11416000 BOWMAN-SPAULDING CANAL INTAKE NEAR GRANITEVILLE, CA

LOCATION (REVISED).--Lat 39°26'26", long 102°39'29", in NW 1/4 SW 1/4 sec.8, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 0.6 mi downstream from Bowman Dam, 4.2 mi east of Graniteville, and 8.5 mi south of Sierra City.

PERIOD OF RECORD.--October 1927 to current year. Prior to October 1970, published as Bowman-Spaulding Canal at intake or Bowman-Spaulding Canal intake, near Sierra City.

REVISED RECORDS.--WSP 1395: 1935-36, 1940.

GAGE.--Water-stage recorder. Datum of gage is 5,390.39 ft National Geodetic Vertical Datum of 1929. Prior to July 1965 at site 0.3 mi upstream at different datum.

REMARKS.--Records good. Canal diverts from left bank of Canyon Creek at diversion dam 500 ft 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 schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--57 years, 161 ft^3/s, 116,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft^3/s July 24, 1973; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	226	212	161	263	257	221	218	228	290	305	325
2	265	225	213	161	262	257	221	210	239	313	304	323
3	249	267	211	186	261	256	220	184	243	312	303	323
4	72	299	207	201	261	255	220	174	244	310	302	328
5	5.3	299	219	200	271	253	220	174	244	309	106	327
6	4.5	297	227	201	281	253	228	175	246	307	.10	324
7	113	282	227	201	280	253	237	175	228	306	.10	323
8	229	293	228	201	280	253	235	175	228	304	.10	327
9	234	286	206	201	269	252	233	176	238	302	.10	331
10	239	258	141	201	261	252	230	176	245	301	.10	331
11	254	215	174	203	255	245	230	167	245	308	.10	313
12	263	203	190	218	251	241	230	143	264	308	.10	303
13	266	179	216	223	236	182	230	141	271	305	.10	307
14	268	192	206	236	206	117	221	154	272	301	.10	309
15	268	230	178	247	207	167	214	155	272	304	.10	289
16	267	206	170	259	207	193	200	168	272	310	.10	275
17	267	116	175	259	218	205	192	191	272	310	.10	275
18	267	110	190	258	238	206	193	221	272	310	156	276
19	267	133	219	257	240	206	194	220	272	310	291	267
20	268	144	214	257	240	206	194	212	278	212	303	260
21	283	159	222	256	252	195	193	195	286	51	224	243
22	296	158	231	259	262	186	196	191	288	52	308	229
23	296	187	232	267	260	186	200	191	287	207	316	229
24	294	115	184	271	260	195	199	191	287	316	316	229
25	298	133	164	270	259	203	196	203	287	312	316	229
26	301	169	162	268	258	203	203	212	287	309	317	230
27	301	165	167	266	258	203	211	211	290	306	320	230
28	301	174	160	265	257	203	211	211	289	304	324	229
29	302	203	160	265	257	204	210	211	288	305	332	230
30	290	212	168	264	---	213	209	212	288	306	330	228
31	242	---	162	264	---	221	---	217	---	306	328	---
TOTAL	7567.8	6135	6035	7246	7310	6721	6391	5854	7950	8806	5502.20	8442
MEAN	244	204	195	234	252	217	213	189	265	284	177	281
MAX	302	299	232	271	281	257	237	221	290	316	332	331
MIN	4.5	110	141	161	206	117	192	141	228	51	.10	228
AC-FT	15010	12170	11970	14370	14500	13330	12680	11610	15770	17470	10910	16740

CAL YR 1983 TOTAL 79118.5 MEAN 217 MAX 312 MIN 0 AC-FT 156900
WTR YR 1984 TOTAL 83960.00 MEAN 229 MAX 332 MIN .10 AC-FT 166500

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°20'32", long 120°38'26", in SW 1/4 NW 1/4 sec. 16, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, at outlet of Jordan Creek siphon 0.6 mi downstream from Fuller Lake, and 3.5 mi northeast of Emigrant Gap.

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

GAGE.--Water-stage recorder and Venturi section. Altitude of gage is 5,440 ft, 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.--20 years, 230 ft^3/s, 166,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 335 ft^3/s Dec. 25, 1983; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	319	308	310	309	305	311	300	300	302	298	306
2	317	304	313	308	308	305	308	321	302	304	298	306
3	311	282	322	304	308	311	300	321	305	306	296	303
4	227	300	315	320	307	310	302	320	311	306	295	302
5	129	307	302	321	306	308	300	315	320	308	245	304
6	73	309	304	315	307	308	300	306	321	307	30	303
7	156	318	304	310	311	308	308	299	322	305	0	301
8	261	317	309	320	314	309	321	299	316	303	0	299
9	260	314	324	320	319	312	320	305	306	304	0	298
10	272	313	326	316	320	314	320	314	306	302	0	295
11	280	326	324	312	313	314	321	317	304	301	0	292
12	280	318	313	310	308	307	321	314	304	302	0	284
13	280	315	311	306	317	313	320	303	310	301	0	286
14	280	279	324	306	320	315	319	304	313	300	0	291
15	280	297	323	306	307	311	320	305	318	300	0	292
16	279	321	301	315	310	308	320	297	316	302	0	283
17	279	315	310	319	301	310	317	291	313	303	9.1	277
18	279	286	302	317	295	306	316	304	311	302	56	276
19	279	320	305	315	301	305	319	315	308	301	236	275
20	279	253	311	312	302	312	315	319	305	250	263	261
21	291	300	304	310	302	318	307	318	307	60	284	259
22	307	312	305	308	310	309	303	313	309	60	277	241
23	308	300	312	308	314	299	313	310	309	163	301	235
24	308	328	325	312	314	304	318	308	308	309	300	234
25	308	323	335	316	314	304	312	303	307	306	301	233
26	308	327	325	314	310	306	301	308	305	304	299	235
27	307	321	303	313	309	312	301	310	304	300	298	235
28	307	307	308	312	308	307	300	308	302	301	297	235
29	306	301	313	312	306	304	298	308	304	300	297	235
30	316	308	317	311	---	301	295	305	304	298	300	236
31	325	---	285	311	---	307	---	301	---	298	304	---
TOTAL	8506	9240	9683	9689	8970	9562	9326	9561	9270	8708	5284.1	8212
MEAN	274	308	312	313	309	308	311	308	309	281	170	274
MAX	325	328	335	321	320	318	321	321	322	309	304	306
MIN	73	253	285	304	295	299	295	291	300	60	0	233
AC-FT	16870	18330	19210	19220	17790	18970	18500	18960	18390	17270	10480	16290

CAL YR 1983 TOTAL 110273.00 MEAN 302 MAX 335 MIN 0 AC-FT 218700
WTR YR 1984 TOTAL 106011.10 MEAN 290 MAX 335 MIN 0 AC-FT 210300

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION (REVISED).--Lat 39°26'23", long 120°39'37", in NE 1/4 SE 1/4 sec.7, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank 1 mi downstream from Bowman Dam, 3.5 mi upstream from Texas Creek, and 8.8 mi south of Sierra City.

DRAINAGE AREA.--28.3 mi^2.

PERIOD OF RECORD.--January 1927 to current year.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,300 ft (revised), from topographic map.

REMARKS.--Records good. Flow regulated by French Lake, usable capacity, 13,840 acre-ft, Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (station 11416000). See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--57 years, 36.1 ft^3/s, 26,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,740 ft^3/s Jan. 22, 1970, gage height, 9.42 ft in gage well, 10.32 ft from floodmarks, from rating curve extended above 1,500 ft^3/s on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft^3/s Nov. 17, gage height, 7.37 ft; minimum daily, 3.7 ft^3/s Oct. 6 and May 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	12	7.5	435	5.2	8.8	5.1	6.4	5.5	4.5	7.1	6.9
2	8.7	6.6	6.7	269	5.1	9.6	5.1	6.1	54	4.7	7.0	7.0
3	5.3	5.6	6.2	162	4.9	9.3	5.0	5.3	134	4.7	7.0	7.0
4	4.3	5.6	5.7	108	4.9	8.4	4.9	4.7	213	4.7	7.0	7.1
5	3.8	5.5	5.4	100	5.0	7.8	4.8	4.4	286	4.6	6.4	7.1
6	3.7	7.7	5.3	90	5.0	8.3	5.0	4.2	267	4.6	6.2	7.1
7	4.0	9.0	5.4	65	5.1	8.6	4.9	4.1	322	4.6	7.9	7.1
8	4.8	5.8	6.7	43	5.2	8.9	6.8	4.0	198	4.5	8.2	7.1
9	4.7	9.2	8.8	26	6.8	8.7	5.7	4.0	136	4.5	8.2	7.2
10	4.8	20	7.5	9.3	6.3	8.1	5.8	3.9	102	4.5	8.0	7.3
11	4.8	20	6.5	7.9	6.0	7.6	6.6	3.9	47	4.5	7.9	7.2
12	4.8	17	5.9	7.0	8.0	7.3	7.1	3.8	44	4.5	7.9	7.1
13	4.8	8.2	6.0	6.3	19	22	6.4	3.7	39	4.6	7.9	7.1
14	4.8	7.0	7.8	5.9	10	15	5.7	38	69	4.7	7.9	7.1
15	4.7	6.8	20	5.6	12	11	5.3	106	127	4.8	7.9	7.0
16	4.7	23	16	5.3	12	8.4	5.0	126	94	4.8	7.9	6.9
17	4.7	1070	12	5.3	9.1	7.4	5.0	113	83	4.7	9.7	6.9
18	4.7	903	10	5.3	8.3	6.9	5.5	99	75	4.7	9.2	6.9
19	4.7	503	9.4	5.2	8.3	7.9	6.3	99	65	4.7	6.6	6.9
20	4.6	619	8.4	5.2	8.4	7.7	6.1	122	48	4.3	6.8	6.8
21	4.7	378	7.7	5.2	8.7	7.4	6.2	162	26	4.2	6.4	6.6
22	4.8	207	7.2	5.2	7.7	6.0	5.8	193	21	5.4	6.7	6.5
23	5.0	117	6.8	5.2	7.2	5.5	5.3	210	5.5	6.4	6.8	6.5
24	4.8	460	8.5	5.4	6.8	5.4	5.0	148	4.9	7.3	6.8	6.5
25	4.8	708	446	5.6	6.5	5.3	4.7	4.8	4.8	7.3	6.8	6.4
26	4.8	356	1320	5.3	6.4	5.6	4.4	4.5	4.7	7.2	6.8	6.4
27	4.8	201	954	5.3	7.3	5.3	4.4	4.3	4.7	7.1	6.8	6.4
28	4.8	108	551	5.3	7.6	5.0	4.3	4.1	4.6	7.1	6.8	6.4
29	4.8	43	318	5.3	7.7	4.9	4.2	4.1	4.6	7.1	6.9	6.4
30	10	8.8	408	5.2	---	4.8	4.2	4.0	4.6	7.1	7.1	6.7
31	13	---	654	5.3	---	4.9	---	4.1	---	7.1	7.0	---
TOTAL	164.0	5850.8	4848.4	1424.6	220.5	247.8	160.6	1504.4	2493.9	165.5	227.6	205.6
MEAN	5.29	195	156	46.0	7.60	7.99	5.35	48.5	83.1	5.34	7.34	6.85
MAX	13	1070	1320	435	19	22	7.1	210	322	7.3	9.7	7.3
MIN	3.7	5.5	5.3	5.2	4.9	4.8	4.2	3.7	4.6	4.2	6.2	6.4
AC-FT	325	11610	9620	2830	437	492	319	2980	4950	328	451	408

CAL YR 1983 TOTAL 30177.2 MEAN 82.7 MAX 1320 MIN 1.6 AC-FT 59860
WTR YR 1984 TOTAL 17513.7 MEAN 47.9 MAX 1320 MIN 3.7 AC-FT 34740

NOTE.--No gage height record Nov. 18 to Jan. 17.

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA

LOCATION.--Lat 39°17'32", long 121°06'13", in NW 1/4 SE 1/4 sec.32, T.17 N., R.8 E., Nevada County, Hydrologic Unit 18020125, on left bank at Jones Bar, 100 ft upstream from Rush Creek, 0.9 mi downstream from bridge on State Highway 49, and 5 mi northwest of Grass Valley.

DRAINAGE AREA.--308 mi^2.

PERIOD OF RECORD.--October 1940 to September 1948, April 1959 to current year. Published as South Fork Yuba Rive 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, from river-profile map. Oct. 1, 1940, to Sept. 30, 1948, at site 150 ft upstream at datum 2.00 ft higher.

REMARKS.--Records fair. Flow regulated by Lake Spaulding, Fordyce Lake, Bowman Lake (stations 11414040, 11414090 11415500), and many smaller reserviors. Diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres by the Nevada Irrigation District. See schematic diagram of Yuba River basin

AVERAGE DISCHARGE.--33 years, 478 ft^3/s, 346,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,600 ft^3/s Dec. 22, 1964, gage height, 25.0 ft from floodmarks, from rating curve extended above 23,000 ft^3/s on basis of slope-area measurement of maximum flow; minimum, 1.0 ft^3/s Sept. 10-13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 30.7 ft from floodmarks, present datum, at site 100 ft upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,300 ft^3/s Nov. 17, gage height, 15.31 ft; minimum daily, 55 ft^3/s Aug 25,26, Sept. 25,26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	455	389	2350	260	420	412	324	778	87	56	69
2	177	252	383	1620	252	413	459	542	274	85	56	65
3	154	169	1100	1450	244	412	517	420	242	82	60	63
4	102	140	1000	1200	238	392	431	415	701	80	60	62
5	87	124	633	1120	232	375	378	363	1330	80	60	62
6	79	114	571	1040	229	359	369	336	1110	76	64	59
7	75	154	562	896	225	352	357	317	1540	76	68	60
8	75	162	667	771	222	342	479	300	950	75	61	61
9	73	150	1020	685	292	336	435	292	483	74	58	61
10	74	480	2520	625	349	333	500	288	580	74	56	63
11	74	2330	2710	599	269	331	517	284	471	79	56	65
12	74	982	1820	560	301	327	444	283	254	80	56	66
13	73	1240	1180	538	1050	632	412	273	334	80	56	64
14	73	760	1000	501	1020	1210	389	267	373	80	56	64
15	73	524	903	485	809	1300	370	328	598	80	56	60
16	73	731	823	455	1160	1070	362	386	372	80	60	59
17	73	9160	906	438	740	1020	352	367	682	70	57	57
18	73	3220	729	420	600	827	353	339	788	70	56	57
19	73	1950	632	405	529	753	484	322	420	80	56	58
20	73	2870	596	385	485	735	468	322	276	77	56	61
21	74	816	575	368	918	700	431	347	258	72	56	62
22	73	822	554	355	677	630	411	387	240	67	58	61
23	74	766	520	348	594	575	401	417	158	62	58	58
24	83	4540	2550	331	555	545	378	721	110	60	56	56
25	79	3290	7470	325	532	520	353	968	101	59	55	55
26	73	1330	8540	317	493	500	337	1060	96	58	55	55
27	72	1180	7720	301	467	486	325	1080	94	58	58	56
28	72	780	4230	290	450	452	310	1100	91	58	60	57
29	72	550	2730	283	432	434	297	1130	89	58	60	56
30	114	445	4210	275	---	408	288	1170	87	57	64	58
31	488	---	5280	267	---	403	---	1170	---	56	75	---
TOTAL	3024	40486	64523	20003	14624	17592	12019	16318	13880	2230	1819	1810
MEAN	97.5	1350	2081	645	504	567	401	526	463	71.9	58.7	60.3
MAX	488	9160	8540	2350	1160	1300	517	1170	1540	87	75	69
MIN	72	114	383	267	222	327	288	267	87	56	55	55
AC-FT	6000	80300	128000	39680	29010	34890	23840	32370	27530	4420	3610	3590

CAL YR 1983 TOTAL 450772 MEAN 1235 MAX 9160 MIN 57 AC-FT 894100
WTR YR 1984 TOTAL 208328 MEAN 569 MAX 9160 MIN 55 AC-FT 413200

NOTE: No gage-height record Dec. 16 to Jan. 26 and July 5 to Aug. 20.

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA

LOCATION.--Lat 39°14'07", long 121°16'23", in NW 1/4 NW 1/4 sec.23, T.16 N., R.6 E., Yuba County, Hydrologic Unit 18020125, on right bank 2,000 ft downstream from Englebright Dam, 0.5 mi upstream from Deer Creek, and 2.3 mi northeast of Smartville.

DRAINAGE AREA.--1,108 mi^2.

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. Datum of gage is 278.68 ft National Geodetic Vertical Datum of 1929 (levels by International Engineering Co.). Prior to Sept. 19, 1958, at site 2,000 ft upstream at datum 248.31 ft higher and Sept. 19, 1958, to Sept. 30, 1969, at datum 278.68 ft lower. Supplementary gage 2,000 ft upstream since Oct. 1, 1969, at Englebright Dam at datum 248.31 ft higher.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Diversions out of basin for power and irrigation above station up to 1,800 ft^3/s, see stations 11413250, 11414190, 11414200. Flow regulation by Lake Spaulding (station 11414140), Jackson Meadows and New Bullards Bar Reservoirs (stations 11407800, 11413515), Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft, Bowman and Fordyce Lakes (stations 11415500, 11414090), and many smaller reservoirs. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--43 years, 2,595 ft^3/s, 1,880,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,000 ft^3/s Dec. 22, 1964, gage height, 546.14 ft site and datum then in use, no flow through powerplant, from rating curve extended above 25,000 ft^3/s on basis of computation of peak flow over spillway of dam at gage heights 544.72 ft and 546.14 ft; no flow at times in 1942, 1949, 1956, 1958-61, 1968-69.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,800 ft^3/s Dec. 27, gage height, 21.44 ft; minimum daily, 1430 ft^3/s Apr. 27, 28, May 15-17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2680	2340	3990	17300	3990	2740	2710	1470	3360	2230	2700	3170
2	2690	2350	3980	10800	3990	2730	2710	1460	3360	3040	2690	3170
3	2720	2340	3910	8530	3150	4050	2710	1460	3070	2970	2690	3170
4	2730	2340	4010	7270	2440	4040	2730	1460	2800	2250	2690	3170
5	2730	2350	4060	6230	2460	2550	2720	1440	2770	2220	2690	1500
6	2730	2340	4070	6280	2480	2420	2720	1440	2750	2240	3020	3220
7	2730	2330	4080	6300	2460	2380	2710	1440	2760	2280	3200	3160
8	2730	2320	4090	6140	2420	2330	2700	1440	2700	2240	3200	3160
9	2730	2290	4100	5800	2110	2740	2300	1440	2810	2290	3210	3150
10	2730	2310	5540	4860	1930	2710	1890	1450	2650	2280	3220	3140
11	2730	3380	8580	4150	1920	2710	1850	1460	2270	2230	3210	3160
12	2730	2720	7010	4050	1910	2710	1820	1450	2280	2250	3200	3170
13	2730	2620	5280	3980	2580	2710	1840	1440	2250	2280	3210	3180
14	2730	2610	4870	3990	3700	2710	1860	1440	2280	2250	3230	3150
15	2690	2630	4710	3940	3970	3730	1850	1430	2240	2240	3220	3140
16	2340	2640	4530	3970	4020	4050	1840	1430	2240	2520	3200	3160
17	2340	13600	4710	3970	4030	4060	1840	1430	2240	2750	3190	3630
18	2330	7340	4480	4020	4040	3620	1840	1680	2240	2740	3170	3560
19	2330	4160	4240	4040	4040	2830	1840	1860	2240	2740	3160	3740
20	2330	5040	4160	4040	4030	2810	1840	1850	2250	2710	3170	3200
21	2320	3160	4070	4040	4040	2740	1840	1850	2240	2730	3200	3200
22	2300	3510	4020	4030	4050	2760	1840	1850	2260	2700	3200	3190
23	2310	4100	4260	4030	4050	2760	1650	1840	2240	2760	3210	3190
24	2320	7000	8450	4020	4040	2760	1480	2100	2230	2740	3170	1950
25	2320	7760	20600	4020	4040	2760	1490	3020	2260	2730	3160	1660
26	2350	4440	27600	4010	4050	2760	1480	3360	2240	2700	3170	1670
27	2360	4200	31100	3990	4050	2770	1430	3370	2250	2240	3150	1670
28	2340	4100	27700	4020	4050	2760	1430	3360	2250	2670	3190	1940
29	2340	4000	25500	4010	4050	2760	1600	3360	2250	2690	3170	2250
30	2340	4000	28600	4000	---	2760	1630	3360	2250	2690	3150	2270
31	2350	---	27100	3920	---	2740	---	3370	---	2690	3170	---
TOTAL	78130	116320	303400	163750	98090	90960	60190	60810	74030	78090	96210	86090
MEAN	2520	3877	9787	5282	3382	2934	2006	1962	2468	2519	3104	2870
MAX	2730	13600	31100	17300	4050	4060	2730	3370	3360	3040	3230	3740
MIN	2300	2290	3910	3920	1910	2330	1430	1430	2230	2220	2690	1500
AC-FT	155000	230700	601800	324800	194600	180400	119400	120600	146800	154900	190800	170800

CAL YR 1983 TOTAL 2041237 MEAN 5592 MAX 31100 MIN 686 AC-FT 4049000
WTR YR 1984 TOTAL 1306070 MEAN 3568 MAX 31100 MIN 1430 AC-FT 2591000

Note.--No gage-height record Nov. 11 to Dec. 12.

11418500 DEER CREEK NEAR SMARTVILLE, CA

LOCATION.--Lat 39°13'28", long 121°16'03", in SW 1/4 SE 1/4 sec.23, T.16 N., R.6 E., Nevada County, Hydrologic Unit 18020125, on left bank 400 ft upstream from county road bridge, 0.9 mi upstream from mouth, and 2 mi northeast of Smartville.

DRAINAGE AREA.--84.6 mi^2.

PERIOD OF RECORD.--June 1935 to current year.

REVISED RECORDS.--WSP 1395: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 630 ft, 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, increased to 49,000 acre-ft in July 1964, Deer Creek Reservoir, capacity, 1,400 acre-ft, Lake Wildwood, capacity, 3,840 acre-ft 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.--49 years, 134 ft^3/s, 97,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft^3/s Oct. 13, 1962, gage height, 13.77 ft, from rating curve extended above 5,200 ft^3/s; minimum daily, 0.06 ft^3/s Aug. 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1928 reached a stage of 14.5 ft from floodmarks, discharge, 14,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,540 ft^3/s Nov. 17, gage height, 11.36 ft; minimum daily, 2.0 ft^3/s Aug. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	28	57	670	108	167	166	51	8.8	3.8	2.2	7.9
2	13	129	54	566	106	158	176	98	7.2	3.0	2.4	5.1
3	11	13	535	497	103	152	134	79	7.0	3.0	2.2	4.2
4	13	11	295	446	97	147	107	66	9.9	4.4	2.5	3.3
5	11	11	129	404	93	140	97	57	15	3.7	3.1	2.2
6	12	9.8	109	371	92	134	91	48	22	3.2	2.8	2.2
7	13	11	104	341	90	131	86	42	25	3.4	2.1	2.1
8	13	10	189	317	88	126	113	35	18	2.8	2.2	2.6
9	13	12	375	298	198	125	109	34	14	2.5	2.2	3.0
10	11	230	679	280	200	122	163	32	11	2.5	2.3	2.7
11	8.2	536	1090	253	135	119	142	33	7.4	2.6	2.3	2.2
12	7.5	118	747	224	185	117	107	27	7.5	2.2	2.6	2.3
13	9.5	137	559	201	1000	293	90	19	7.5	2.7	2.3	2.2
14	10	57	453	183	616	412	100	16	8.3	3.3	2.0	2.3
15	10	31	390	167	681	469	107	29	6.5	3.6	2.5	5.8
16	8.8	144	360	189	620	470	95	27	6.2	2.7	2.5	5.0
17	8.3	3080	372	176	396	670	85	21	5.8	3.2	2.5	3.3
18	7.4	274	307	161	312	372	95	19	5.0	3.9	3.1	2.7
19	6.3	212	284	150	266	316	143	17	4.0	3.3	3.0	3.2
20	202	357	290	144	239	288	143	15	3.4	3.5	2.5	3.7
21	383	176	256	142	891	267	142	12	5.0	3.7	2.4	4.5
22	375	97	257	137	401	250	108	12	6.5	3.4	2.6	4.1
23	156	106	540	132	295	236	89	10	6.1	2.8	2.5	3.1
24	2.9	2290	2150	128	270	218	77	11	5.5	2.6	2.7	3.0
25	2.2	429	3730	124	265	192	59	10	4.2	2.5	3.3	2.7
26	3.5	165	2100	123	233	175	53	9.8	3.9	2.7	3.7	2.2
27	4.1	110	2440	121	202	164	50	8.6	2.8	2.9	3.8	2.5
28	4.1	86	1230	116	189	151	48	5.6	2.4	3.1	3.5	2.5
29	4.0	72	845	116	177	143	46	3.7	2.2	3.3	3.4	2.8
30	8.1	63	1440	113	---	130	43	4.4	3.2	2.7	4.8	3.5
31	135	---	911	110	---	153	---	7.3	---	2.3	11	---
TOTAL	1489.9	9004.8	23277	7400	8548	7007	3064	859.4	241.3	95.3	93.0	98.9
MEAN	48.1	300	751	239	295	226	102	27.7	8.04	3.07	3.00	3.30
MAX	383	3080	3730	670	1000	670	176	98	25	4.4	11	7.9
MIN	2.2	9.8	54	110	88	117	43	3.7	2.2	2.2	2.0	2.1
AC-FT	2960	17860	46170	14680	16950	13900	6080	1700	479	189	184	196
a	35425	43641	48967	48590	48634	48692	48590	47794	45012	40524	35334	31060

CAL YR 1983 TOTAL 135782.0 MEAN 372 MAX 4580 MIN 2.2 AC-FT 269300
WTR YR 1984 TOTAL 61178.6 MEAN 167 MAX 3730 MIN 2.0 AC-FT 121300

a Contents, in acre-feet, at end of month for Scotts Flat Reservoir, furnished by Nevada Irrigation District.

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.--39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, Hydrologic Unit 18020107, on left bank 4.2 mi northeast of Marysville, and 5 mi downstream from Dry Creek.

DRAINAGE AREA.--1,339 mi^2.

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 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 downstream at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge in Marysville 4.2 mi 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 between stations below Englebright Dam and near Marysville. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--41 years (water years 1944-84), 2,639 ft^3/s, 1,912,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-84), 180,000 ft^3/s Dec. 22, 1964, gage height, 90.15 ft from floodmarks, from rating curve extended above 91,000 ft^3/s on basis of Corps of Engineers flood routing study; minimum recorded, 10 ft^3/s July 2, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38,700 ft^3/s Dec. 27, gage height, 74.03 ft; minimum daily, 989 ft^3/s May 8.

CORRECTIONS.--The calendar year total, mean, and acre-feet for the year 1982 published in the report for 1983 are corrected to 2039005, 5586 and 4044000.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2870	2310	4240	21600	4300	3390	3060	1040	3020	1850	2330	3080
2	2860	2350	4240	13000	4280	3220	3050	1070	3010	2350	2330	3080
3	2870	2270	4230	9900	3790	4390	3010	1030	2850	2750	2320	3080
4	2900	2270	4230	8500	2790	4450	2990	1020	2540	1930	2340	3080
5	2910	2290	4220	6950	2790	3260	2970	1000	2490	1880	2310	1850
6	2910	2300	4220	6980	2760	2850	2930	993	2480	1860	2540	2810
7	2900	2280	4210	6980	2730	2820	2890	996	2480	1890	2830	3070
8	2910	2290	4280	6740	2700	2730	2880	989	2410	1860	2810	3090
9	2920	2310	4540	6470	2600	3070	2690	991	2470	1870	2820	3090
10	2950	2540	6690	5570	2540	3070	2180	997	2420	1910	2820	3100
11	2940	4030	11400	4760	2350	3060	2160	1070	1950	1850	2840	3110
12	2860	2910	9830	4570	2400	3050	2130	1090	1900	1850	2840	3120
13	2730	2640	6630	4450	3710	3260	2040	1100	1850	1870	2870	3100
14	2680	2510	5740	4430	5710	3830	2040	1090	1850	1870	2930	3110
15	2680	2430	5390	4360	5520	4540	2000	1110	1830	1850	2910	3100
16	2360	2600	5140	4480	5430	5060	1930	1140	1820	2010	2910	3110
17	2300	15400	5320	4640	5180	5740	1890	1160	1810	2340	2930	3450
18	2270	9710	5060	4620	4890	4860	1890	1320	1810	2340	2930	3600
19	2260	6370	4740	4510	4760	3590	1930	1570	1840	2320	2910	3600
20	2350	6540	4620	4430	4720	3530	1960	1560	1840	2300	2920	3310
21	2560	6320	4490	4430	5880	3320	1920	1540	1810	2310	2960	3200
22	2550	5990	4420	4390	5360	3260	1840	1550	1870	2300	2960	3190
23	2430	6180	4860	4390	4990	3220	1620	1550	1840	2350	2980	3180
24	2180	6890	12000	4370	4880	3220	1290	1690	1830	2340	2980	2400
25	2170	7090	25900	4350	4840	3210	1240	2400	1850	2360	3000	1750
26	2200	5580	32300	4370	4780	3190	1210	2950	1870	2320	3040	1760
27	2200	4800	36400	4340	4730	3160	1110	2980	1850	1880	3040	1750
28	2210	4450	32500	4400	4680	3120	1030	3000	1860	2270	3080	1850
29	2230	4320	28500	4360	4640	3060	1080	2990	1860	2310	3060	2250
30	2260	4270	31600	4340	---	3050	1240	3010	1860	2330	3060	2280
31	2390	---	32500	4230	---	3030	---	3040	---	2320	3090	---
TOTAL	79810	134240	354440	185910	120730	108610	62200	49036	63170	65840	87690	85550
MEAN	2575	4475	11430	5997	4163	3504	2073	1582	2106	2124	2829	2852
MAX	2950	15400	36400	21600	5880	5740	3060	3040	3020	2750	3090	3600
MIN	2170	2270	4210	4230	2350	2730	1030	989	1810	1850	2310	1750
AC-FT	158300	266300	703000	368800	239500	215400	123400	97260	125300	130600	173900	169700

CAL YR 1983 TOTAL 2305080 MEAN 6315 MAX 38000 MIN 535 AC-FT 4572000
WTR YR 1984 TOTAL 1397226 MEAN 3818 MAX 36400 MIN 989 AC-FT 2771000

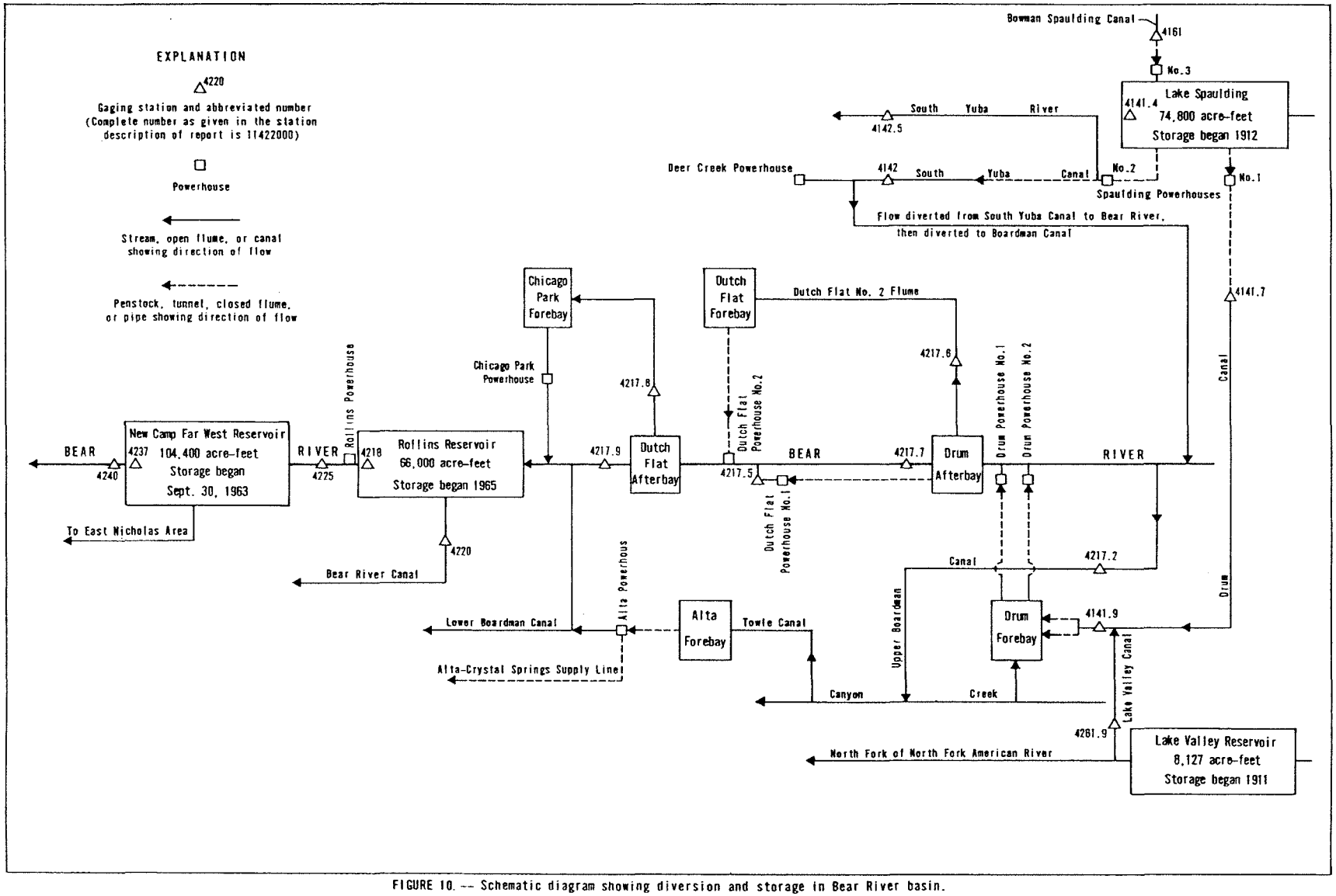

FIGURE 10. -- Schematic diagram showing diversion and storage in Bear River basin.

11421720 BOARDMAN CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'49", long 120°42'08", in SE 1/4 NE 1/4 sec.35, T.17 N., R.11 E., Placer County, Hydrologic Unit 18020126, on right bank 0.4 mi downstream from Boardman diversion dam, and 1.7 mi (revised) west of Emigra Gap.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,490 ft, from topographic map. Prior to June 14, 1967, water-stage recorder 0.2 mi 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.--20 years, 19.5 ft^3/s, 14,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s Dec. 21, 1964; no flow for several days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	5.6	18						0	31	37	25
2	13	11	18						0	31	36	25
3	1.2	25	19						0	34	34	25
4	1.2	28	18						0	34	33	24
5	1.2	28	18						0	34	33	24
6	1.2	28	18						0	35	33	24
7	1.2	29	18						0	35	33	25
8	1.2	27	19						0	35	32	19
9	1.2	27	19						0	35	32	13
10	1.2	20	19						0	36	32	10
11	1.1	8.5	19						0	36	32	11
12	1.1	8.0	18						0	36	32	11
13	1.1	7.7	18						0	36	32	10
14	1.1	8.5	18						0	37	33	10
15	8.7	9.9	17						0	37	35	16
16	16	10	16						0	38	35	24
17	20	5.5	17						0	38	34	23
18	24	4.4	16						0	37	34	21
19	23	11	16						0	37	34	22
20	23	17	16						0	33	34	24
21	23	20	16						0	35	34	24
22	23	22	17						0	37	29	22
23	24	22	21						0	14	24	22
24	25	15	16						0	0	26	21
25	26	13	9.9						0	0	27	17
26	26	16	16						0	0	27	17
27	26	16	16						14	24	28	19
28	26	17	9.4						24	37	28	19
29	26	18	4.5						30	39	28	19
30	29	18	0		---				32	38	29	21
31	11	---	0		---		---		---	37	27	---
TOTAL	432.7	496.1	480.8	0	0	0	0	0	100	966	977	587
MEAN	14.0	16.5	15.5	0	0	0	0	0	3.33	31.2	31.5	19.6
MAX	29	29	21	0	0	0	0	0	32	39	37	25
MIN	1.1	4.4	0	0	0	0	0	0	0	0	24	10
AC-FT	858	984	954	0	0	0	0	0	198	1920	1940	1160

CAL YR 1983 TOTAL 3862.60 MEAN 10.6 MAX 29 MIN 0 AC-FT 7660
WTR YR 1984 TOTAL 4039.60 MEAN 11.0 MAX 39 MIN 0 AC-FT 8010

11421750 DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°13'02", long 120°50'04", in SE 1/4 (revised) SE 1/4 sec.27, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, at powerplant 0.8 mi north of Dutch Flat.

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

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Drum Afterbay through a tunnel to Dutch Flat No. 1 powerplant and returned to Dutch Flat Afterbay. See schematic diagram of Bear River basin.

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

AVERAGE DISCHARGE.--20 years, 251 ft^3/s, 181,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 571 ft^3/s Apr. 13, May 9, 1982, Nov. 17, 1983; no flow at times most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	330	278	418	339	359	320	359	197	228	220	181
2	408	398	339	398	339	359	448	368	236	228	173	189
3	312	312	330	378	330	359	378	378	228	197	166	158
4	320	349	388	388	330	428	339	359	303	270	205	236
5	312	378	359	448	320	312	359	349	220	228	189	205
6	253	286	388	398	349	359	349	320	359	245	166	212
7	388	330	368	359	349	368	368	349	339	212	205	158
8	320	220	428	378	349	418	359	339	253	220	205	212
9	278	286	418	388	368	448	448	330	270	236	166	212
10	228	330	487	359	359	408	378	359	270	236	220	197
11	408	339	501	349	359	408	388	339	278	245	189	205
12	378	368	529	359	330	339	398	368	320	220	181	173
13	378	368	398	398	0	303	408	339	253	197	205	261
14	312	339	408	515	0	388	312	312	286	228	189	166
15	398	368	349	408	79	438	398	320	303	270	181	245
16	359	398	388	368	398	428	359	349	253	197	181	212
17	349	571	378	378	398	349	312	359	295	245	197	181
18	349	398	388	388	359	359	378	261	197	220	181	142
19	359	438	339	501	388	312	320	320	303	245	181	236
20	245	448	388	330	368	418	438	330	295	253	197	236
21	303	339	368	359	359	378	398	339	261	111	181	87
22	378	349	368	320	368	330	378	330	278	261	189	103
23	408	330	428	474	543	359	388	320	303	245	173	261
24	349	418	408	461	359	368	359	270	173	212	228	253
25	330	448	543	398	339	349	368	253	253	212	181	79
26	286	408	543	461	359	359	359	312	261	181	220	0
27	349	359	543	398	368	320	378	320	205	245	142	0
28	339	388	448	349	461	378	320	228	189	228	245	0
29	388	339	418	339	278	368	312	312	236	197	205	0
30	428	330	438	359	---	320	303	245	245	205	205	0
31	398	---	418	330	---	349	---	261	---	173	197	---
TOTAL	10622	10962	12772	12154	9545	11438	11020	9997	7862	6890	5963	4800
MEAN	343	365	412	392	329	369	367	322	262	222	192	160
MAX	428	571	543	515	543	448	448	378	359	270	245	261
MIN	228	220	278	320	0	303	303	228	173	111	142	0
AC-FT	21070	21740	25330	24110	18930	22690	21860	19830	15590	13670	11830	9520

CAL YR 1983 TOTAL 129398.90 MEAN 355 MAX 571 MIN 0 AC-FT 256700
WTR YR 1984 TOTAL 114025.00 MEAN 312 MAX 571 MIN 0 AC-FT 226200

11421760 DUTCH FLAT NO. 2 FLUME NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'28", in SE 1/4 NE 1/4 sec.18, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 600 ft downstream from Drum Afterbay, and 3.6 mi west of Blue Canyon.

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

GAGE.--Water-stage recorder. Datum of gage is 3,348.09 ft National Geodetic Vertical Datum of 1929 (levels by Nevada Irrigation District).

REMARKS.--Records good except flows below 3 ft^3/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.--18 years, 361 ft^3/s, 261,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 626 ft^3/s Sept. 29, 1983; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	363	524	519	587	598	599	603	597	598	559	555	526
2	478	481	512	597	602	601	299	595	598	551	551	520
3	483	480	580	589	602	598	605	595	597	552	524	513
4	480	457	588	605	602	598	606	594	597	520	554	525
5	474	457	574	507	602	592	604	594	596	538	541	525
6	497	461	573	576	602	598	604	594	596	553	526	520
7	464	482	584	588	602	465	602	594	595	556	530	533
8	445	516	580	609	582	599	603	594	594	542	526	531
9	414	586	560	591	575	529	575	595	596	542	533	529
10	613	535	593	584	580	532	597	597	594	547	545	526
11	451	592	598	589	586	597	592	602	595	547	540	523
12	420	566	596	609	598	601	595	600	580	543	541	528
13	386	598	577	562	583	601	597	600	596	535	535	543
14	448	595	577	465	602	601	598	599	567	532	542	516
15	402	606	567	586	601	580	573	598	594	555	517	139
16	408	597	601	605	593	599	591	599	595	541	513	94
17	466	596	598	607	580	602	598	600	594	518	534	353
18	409	572	580	576	602	602	598	600	595	549	529	533
19	448	597	603	473	603	602	597	599	568	554	528	518
20	541	594	586	585	602	594	598	598	559	548	522	523
21	463	579	577	608	603	600	597	599	557	521	530	478
22	421	592	488	603	604	602	597	598	593	554	534	236
23	409	579	607	508	602	583	597	586	594	553	528	7.7
24	418	579	599	484	603	579	597	599	563	547	528	354
25	487	578	592	572	602	590	597	599	441	548	495	268
26	440	580	601	393	603	597	571	597	552	547	530	3.2
27	445	578	607	610	580	600	597	597	565	543	513	3.0
28	471	568	602	590	601	603	596	598	535	550	454	2.5
29	405	554	597	586	601	602	596	598	569	531	516	2.4
30	425	526	592	591	---	600	595	597	574	532	522	2.4
31	472	---	607	592	---	602	---	597	---	528	509	---
TOTAL	13946	16605	18015	17627	17296	18248	17575	18509	17347	16836	16345	10875.2
MEAN	450	554	581	569	596	589	586	597	578	543	527	363
MAX	613	606	607	610	604	603	606	602	598	559	555	543
MIN	363	457	488	393	575	465	299	586	441	518	454	2.4
AC-FT	27660	32940	35730	34960	34310	36190	34860	36710	34410	33390	32420	21570

CAL YR 1983 TOTAL 181848.78 MEAN 498 MAX 626 MIN .50 AC-FT 360700
WTR YR 1984 TOTAL 199224.2 MEAN 544 MAX 613 MIN 2.4 AC-FT 395200

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'26", in SW 1/4 NW 1/4 sec.17, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 60 ft downstream from Drum Afterbay Dam, and 3.5 mi west of Blue Canyon.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--April 1966 to current year, low flows only April to September 1966.

GAGE.--Water-stage recorder and 4-ft steel Cipolletti weir set in a concrete broad-crested weir. Altitude of gage is 3,300 ft, 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 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.--18 years, 18.4 ft^3/s, 13,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,530 ft^3/s Apr. 11, 1982, gage height, 4.64 ft, from rating curve extended above 1,200 ft^3/s; minimum daily, 1.0 ft^3/s Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,400 ft^3/s Nov. 24, gage height, 3.83 ft; minimum daily, 4.6 ft^3/s Nov. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	5.2	5.2	31	5.1	10	10	10	10	10	10	10
2	5.2	5.1	5.2	35	5.1	10	10	10	10	10	10	10
3	5.2	5.3	55	28	5.2	10	10	10	10	10	10	11
4	5.1	5.4	19	26	5.1	10	10	10	10	10	10	10
5	5.2	5.4	13	5.3	5.2	10	10	10	10	10	10	11
6	5.1	5.4	5.2	5.2	5.2	10	10	10	10	10	10	11
7	5.2	5.3	5.1	5.3	4.9	10	10	10	10	10	10	10
8	5.2	5.3	34	5.3	5.2	10	10	10	10	10	10	11
9	5.0	5.3	132	5.3	5.1	10	10	10	10	10	10	10
10	4.7	5.4	103	5.3	5.2	10	10	10	10	10	10	11
11	5.2	5.4	116	5.2	5.1	10	10	10	10	10	10	11
12	5.2	5.5	13	5.2	5.2	10	10	10	10	10	10	11
13	5.2	5.5	33	5.2	5.2	25	10	10	10	10	10	11
14	5.2	5.4	41	5.2	5.2	41	10	10	10	10	10	11
15	5.0	5.4	34	5.2	5.2	24	10	10	10	10	10	11
16	5.1	16	28	5.1	5.4	11	10	10	10	10	11	11
17	5.3	342	23	5.1	5.2	10	10	10	10	10	10	11
18	5.3	9.7	15	5.1	5.1	10	10	10	10	10	10	10
19	5.3	87	5.2	5.1	5.1	10	10	10	10	10	10	11
20	5.4	71	5.2	5.1	5.1	10	10	10	10	10	10	10
21	5.4	5.4	5.2	5.0	5.1	10	10	10	10	10	10	10
22	5.4	5.4	5.2	5.0	5.1	10	10	10	10	10	10	10
23	5.4	5.3	5.2	5.0	5.2	10	10	10	10	10	10	10
24	5.4	398	118	5.1	5.2	10	10	10	10	10	11	10
25	5.4	12	798	5.2	5.1	10	10	10	10	10	11	10
26	5.4	5.2	341	5.1	5.1	10	10	10	10	10	11	11
27	5.4	5.3	209	5.2	5.2	10	10	10	10	10	11	11
28	5.4	5.2	47	5.1	5.1	10	10	10	10	10	11	11
29	5.4	5.1	42	5.1	6.7	10	10	10	10	10	11	11
30	5.4	4.6	212	5.1	---	10	10	10	10	10	11	11
31	5.4	---	80	5.1	---	10	---	10	---	10	10	---
TOTAL	164.2	1057.5	2552.7	259.2	150.9	371	300	310	300	310	318	318
MEAN	5.30	35.3	82.3	8.36	5.20	12.0	10.0	10.0	10.0	10.0	10.3	10.6
MAX	6.7	398	798	35	6.7	41	10	10	10	10	11	11
MIN	4.7	4.6	5.1	5.0	4.9	10	10	10	10	10	10	10
AC-FT	326	2100	5060	514	299	736	595	615	595	615	631	631

CAL YR 1983 TOTAL 9818.3 MEAN 26.9 MAX 798 MIN 2.9 AC-FT 19470
WTR YR 1984 TOTAL 6411.5 MEAN 17.5 MAX 798 MIN 4.6 AC-FT 12720

11421780 CHICAGO PARK FLUME NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NW 1/4 NE 1/4 sec.34, T.16 N., R.10 E., Nevada County, Hydrologic Unit 18020126, on left bank 670 ft downstream from Dutch Flat Afterbay, and 0.6 mi north of Dutch Flat.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft, from topographic map. Prior to Sept. 8, 1968, at site 420 ft upstream at same datum.

REMARKS.--Records excellent except flows below 70 ft^3/s, which are poor. Flow regulated by Dutch Flat Afterbay. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE.--18 years, 653 ft^3/s, 473,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,130 ft^3/s Nov. 19, 1983; no flow several days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	864	1090	938	1110	1010	1120	1040	1000	945	899	739	764
2	890	857	937	1110	1040	1100	813	1050	917	932	810	762
3	878	811	1100	1110	1050	1030	1000	1070	897	856	826	764
4	872	877	1110	1110	1050	1020	1050	1070	854	752	788	763
5	889	905	1110	1110	1040	1100	1050	1070	919	827	785	763
6	866	890	1110	1110	1050	1110	1050	1070	1070	824	724	762
7	876	883	1110	1110	1050	1110	1050	1070	1070	821	740	774
8	852	809	1110	1110	1040	1020	1080	1020	874	839	740	793
9	833	845	1110	1110	1040	1040	1090	1020	943	839	749	792
10	784	967	1120	1110	1040	1050	1080	1020	1040	840	755	792
11	867	1100	1110	1100	1040	1080	1080	1020	943	839	767	793
12	865	1120	1120	1110	1040	1070	1090	1070	897	838	817	792
13	864	1110	1110	1110	1040	1090	1090	1070	1020	836	815	793
14	863	1110	630	1110	1120	1110	1080	1040	898	835	815	773
15	861	1110	1110	1110	1120	1110	1080	1000	991	837	812	334
16	862	1110	1110	1110	1120	1110	1050	1000	967	837	758	327
17	859	1120	1110	1110	1120	1110	949	1030	945	837	810	612
18	863	1120	1110	1110	1120	1110	1020	1040	943	837	707	728
19	957	1130	1110	1040	1120	1110	1080	1000	918	837	736	792
20	814	1120	1110	925	1120	1110	1080	1000	920	836	737	794
21	902	1120	1110	1040	1120	1110	1080	1000	920	785	739	696
22	854	1120	1110	1100	1120	1100	1080	1000	936	780	768	313
23	879	1110	1110	1100	1120	1100	1080	1000	984	787	800	314
24	877	1120	1110	1060	1120	1060	1080	1000	839	844	812	678
25	876	1110	1110	1080	1120	1020	1080	976	840	880	812	667
26	878	1120	1110	1050	1120	1080	1080	976	816	840	809	10
27	875	1110	1110	1020	1120	1100	1070	978	809	840	760	10
28	874	1110	1110	1040	1120	1060	1000	957	762	840	632	10
29	874	1110	1110	1060	1120	1040	1010	944	796	829	765	10
30	913	885	1110	1060	---	1040	1000	946	851	794	766	10
31	1100	---	1110	998	---	1040	---	944	---	731	766	---
TOTAL	27181	30999	33595	33543	31450	33460	31462	31451	27524	25748	23859	17185
MEAN	877	1033	1084	1082	1084	1079	1049	1015	917	831	770	573
MAX	1100	1130	1120	1110	1120	1120	1090	1070	1070	932	826	794
MIN	784	809	630	925	1010	1020	813	944	762	731	632	10
AC-FT	53910	61490	66640	66530	62380	66370	62400	62380	54590	51070	47320	34090

CAL YR 1983 TOTAL 354374 MEAN 971 MAX 1130 MIN 5.0 AC-FT 702900
WTR YR 1984 TOTAL 347457 MEAN 949 MAX 1130 MIN 10 AC-FT 689200

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE 1/4 NW 1/4 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 north of Dutch Flat.

DRAINAGE AREA.--21.5 mi^2.

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

REVISED RECORDS.--WDR CA-82-4: 1978, 1979(M), 1980.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,600 ft, from topographic map.

REMARKS.--Records excellent except those above 13 ft^3/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.

AVERAGE DISCHARGE.--18 years, 30.7 ft^3/s, 22,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,220 ft^3/s Feb. 16, 1982; minimum daily, 0.08 ft^3/s Mar. 8-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,330 ft^3/s Dec. 25; minimum daily, 6.1 ft^3/s Jan. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.9	6.3	139	6.5	6.7	6.6	12	11	11	11	11
2	12	6.2	6.3	122	6.5	6.7	6.7	12	11	11	11	11
3	12	6.3	12	85	6.5	6.7	6.7	12	11	11	11	11
4	12	6.4	40	75	6.5	6.9	6.7	12	11	11	11	11
5	12	6.3	18	16	6.5	6.9	6.7	12	11	11	11	11
6	12	6.3	6.3	6.7	6.5	6.9	6.7	12	11	11	11	11
7	12	6.3	6.3	6.3	6.5	6.8	6.7	11	11	11	11	11
8	12	6.3	45	6.3	6.5	6.8	6.7	11	11	11	11	11
9	12	6.3	218	6.3	6.5	6.9	6.9	11	11	11	11	11
10	12	6.4	485	6.3	6.5	6.9	7.1	12	11	11	11	11
11	12	30	500	6.3	6.5	6.9	7.6	12	11	11	11	11
12	12	14	237	6.3	6.5	6.9	7.8	12	11	11	11	11
13	12	6.4	106	6.3	70	6.9	7.6	12	11	11	11	11
14	12	6.4	604	6.3	64	79	7.4	12	11	11	11	11
15	12	6.3	31	6.3	61	117	7.4	12	11	11	11	11
16	12	6.3	83	6.3	108	93	7.0	12	11	11	11	11
17	12	948	64	6.2	19	21	6.7	12	11	11	11	11
18	12	52	21	6.1	6.8	12	6.7	12	11	11	11	11
19	12	146	6.3	6.2	6.8	18	6.7	12	11	11	11	11
20	12	224	6.3	6.3	6.8	13	6.8	12	11	11	11	11
21	12	10	7.2	6.3	6.9	8.1	6.7	12	11	11	11	11
22	12	6.3	6.3	6.4	7.1	6.9	6.8	12	11	11	11	11
23	12	6.3	6.3	6.5	62	6.9	6.7	11	11	11	11	11
24	12	434	264	6.5	9.0	6.9	6.7	11	11	11	11	11
25	12	124	1280	6.5	11	6.7	6.7	11	11	11	11	11
26	12	22	967	6.5	6.7	6.7	6.7	11	11	11	11	21
27	12	6.4	845	6.5	6.7	6.7	6.7	11	11	11	11	52
28	12	6.3	389	6.5	6.7	6.7	6.7	11	11	11	11	75
29	12	6.3	214	6.5	6.7	6.6	6.7	11	11	11	11	75
30	12	6.3	469	6.5	---	6.7	9.5	11	11	11	11	73
31	12	---	312	6.5	---	6.7	---	11	---	11	11	---
TOTAL	372	2133.0	7261.6	602.7	543.2	517.5	209.1	360	330	341	341	571
MEAN	12.0	71.1	234	19.4	18.7	16.7	6.97	11.6	11.0	11.0	11.0	19.0
MAX	12	948	1280	139	108	117	9.5	12	11	11	11	75
MIN	12	6.2	6.3	6.1	6.5	6.6	6.6	11	11	11	11	11
AC-FT	738	4230	14400	1200	1080	1030	415	714	655	676	676	1130

CAL YR 1983 TOTAL 25736.3 MEAN 70.5 MAX 1430 MIN 6.2 AC-FT 51050
WTR YR 1984 TOTAL 13582.1 MEAN 37.1 MAX 1280 MIN 6.1 AC-FT 26940

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'05", long 120°56'54", in NE 1/4 SE 1/4 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 north of Colfax.

DRAINAGE AREA.--104 mi^2.

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 between elevations 1,970.0 ft, invert of outlet tunnel and 2,171.0 ft, spillway crest. Dead storage, 270 acre-ft. 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, 70,200 acre-ft Feb. 15, 1982, elevation, 2,176.0 ft; minimum since reservoir first filled, 4,250 acre-ft Oct. 10, 1977, elevation, 2,022.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 68,800 acre-ft Dec. 25, elevation, 2,174.4 ft; minimum, 49,400 acre-ft Sept. 30, elevation 2,148.9 ft.

Capacity table (elevation, 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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50200	67000	66500	67100	66600	66700	66700	66700	66500	66300	65700	63100
2	50500	66800	66500	67000	66600	66700	66400	66700	66500	66400	65700	63000
3	50700	66200	66900	66900	66600	66700	66600	66700	66500	66400	65800	62900
4	50900	66200	66700	66900	66600	66600	66700	66700	66400	66200	65700	62800
5	51000	66300	66700	66800	66600	66700	66700	66700	66500	66300	65700	62700
6	51100	66300	66700	66800	66600	66700	66700	66700	66700	66300	65600	62700
7	51300	66300	66700	66800	66600	66700	66700	66700	66700	66300	65400	62600
8	51400	66100	66800	66700	66700	66700	66700	66700	66500	66300	65200	62600
9	51500	66200	67500	66700	66700	66700	66700	66700	66500	66300	65100	62500
10	51400	66800	67600	66700	66700	66700	66700	66700	66600	66300	65000	62400
11	51500	66700	67700	66700	66700	66700	66700	66700	66500	66300	64800	62400
12	51700	66700	67200	66700	66700	66700	66700	66700	66500	66300	64800	62300
13	51800	66700	67000	66700	67200	66800	66700	66700	66600	66300	64800	62300
14	51900	66700	67000	66700	66900	67000	66700	66600	66500	66300	64800	62300
15	52000	66600	66800	66700	67000	67100	66700	66600	66600	66300	64800	61300
16	52200	66800	66800	66700	67000	67000	66700	66600	66600	66300	64700	60300
17	52300	67700	66800	66700	66800	66900	66600	66600	66500	66300	64700	59800
18	52400	66700	66700	66700	66700	66800	66700	66700	66500	66300	64500	59800
19	53200	67200	66700	66700	66700	66800	66700	66600	66500	66300	64300	59700
20	53700	67000	66700	66600	66700	66800	66700	66600	66400	66300	64200	59700
21	54200	66700	66700	66600	66900	66700	66700	66600	66400	66200	64000	59500
22	55500	66700	66700	66700	66800	66700	66700	66600	66500	66100	63900	58500
23	57100	66700	66800	66700	66800	66700	66700	66600	66500	66000	63900	57500
24	58800	67800	67800	66700	66800	66700	66700	66600	66400	66100	63800	57100
25	60400	66900	68800	66700	66700	66700	66600	66600	66300	66200	63800	56900
26	61500	66700	68300	66600	66700	66700	66600	66600	66300	66200	63800	55400
27	62900	66700	68100	66600	66700	66700	66600	66600	66200	66200	63700	53900
28	63700	66700	67500	66600	66700	66700	66600	66600	66200	66200	63400	52400
29	64800	66600	67200	66700	66700	66600	66600	66600	66200	66200	63300	50900
30	65800	66500	67800	66700	---	66700	66600	66500	66200	66100	63200	49400
31	66700	---	67300	66600	---	66700	---	66500	---	65900	63100	---
MAX	66700	67800	68800	67100	67200	67100	66700	66700	66700	66400	65800	63100
MIN	50200	66100	66500	66600	66600	66600	66400	66500	66200	65900	63100	49400
a	2171.8	2171.6	2172.6	2171.7	2171.9	2171.8	2171.7	2171.6	2171.3	2170.9	2167.5	2148.9
b	+16700	-200	+800	-700	+100	0	-100	-100	-300	-300	-2800	-13700

CAL YR 1983 b +700
WTR YR 1984 b -600

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

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA

LOCATION.--Lat 39°07'58", long 120°57'12", in SW 1/4 SE 1/4 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on right bank 600 ft downstream from canal inlet, 0.2 mi below Rollins Dam, and 2.2 mi 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, from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi 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.--61 years (water years 1913-53, 1965-84), 304 ft^3/s, 220,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 531 ft^3/s Oct. 5, 6, 1980; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	464	57	482	471	458	459	456	478	474	477	466	464
2	464	26	482	471	458	459	456	478	474	477	466	463
3	463	38	455	470	458	459	456	478	474	477	466	463
4	464	36	461	469	458	459	457	478	474	477	467	463
5	464	44	484	468	458	459	456	478	413	477	468	463
6	464	58	484	469	458	459	456	478	473	476	468	463
7	464	65	485	468	458	459	456	478	473	476	469	462
8	464	65	486	467	458	459	456	478	475	474	470	462
9	464	185	486	467	458	459	456	478	476	474	470	461
10	464	391	455	465	458	460	436	478	477	473	469	462
11	465	454	435	464	458	460	455	477	478	473	469	462
12	465	453	455	464	458	460	455	477	477	472	469	461
13	465	453	488	463	428	440	460	477	476	472	468	460
14	465	453	483	462	427	440	463	477	474	472	468	459
15	465	454	483	462	458	459	463	477	475	471	468	460
16	465	453	482	462	458	456	469	477	476	472	467	460
17	465	342	481	460	458	459	472	476	476	471	466	459
18	466	427	480	460	458	460	470	476	477	471	465	459
19	455	452	480	459	458	460	470	475	478	470	465	458
20	467	452	479	458	458	460	470	475	475	471	466	458
21	467	451	479	459	458	239	470	475	475	469	466	458
22	164	451	478	458	458	456	470	475	477	468	465	458
23	7.5	451	478	458	458	457	470	475	476	468	464	457
24	7.6	383	446	458	458	456	476	475	471	467	464	457
25	7.5	405	428	458	458	457	478	475	472	468	465	457
26	7.4	451	426	458	458	457	475	475	477	467	465	457
27	35	451	437	458	458	456	477	475	475	467	464	456
28	62	468	423	457	458	455	478	475	476	466	464	454
29	62	484	455	457	459	455	478	475	477	466	464	451
30	62	482	451	458	---	455	478	474	477	465	465	455
31	62	---	453	458	---	456	---	474	---	466	464	---
TOTAL	10226.0	9835	14460	14336	13222	13944	13938	14767	14198	14610	14460	13782
MEAN	330	328	466	462	456	450	465	476	473	471	466	459
MAX	467	484	488	471	459	460	478	478	478	477	470	464
MIN	7.4	26	423	457	427	239	436	474	413	465	464	451
AC-FT	20280	19510	28680	28440	26230	27660	27650	29290	28160	28980	28680	27340

CAL YR 1983 TOTAL 158362.0 MEAN 434 MAX 491 MIN 7.4 AC-FT 314100
WTR YR 1984 TOTAL 161778.0 MEAN 442 MAX 488 MIN 7.4 AC-FT 320900

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA

LOCATION.--Lat 39°07'53", long 120°57'29", in SE 1/4 SW 1/4 sec.22, T.15 N., R.9 E., Nevada County, Hydrologic Unit 18020126, on right bank 65 ft downstream from highway bridge, 0.5 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to August 1964, published as Bear River near Colfax. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.-Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mi upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mi downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mi 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).--25 years (water years 1913, 1916, 1951-53, 1965-84), 424 ft^3/s, 307,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft^3/s Nov. 20, 1950, gage height, 21.40 ft site and datum then in use, from rating curve extended above 3,600 ft^3/s on basis of slope-area measurement of maximum flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam, 15,400 ft^3/s Feb. 16, 1982, gage height, 12.95 ft, from rating curve extended above 6,000 ft^3/s; minimum daily, 0.5 ft^3/s Nov. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,310 ft^3/s Dec. 25, gage height, 9.55 ft; minimum daily, 81 ft^3/s Oct. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	1220	664	1890	680	938	869	743	547	409	366	360
2	319	1070	656	1610	716	921	698	836	538	460	365	359
3	319	1150	1020	1440	725	845	705	827	506	459	365	359
4	320	903	1210	1320	727	792	789	799	502	392	366	359
5	321	916	1010	1240	722	823	807	786	565	379	368	360
6	322	906	938	1120	718	875	802	777	655	386	369	359
7	322	915	933	1080	720	878	788	767	726	388	369	358
8	322	882	1060	1050	717	815	874	732	609	392	369	358
9	323	708	1300	1010	780	789	866	703	529	398	369	358
10	323	671	2690	995	815	781	994	696	595	398	369	358
11	323	1400	2730	976	754	801	982	695	600	397	369	358
12	323	990	2250	954	776	804	915	717	526	395	367	358
13	325	1050	1510	937	1140	947	883	736	552	394	366	357
14	326	989	1320	920	1520	1220	857	725	554	396	366	357
15	326	835	1260	909	1250	1470	839	694	536	399	365	354
16	326	981	1130	923	1460	1460	808	678	573	401	365	354
17	326	4310	1160	903	1290	1340	714	671	560	402	362	352
18	325	1810	1070	889	1090	1180	722	685	541	402	362	351
19	120	1260	974	839	1020	1100	911	667	525	400	362	350
20	85	1850	955	725	997	1070	913	645	513	398	361	350
21	86	1310	912	728	1240	1270	875	646	511	384	361	350
22	90	1030	894	811	1180	994	849	640	504	368	361	350
23	86	962	1010	835	1120	966	835	635	548	363	360	348
24	81	2580	2160	810	1110	933	814	630	496	363	360	346
25	97	2290	5430	776	1060	869	799	620	440	375	361	346
26	96	1320	5250	785	1010	882	794	605	412	389	361	345
27	126	1090	5010	732	984	916	790	600	392	389	361	341
28	228	981	3220	738	963	883	728	590	379	390	361	338
29	278	899	2220	755	947	837	699	566	364	389	361	335
30	452	718	2600	762	---	828	698	552	368	375	361	327
31	1120	---	2560	731	---	889	---	547	---	366	361	---
TOTAL	8754	37996	57106	30193	28231	30116	24617	21210	15666	12196	11289	10555
MEAN	282	1267	1842	974	973	971	821	684	522	393	364	352
MAX	1120	4310	5430	1890	1520	1470	994	836	726	460	369	360
MIN	81	671	656	725	680	781	698	547	364	363	360	327
AC-FT	17360	75370	113300	59890	56000	59740	48830	42070	31070	24190	22390	20940

CAL YR 1983 TOTAL 390066 MEAN 1069 MAX 7810 MIN 81 AC-FT 773700
WTR YR 1984 TOTAL 287929 MEAN 787 MAX 5430 MIN 81 AC-FT 571100

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.--Lat 39°00'01", long 121°24'21", in SE 1/4 SW 1/4 sec.3, T.13 N., R.5 E., Placer County, Hydrologic Unit 18020108, on right bank 100 ft downstream from bridge on State Highway 65, 1 mi southeast of Wheatland, and 6.5 mi downstream from Rock Creek.

DRAINAGE AREA.--292 mi^2.

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 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, 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).--55 years, 493 ft^3/s, 357,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft^3/s Dec. 22, 1955, gage height, 19.30 ft site and datum then in use; maximum gage height, 20.83 ft Nov. 21, 1950, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft^3/s Dec. 26, gage height, 15.04 ft; minimum daily, 13 ft^3/s July 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	484	943	2950	843	1100	944	207	28	26	17	20
2	43	1080	873	2170	808	1080	933	276	28	24	17	18
3	39	1110	1200	1900	806	1030	814	329	29	17	19	19
4	38	1080	1960	1800	806	971	777	332	27	15	17	20
5	40	961	1550	1680	806	902	805	312	26	15	17	21
6	39	933	1300	1560	806	904	821	284	27	15	18	25
7	38	934	1200	1370	806	933	824	272	31	16	18	21
8	38	917	1280	1250	806	932	826	242	44	18	18	19
9	38	917	1500	1210	842	894	830	220	63	18	18	18
10	38	949	2700	1200	1000	863	915	194	33	16	19	18
11	38	2060	3680	1190	961	867	1060	167	43	13	20	16
12	41	1560	3430	1160	930	865	995	157	45	14	18	15
13	52	1370	2280	1130	1200	916	907	160	31	18	21	15
14	50	1440	1730	1110	2500	1410	843	176	28	19	22	16
15	42	1140	1520	1070	2010	1720	803	162	29	19	22	17
16	38	1100	1410	1080	2170	1890	745	179	27	19	21	17
17	39	2870	1390	1080	1900	2340	677	166	27	18	19	17
18	38	3240	1330	1040	1580	1830	589	142	29	17	19	15
19	38	2050	1260	1020	1360	1500	631	134	29	17	19	17
20	40	2260	1210	980	1240	1340	869	134	27	16	20	20
21	41	2110	1170	939	2030	1260	875	117	27	16	20	20
22	44	1540	1060	911	2200	1280	718	104	28	16	20	19
23	43	1290	1180	932	1670	1140	620	84	28	17	20	20
24	42	2870	3010	951	1490	1070	276	77	26	17	21	21
25	42	4360	8570	958	1390	1020	285	74	25	16	22	24
26	44	2300	9620	931	1280	970	292	68	24	17	22	23
27	44	1620	7740	923	1210	949	322	56	24	16	23	21
28	42	1350	5700	879	1160	950	316	56	24	16	24	20
29	39	1190	3680	856	1120	932	260	53	26	16	24	20
30	43	1090	3330	854	---	890	217	38	26	17	21	20
31	55	---	3900	854	---	893	---	26	---	18	25	---
TOTAL	1283	48175	82706	37938	37730	35641	20789	4998	909	532	621	572
MEAN	41.4	1606	2668	1224	1301	1150	693	161	30.3	17.2	20.0	19.1
MAX	55	4360	9620	2950	2500	2340	1060	332	63	26	25	25
MIN	37	484	873	854	806	863	217	26	24	13	17	15
AC-FT	2540	95560	164000	75250	74840	70690	41230	9910	1800	1060	1230	1130
a	3820	0	0	0	0	0	9553	27801	27099	29343	25187	6603

CAL YR 1983	TOTAL	468712	MEAN	1284	MAX	13500	MIN	20	AC-FT	929700	MEAN b	1435	AC-FT b	1039000
WTR YR 1984	TOTAL	271894	MEAN	743	MAX	9620	MIN	13	AC-FT	539300	MEAN b	902	AC-FT b	654600

a Diversion in acre-feet, to Camp Far West North and South Canals and South Sutter Conveyence Canal, furnished by South Sutter Water Agency.
b Adjusted for diversions and change in contents in New Camp Far West Reservoir.

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.--Lat 38°46'51", long 121°36'12", in SW 1/4 SE 1/4 sec.23, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020109, on left bank 0.8 mi southeast of Verona, 1 mi downstream from Feather River, 6.2 mi east of Knights Landing, and at mile 19.6 upstream from Sacramento.

DRAINAGE AREA.--21,251 mi^2.

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 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 ft^3/s flow begins over Fremont weir (just upstream) into Yolo Bypass (station 11453000). Gage height of crest of Fremont weir is 33.5 ft.

AVERAGE DISCHARGE.--55 years (water years 1930-84), 19,520 ft^3/s, 14,140,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,900 ft^3/s Feb. 22, 1980, gage height, 38.12 ft; maximum gage height, 41.20 ft Mar. 1, 1940; minimum daily discharge, 304 ft^3/s July 23, 24, 1931; maximum reverse flow, 16,800 ft^3/s Dec. 4, 1950, backwater from American River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 78,100 ft^3/s Dec. 28, gage height, 38.42 ft; minimum daily, 8,690 ft^3/s Apr. 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22300	15300	58200	71700	29200	27000	24700	9730	12000	15900	17900	16600
2	22600	15600	54900	69400	28100	26200	23500	9950	11800	16400	17500	16700
3	22600	15700	52300	67300	27600	26100	22100	10600	11300	17200	17300	16800
4	22400	15600	53200	65500	25600	26700	20400	11400	11100	17600	17400	16900
5	22100	15300	55800	64200	23400	25100	18500	11800	10800	17300	17500	16700
6	22100	15400	57700	63200	21800	22900	17800	12200	11200	17300	17900	15700
7	22000	15900	58200	62100	21300	21900	17500	12400	11900	17500	18200	16200
8	22300	15900	58100	60800	20500	21600	16700	12100	13000	17600	18300	16800
9	22700	15900	58400	59700	20200	21300	16800	11900	14200	17800	18100	17100
10	22800	17200	60500	58400	19900	21300	17400	12100	14300	17900	17900	16900
11	22700	22100	64100	57200	19800	21300	17700	12000	13500	17900	17100	16600
12	22400	33200	67900	55700	20500	20900	17700	12300	12500	17900	16000	16600
13	21600	35500	68900	54500	20800	20000	17400	13000	11500	18100	15300	16700
14	20600	35900	69100	53100	24700	20500	16900	13900	10700	18300	15100	16600
15	19400	36700	67800	51700	29900	22800	16300	14600	10800	17800	14900	16600
16	18500	37400	66700	50500	33000	27300	15700	15000	11000	17700	14900	16300
17	16800	40300	65800	49500	34800	31400	14400	15100	11500	17700	15000	16300
18	15600	52600	64800	48700	36100	34200	13200	14700	11900	17900	15300	16600
19	14900	58000	64000	47500	34800	33900	12800	14400	11900	17900	15700	17100
20	14700	60300	63300	45000	32100	32800	12900	14400	11900	17700	16200	17400
21	14700	61500	62600	41900	30600	32500	14000	14200	11800	17900	16400	17200
22	14900	61400	62100	39700	32400	32100	13500	13900	11800	18100	16700	16700
23	14900	58400	61700	38300	32700	31500	12500	13600	12600	18200	17000	15800
24	14600	56800	63000	36900	31600	31000	11200	13200	13000	18300	17200	14800
25	14400	61700	68100	35800	30500	30300	9720	13100	13100	18500	17300	13300
26	14500	64300	72800	34800	29800	29600	9050	13400	13200	18500	17400	12500
27	14500	64600	76600	33500	29400	29300	8690	13400	13300	18500	17700	12300
28	14300	63900	77800	32500	28700	28700	9150	13400	14000	18200	17900	11900
29	14500	62700	76500	31900	27800	28100	9510	13400	14600	18000	17700	11800
30	14700	61100	74500	31300	---	27000	9690	12800	15500	18000	16700	12400
31	15000	---	73200	30400	---	25800	---	12200	---	18000	16500	---
TOTAL	572100	1186200	1998600	1542700	797600	831100	457410	400180	371900	551600	522000	471900
MEAN	18450	39540	64470	49760	27500	26810	15250	12910	12400	17790	16840	15730
MAX	22800	64600	77800	71700	36100	34200	24700	15100	15500	18500	18300	17400
MIN	14300	15300	52300	30400	19800	20000	8690	9730	10700	15900	14900	11800
AC-FT	1135000	2353000	3964000	3060000	1582000	1648000	907300	793800	737700	1094000	1035000	936000

CAL YR 1983	TOTAL	15412400	MEAN	42230	MAX	79300	MIN	14300	AC-FT	30570000
WTR YR 1984	TOTAL	9703290	MEAN	26510	MAX	77800	MIN	8690	AC-FT	19250000

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 upstream from weir and one 100 ft downstream from weir, 3.2 mi upstream from American River, 4 mi northwest of Sacramento, and at mile 4.2 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 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 upstream and 100 ft downstream from ends of weir.

REMARKS.--Crest of weir is at gage height 22.0 ft and top of moveable gates at 28.0 ft. Weir consists of 48 gates each 38.1 ft 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.

AVERAGE DISCHARGE.--45 years, 253 ft^3/s, 183,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 118,000 ft^3/s Mar. 26, 1928; maximum gage height, 33.01 ft Dec. 23, 1955; no flow all or most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 34,200 ft^3/s Dec. 29; no flow most of year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	107	15300								
2		0	2.5	13200								
3		0	0	11300								
4		0	0	6900								
5		0	0	1840								
6		0	13	259								
7		0	32	227								
8		0	49	186								
9		0	65	131								
10		0	115	63								
11		0	214	19								
12		0	349	0								
13		0	404	0								
14		0	417	0								
15		0	399	0								
16		0	365	0								
17		0	335	0								
18		0	275	0								
19		246	258	0								
20		432	185	0								
21		482	153	0								
22		443	128	0								
23		74	120	0								
24		1.1	207	0								
25		93	406	0								
26		179	3020	0								
27		360	26400	0								
28		440	33200	0								
29		414	34200	0								
30		423	28700	0								
31		---	20300	0								
TOTAL	0	3587.1	150418.5	49425	0	0	0	0	0	0	0	0
MEAN	0	120	4852	1594	0	0	0	0	0	0	0	0
MAX	0	482	34200	15300	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	7120	298400	98030	0	0	0	0	0	0	0	0

CAL YR 1983 TOTAL 815392.6 MEAN 2234 MAX 32000 MIN 0 AC-FT 1617000
WTR YR 1984 TOTAL 203430.6 MEAN 556 MAX 34200 MIN 0 AC-FT 403500

11426190 LAKE VALLEY CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'56", long 120°38'31", in SE 1/4 NE 1/4 sec.32, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, on right bank 0.8 mi upstream from inlet to Carpenter Flat siphon and 1.5 mi east of Emigrant Gap.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 5,410 ft, from topographic map. Prior to Oct. 1, 1979, on right bank 0.7 mi downstream at different datum.

REMARKS.--Canal diverts from right bank of the North Fork of North Fork American River, 2.0 mi downstream from Lake Valley Reservoir to the Drum Canal in the Bear River basin. See schematic diagram of Bear River and Yuba River basins.

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

AVERAGE DISCHARGE.--20 years, 16.8 ft^3/s, 12,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 75 ft^3/s Jan. 13, 1980; no flow many days in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	30	32	42	40	41	39	42	7.0	19	30	30
2	38	15	39	40	40	42	39	41	6.3	21	30	30
3	37	17	41	40	39	42	39	39	4.7	24	30	30
4	37	12	37	40	39	42	39	38	7.2	24	30	30
5	37	8.1	34	40	39	41	41	36	9.3	24	30	34
6	38	8.1	39	40	41	42	41	32	25	24	29	29
7	38	17	36	39	41	42	41	37	39	24	29	28
8	37	9.7	39	39	41	42	43	42	37	23	29	26
9	36	13	41	38	36	42	42	42	31	23	29	27
10	36	22	42	38	35	42	42	40	24	23	29	32
11	36	30	41	38	42	42	42	41	5.5	23	29	30
12	36	27	38	37	42	42	42	41	4.5	23	29	33
13	35	24	38	38	37	35	42	42	5.3	23	29	32
14	22	23	39	40	24	26	42	42	7.7	23	29	32
15	8.9	23	39	40	24	25	40	41	8.7	26	29	32
16	8.1	29	39	40	33	30	40	36	6.3	30	29	19
17	8.6	33	39	39	44	40	41	37	6.3	30	29	0
18	7.1	20	38	39	43	38	41	42	5.4	30	29	2.0
19	12	24	37	41	43	40	41	42	5.0	30	29	2.8
20	12	29	37	40	43	42	39	43	4.7	30	29	2.8
21	12	32	38	40	43	41	39	43	4.0	30	29	2.7
22	12	33	38	40	43	39	41	43	4.9	30	29	2.5
23	13	36	38	40	42	36	41	37	6.8	30	29	2.5
24	12	4.3	37	40	42	38	41	28	6.8	30	30	2.5
25	12	12	30	41	41	40	36	26	6.6	30	31	2.5
26	12	26	11	40	41	40	30	25	6.6	30	31	1.9
27	12	27	16	40	41	40	31	24	6.4	30	30	0
28	12	27	11	40	41	39	41	23	12	30	30	0
29	12	33	33	40	41	39	41	22	19	30	30	0
30	14	34	46	40	---	39	41	17	19	30	30	0
31	20	---	45	40	---	39	---	7.8	---	30	30	---
TOTAL	700.7	678.2	1108	1229	1141	1208	1198	1091.8	342.0	827	914	496.2
MEAN	22.6	22.6	35.7	39.6	39.3	39.0	39.9	35.2	11.4	26.7	29.5	16.5
MAX	38	36	46	42	44	42	43	43	39	30	31	34
MIN	7.1	4.3	11	37	24	25	30	7.8	4.0	19	29	0
AC-FT	1390	1350	2200	2440	2260	2400	2380	2170	678	1640	1810	984

CAL YR 1983 TOTAL 11686.90 MEAN 32.0 MAX 55 MIN 0 AC-FT 23180
WTR YR 1984 TOTAL 10933.90 MEAN 29.9 MAX 46 MIN 0 AC-FT 21690

11426200 NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°08'37", long 120°45'30", in NW 1/4 SE 1/4 sec.17, T.15 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 0.2 mi downstream from Big Reservoir, and 6.0 mi southeast of Dutch Flat.

DRAINAGE AREA.--1.68 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 3,980 ft, from topographic map.

REMARKS.--Flow regulated by Big Reservoir, capacity, 2,200 acre-ft. Some diversions above station for mining.

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

AVERAGE DISCHARGE.--28 years, 4.66 ft^3/s, 3,380 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 377 ft^3/s Jan. 22, 1970, gage height, 4.76 ft; no flow many days in 1964-66, 1977, 1981, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 6.40 ft probably Dec. 23, 1955, from floodmarks, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65 ft^3/s Dec. 27, gage height, 3.33 ft; minimum daily, 0.11 ft^3/s Sept. 28, 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.94	3.4	27	2.0	8.2	4.6	3.1	.69	.69	.18	.20
2	.22	.68	5.2	24	1.2	7.9	4.6	3.7	.64	.58	.20	.20
3	.20	.68	15	23	3.8	7.4	4.3	3.4	.54	.35	.22	.20
4	.23	.68	12	19	2.3	4.9	4.1	3.0	.69	.32	.22	.20
5	.20	.68	9.4	16	1.9	4.1	3.9	2.7	.80	.29	.22	.22
6	.20	.74	10	14	1.8	4.6	3.7	2.3	.92	.29	.20	.20
7	.17	.74	10	13	1.7	12	3.6	2.2	.92	.29	.20	.20
8	.14	.74	11	13	1.6	11	4.3	2.0	.92	.31	.18	.20
9	.17	.80	12	9.4	3.1	6.7	3.9	2.0	.74	.35	.18	.18
10	.17	1.2	23	7.3	3.7	5.4	5.0	1.9	.59	.45	.18	.18
11	.20	.70	19	5.4	2.7	4.8	4.4	1.7	.49	.38	.18	.18
12	.17	.40	37	5.4	2.8	4.6	4.3	1.7	.45	.32	.18	.18
13	.20	.51	33	5.4	5.7	8.4	3.9	1.7	.45	.29	.18	.16
14	.20	.34	28	5.2	6.0	11	3.6	1.8	.49	.27	.16	.16
15	.20	.26	25	5.0	7.8	12	3.4	1.8	.84	.24	.18	.16
16	.20	.56	20	5.2	12	10	3.2	1.9	.86	.24	.20	.16
17	.20	2.5	17	5.0	18	11	3.4	1.9	.80	.24	.20	.14
18	.23	.56	14	4.6	15	10	3.7	1.8	.69	.30	.20	.14
19	.23	4.3	11	4.3	11	9.4	5.0	1.8	.51	.27	.20	.16
20	.23	14	12	5.6	9.7	9.4	4.4	1.7	.41	.22	.20	.16
21	.20	11	11	5.4	12	9.4	3.7	1.7	.45	.24	.20	.14
22	.20	8.3	9.7	3.7	11	8.7	3.6	1.7	.45	.34	.20	.14
23	.26	7.5	10	3.2	9.7	7.9	3.2	1.6	.45	.24	.20	.14
24	.30	22	15	2.7	10	7.6	3.0	1.4	.45	.22	.20	.14
25	.34	25	38	2.6	10	7.1	2.8	1.4	.45	.22	.20	.12
26	.34	19	60	1.8	10	6.7	2.7	1.5	.45	.20	.20	.12
27	.34	15	61	2.7	10	5.6	2.7	1.3	.45	.18	.20	.12
28	.38	12	49	3.0	9.4	5.2	2.6	2.8	.41	.18	.20	.11
29	.42	10	40	2.6	8.9	4.3	2.6	.90	.38	.18	.20	.11
30	.73	6.4	37	2.3	---	3.7	2.4	.74	.68	.18	.20	.12
31	.80	---	32	2.3	---	4.3	---	.74	---	.18	.20	---
TOTAL	8.31	168.21	689.7	249.1	204.8	233.3	110.6	59.88	18.06	9.05	6.06	4.84
MEAN	.27	5.61	22.2	8.04	7.06	7.53	3.69	1.93	.60	.29	.20	.16
MAX	.80	25	61	27	18	12	5.0	3.7	.92	.69	.22	.22
MIN	.14	.26	3.4	1.8	1.2	3.7	2.4	.74	.38	.18	.16	.11
AC-FT	16	334	1370	494	406	463	219	119	36	18	12	9.6

CAL YR 1983 TOTAL 3497.15 MEAN 9.58 MAX 61 MIN .14 AC-FT 6940
WTR YR 1984 TOTAL 1761.91 MEAN 4.81 MAX 61 MIN .11 AC-FT 3490

11426400 NORTH SHIRTTAIL CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°07'40", long 120°48'01", in SE 1/4 SW 1/4 sec.24, T.15 N., R.10 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank by spillway terminal structure downstream from Sugar Pine Dam, and 5.6 mi southeast of Dutch Flat.

DRAINAGE AREA.--9.10 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 3,371.09 ft, National Geodetic Vertical Datum of 1929 (levels by Gordon Ball Contractors, Division of Dillingham Corporation). Prior to Nov. 4, 1981, at site 2,000 ft upstream at different datum.

REMARKS.--Flow slightly regulated by Big Reservoir, capacity, 2,200 acre-ft. Since November 1981, regulated by Sugar Pine Reservoir, capacity, 6,700 acre-ft. Foresthill Public Utility District diverts up to 2,800 acre-ft annually since construction of Sugar Pine Dam.

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

AVERAGE DISCHARGE.--25 years (water years 1957-81) 19.6 ft^3/s, 14,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,370 ft^3/s Jan. 13, 1980, gage height, 12.32 ft site and datum then in use, from rating curve extended above 590 ft^3/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, site and datum then in use, from floodmarks, discharge, 1,650 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 803 ft^3/s Dec. 27, gage height, 30.38 ft; minimum daily, 1.3 ft^3/s July 18 to Sept. 30.

REVISIONS.--The maximum discharges for the water years 1982 and 1983 have been revised to 332 ft^3/s Apr. 12, 1982, gage height, 29.22 ft, and 457 ft^3/s Mar. 1, 1983, gage height, 29.58 ft, superseding figures published in reports for 1982 and 1983.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	4.7	48	323	7.0	35	5.6	14	3.5	1.9	1.3	1.3
2	3.5	4.5	12	317	7.0	35	5.7	15	3.5	1.9	1.3	1.3
3	3.5	4.3	12	205	7.0	35	9.6	18	3.1	1.9	1.3	1.3
4	3.5	4.3	12	32	7.0	35	14	15	2.8	1.9	1.3	1.3
5	3.5	4.3	12	35	7.0	35	14	15	2.8	1.9	1.3	1.3
6	3.4	4.3	56	35	6.8	35	14	14	2.9	1.9	1.3	1.3
7	3.4	4.3	81	34	6.5	35	14	14	2.8	1.9	1.3	1.3
8	3.4	3.9	65	34	6.6	35	14	14	2.8	1.9	1.3	1.3
9	3.4	3.9	65	34	6.9	25	20	12	2.8	1.9	1.3	1.3
10	3.4	4.6	65	34	6.8	14	23	10	2.8	1.8	1.3	1.3
11	3.4	5.3	64	34	6.7	14	25	10	2.8	1.6	1.3	1.3
12	3.4	4.5	152	34	6.8	14	29	10	2.8	1.4	1.3	1.3
13	3.4	4.6	242	34	7.5	14	27	10	2.8	1.4	1.3	1.3
14	3.4	7.1	179	34	7.3	31	26	10	2.8	1.4	1.3	1.3
15	3.4	11	96	34	7.5	43	26	10	2.6	1.4	1.3	1.3
16	3.4	12	94	34	7.7	42	23	10	2.8	1.4	1.3	1.3
17	3.6	34	92	34	7.4	42	18	10	2.5	1.4	1.3	1.3
18	3.4	94	92	34	7.3	41	16	10	2.0	1.3	1.3	1.3
19	3.4	97	92	34	7.3	41	14	10	1.9	1.3	1.3	1.3
20	3.4	96	77	28	7.3	40	14	8.1	1.9	1.3	1.3	1.3
21	4.0	96	58	21	7.6	40	14	6.5	1.9	1.3	1.3	1.3
22	4.2	96	54	21	7.4	39	14	6.5	1.9	1.3	1.3	1.3
23	4.2	94	46	18	7.4	37	14	6.5	1.9	1.3	1.3	1.3
24	4.2	96	46	14	11	36	14	6.5	1.9	1.3	1.3	1.3
25	4.2	94	47	14	14	36	14	6.5	1.6	1.3	1.3	1.3
26	4.2	92	96	14	14	36	14	6.5	21	1.3	1.3	1.3
27	4.2	92	420	9.9	24	38	14	6.5	1.9	1.3	1.3	1.3
28	4.2	92	330	7.0	36	11	14	6.5	1.9	1.3	1.3	1.3
29	4.2	91	315	7.0	36	5.4	14	6.5	1.9	1.3	1.3	1.3
30	4.4	91	339	7.0	---	5.6	14	5.4	1.9	1.3	1.3	1.3
31	4.6	---	329	7.0	---	5.7	---	3.5	---	1.3	1.3	---
TOTAL	115.4	1342.6	3688	1556.9	298.8	930.7	491.9	306.5	92.5	47.1	40.3	39.0
MEAN	3.72	44.8	119	50.2	10.3	30.0	16.4	9.89	3.08	1.52	1.30	1.30
MAX	4.6	97	420	323	36	43	29	18	21	1.9	1.3	1.3
MIN	3.4	3.9	12	7.0	6.5	5.4	5.6	3.5	1.6	1.3	1.3	1.3
AC-FT	229	2660	7320	3090	593	1850	976	608	183	93	80	77

CAL YR 1983 TOTAL 16318.1 MEAN 44.7 MAX 420 MIN 1.1 AC-FT 32370
WTR YR 1984 TOTAL 8949.7 MEAN 24.5 MAX 420 MIN 1.3 AC-FT 17750

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA

LOCATION.--Lat 38°56'10", long 121°01'22", in SW 1/4 NW 1/4 sec.31, T.13 N., R.9 E., Placer County, Hydrologic Unit 18020128, on left bank 50 ft upstream from spillway at North Fork Dam, 2 mi upstream from Middle Fork, and 4 mi northeast of Auburn.

DRAINAGE AREA.--342 mi^2.

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 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 formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir, combined capacity, 10,300 acre-ft 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.--43 years, 853 ft^3/s, 618,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft^3/s Dec. 23, 1964, gage height, 11.87 ft, from rating curve extended above 24,000 ft^3/s on basis of computed flow over spillway of dam at gage height 10.22 ft; 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0845	10,200	4.99	Dec. 10	0445	6,160	4.07
Nov. 17	1015	21,000	6.77	Dec. 25	2100	*21,800	6.88
Nov. 24	1715	18,900	6.47				

Minimum daily, 47 ft^3/s Sept. 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	1360	1090	4180	536	858	974	956	957	270	92	63
2	171	1030	995	3280	518	885	907	1470	830	257	89	60
3	243	438	1610	2780	496	897	857	1460	764	258	89	58
4	163	297	1860	2300	484	861	888	1790	823	249	88	56
5	131	243	1350	2300	479	809	869	1460	1160	240	86	55
6	120	216	1220	2100	478	797	853	1330	899	226	84	56
7	118	420	1200	1870	473	808	845	1280	1090	214	80	57
8	113	436	1390	1680	462	819	1080	1420	833	204	78	55
9	111	297	1920	1530	542	832	1050	1640	676	193	76	54
10	111	471	5050	1410	732	812	1100	1720	624	180	73	52
11	111	5630	4640	1320	563	796	1100	1770	576	170	73	51
12	108	2160	3660	1200	564	758	1070	2010	551	162	73	51
13	104	2450	2760	1120	1260	1080	1050	1990	541	157	72	51
14	101	1540	2470	1040	2190	2850	1100	2010	535	147	70	51
15	100	1020	2320	967	1540	2270	1300	1690	640	144	69	51
16	97	1420	2020	966	2500	1930	1470	1270	593	145	70	50
17	91	13900	2160	888	1810	1870	1460	1090	558	141	69	49
18	93	4380	1790	821	1440	1650	1370	1180	535	143	69	49
19	95	2980	1560	796	1240	1550	1430	1280	494	136	66	50
20	91	5940	1440	754	1110	1630	1210	1500	458	127	65	52
21	90	2830	1250	719	1560	1710	1110	1610	417	121	63	51
22	89	1930	1170	689	1540	1540	1120	1530	387	117	63	49
23	90	1570	1230	655	1340	1360	1220	1520	372	115	63	48
24	91	8100	3280	626	1210	1320	1320	1620	373	116	62	47
25	91	5280	13900	631	1120	1320	1230	1350	361	123	60	48
26	89	2810	13900	622	1010	1360	1050	1320	338	117	61	48
27	89	2050	11700	593	959	1480	943	1220	334	110	62	48
28	89	1670	7290	564	935	1200	874	1240	299	104	60	48
29	90	1420	4710	558	890	1130	869	1300	294	101	59	48
30	125	1240	6270	552	---	1020	924	1280	287	97	61	52
31	853	---	6590	540	---	1030	---	1170	---	95	65	---
TOTAL	4221	75528	113795	40051	29981	39232	32643	45476	17599	4979	2210	1558
MEAN	136	2518	3671	1292	1034	1266	1088	1467	587	161	71.3	51.9
MAX	853	13900	13900	4180	2500	2850	1470	2010	1160	270	92	63
MIN	89	216	995	540	462	758	845	956	287	95	59	47
AC-FT	8370	149800	225700	79440	59470	77820	64750	90200	34910	9880	4380	3090

CAL YR 1983 TOTAL 747969 MEAN 2049 MAX 19400 MIN 87 AC-FT 1484000
WTR YR 1984 TOTAL 407273 MEAN 1113 MAX 13900 MIN 47 AC-FT 807800

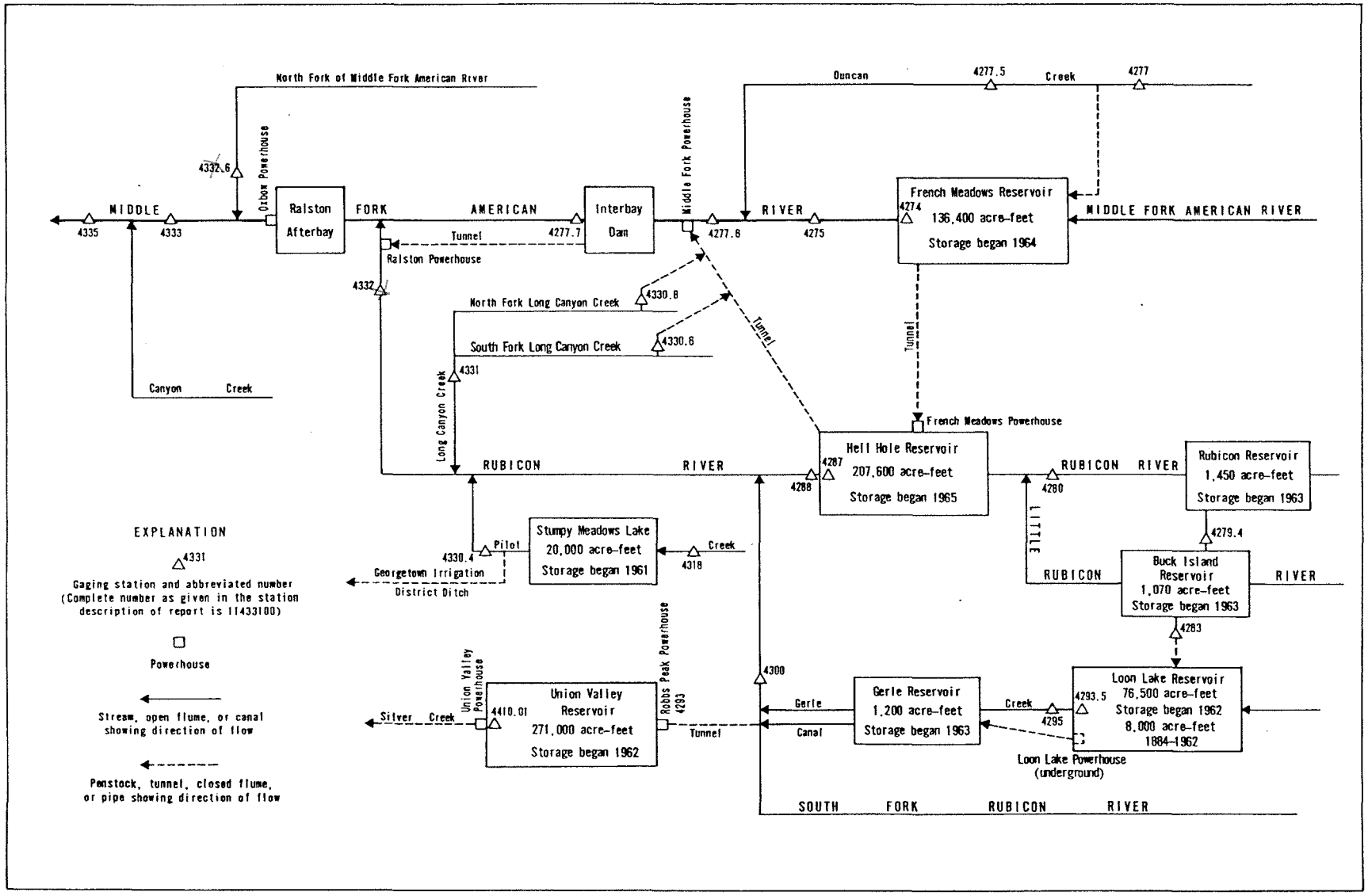

FIGURE 11. — Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

11427400 FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CA

LOCATION.--Lat 39°06'32", long 120°25'49", in SW 1/4 NE 1/4 sec.32, T.15 N., R.14 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 2.2 mi upstream from dam on Middle Fork American River, 6.9 mi upstream from Chipmunk Creek, and 21 mi northeast of Foresthill.

DRAINAGE AREA.--47.0 mi^2.

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 between elevations 5,125 ft minimum operating level, and 5,263 ft top of radial gates. Dead storage, 10,804 acre-ft. Reservoir is used to store water for hydroelectric power. Up to 400 ft^3/s is diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows powerplant at Hell Hole Reservoir on the Rubicon River; releases began Dec. 13, 1965. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,700 acre-ft May 19, 1966, elevation, 5,263.9 ft; minimum since reservoir first filled, 37,722 acre-ft Nov. 20, 1977, elevation, 5,170.86 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 136,164 acre-ft June 6, elevation, 5,262.83 ft; minimum, 77,412 acre-ft Nov. 9, elevation 5,214.93 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99868	81305	98751	113087	101988	96863	100692	109804	134684	130388	114775	100884
2	100023	80992	98537	112998	101447	96464	100704	110267	134979	129698	114339	100405
3	100035	80465	98549	112845	100931	96217	100716	110977	135120	129147	113891	100071
4	99927	79822	98217	112794	100405	95901	100740	111471	135416	128598	113444	99499
5	99213	79075	97816	112908	99868	95644	100836	112241	135966	127955	112998	99059
6	98478	78639	97568	112896	99451	95492	100848	113036	136164	127313	112527	98596
7	97733	78437	97073	112743	99118	95365	101015	113725	136150	126633	112108	98282
8	97003	77866	96780	112553	98762	95318	101219	114801	135938	125953	111602	97722
9	96275	77412	96897	112311	98680	95236	101447	116063	135599	125237	111173	97294
10	95528	77485	97156	112083	98454	95213	101784	117295	135416	124549	110758	96851
11	94794	79459	97309	111817	98158	95038	102012	118784	135430	123836	110317	96392
12	94074	80294	97156	111539	97851	95050	102313	120335	135303	123113	109879	95924
13	93300	80638	96980	111198	98005	95283	102700	122511	134936	122511	109453	95143
14	92518	80595	96921	110808	98123	96686	103027	123581	134599	122165	108966	94399
15	91761	80390	96921	110443	98135	97050	103838	124118	134304	121740	108517	93647
16	91041	81933	96827	110205	98182	97403	104483	124885	134009	121222	108059	92897
17	90291	87813	96757	109629	98028	97533	105081	125655	133687	120877	107612	92208
18	89522	88969	96651	109153	97840	97580	105619	126673	133743	120493	107168	91475
19	88710	91372	96581	108680	97592	97663	105937	127600	134150	120216	106687	90757
20	87925	92920	96193	108183	97356	97958	106158	128790	134430	119676	106231	90030
21	87221	93588	95819	107687	97262	98265	106588	129698	134656	119348	105791	89273
22	86509	93729	95901	107155	96991	98525	107118	130167	134726	118941	105337	88464
23	85711	94771	92715	106613	96709	98703	107502	130707	134529	118653	104898	87702
24	84931	97792	96686	106232	96557	98845	107898	131108	134093	118247	104410	86921
25	84161	99845	101844	105631	96757	99035	108319	131524	133927	117868	103972	86143
26	83457	99237	104410	105057	96956	99630	108431	131830	133169	117569	103535	85390
27	82714	99344	107910	104507	97262	99915	108543	132053	132610	117023	103099	84630
28	81965	99404	108593	103996	97391	100166	108780	132443	132053	116569	102676	83817
29	81241	99344	109341	103499	97085	100381	109278	132806	131496	116129	102217	83030
30	80842	99011	111627	102978	---	100500	109441	133743	130803	115689	101808	82344
31	81078	---	112641	102518	---	100704	---	134430	---	115225	101315	---
MAX	100035	99404	112641	113087	101988	100704	109441	134430	136164	130388	114775	100884
MIN	80842	77412	92715	102518	96557	95038	100692	109804	130803	115225	101315	82344
a	5218.37	5234.21	5245.32	5237.14	5232.58	5235.63	5242.78	5261.60	5259.00	5247.34	5236.14	5219.54
b	-18695	+17933	+13630	-10123	-5433	+3619	+8737	+24989	-3627	-15578	-13910	-18971

CAL YR 1983 b +60150
WTR YR 1984 MAX 136164 MIN 77412 b -17429

a Elevation, in feet NGVD, at end of month.
b 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 SW 1/4 NW 1/4 sec.36, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.6 mi downstream from French Meadows Dam, 4.1 mi upstream from Chipmunk Creek, and 14 mi south of Cisco.

DRAINAGE AREA.--47.9 mi^2.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1445: 1953-54. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,920 ft, from topographic map. Prior to Oct. 1, 1962, at site 0.8 mi upstream at different datum.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) 0.6 mi 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 ft^3/s, 107,900 acre-ft/yr; 20 years (water years 1965-84), 22.1 ft^3/s, 16,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft^3/s Jan. 31, 1963, gage height, 14.20 ft, from rating curve extended above 1,100 ft^3/s on basis of maximum flow at former site; minimum, 0.3 ft^3/s Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 1,310 ft^3/s Apr. 30, 1965, gage height, 7.68 ft; minimum daily, 0.8 ft^3/s Oct. 22-25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 210 ft^3/s Jan. 1, gage height, 5.65 ft; minimum daily, 6.2 ft^3/s May 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	11	11	198	10	11	8.9	11	7.0	9.7	8.3	8.3
2	8.7	9.1	13	203	10	11	8.9	11	7.1	9.7	8.6	8.3
3	8.3	8.6	13	172	10	11	8.8	11	8.5	9.7	8.8	8.3
4	8.3	8.6	12	149	10	11	8.7	10	12	9.7	8.8	8.3
5	8.3	8.6	12	156	10	10	8.8	10	11	9.4	8.8	8.3
6	8.1	8.9	11	153	10	8.6	8.6	9.8	12	9.4	8.8	8.3
7	7.9	9.3	11	136	10	8.6	8.4	12	12	9.4	8.8	8.3
8	7.9	8.7	12	110	9.9	8.6	9.6	9.5	12	9.1	8.8	8.3
9	8.1	9.2	20	82	11	8.6	8.9	9.4	11	8.8	8.8	8.3
10	8.1	12	24	56	10	8.6	9.8	9.4	11	8.8	8.8	8.3
11	8.1	21	23	30	10	8.6	10	9.4	11	8.6	8.6	8.3
12	8.1	14	16	13	11	8.6	9.7	9.4	11	8.3	8.6	8.3
13	8.1	12	15	12	15	16	9.3	9.4	11	7.9	8.6	8.1
14	8.1	11	15	11	13	15	9.0	9.4	11	7.6	8.6	8.1
15	8.1	10	15	11	15	14	8.7	9.4	11	7.6	8.6	8.1
16	8.0	23	15	11	15	12	8.6	9.4	11	7.6	8.6	8.1
17	7.9	71	16	11	12	11	8.7	9.3	11	7.6	8.6	8.1
18	7.9	20	14	11	12	11	9.1	9.1	11	7.6	8.6	8.1
19	8.1	32	13	11	12	11	9.4	9.1	11	7.6	8.6	8.3
20	8.3	25	13	11	11	11	9.3	9.1	11	7.6	8.6	8.3
21	8.3	15	12	11	11	11	9.2	9.1	11	7.6	8.6	8.3
22	8.3	14	12	11	11	10	9.0	9.1	11	7.6	8.6	8.3
23	8.3	14	12	11	11	9.9	8.7	9.1	11	7.6	8.3	8.3
24	8.4	49	24	11	11	9.7	8.9	9.1	11	7.6	8.3	8.3
25	8.3	20	68	10	11	9.6	9.4	9.1	11	7.6	8.3	8.3
26	8.3	15	54	10	11	10	9.4	9.1	11	7.6	8.3	7.9
27	8.3	13	58	10	11	9.6	9.4	8.6	10	7.6	8.3	8.1
28	8.3	13	28	10	11	9.3	9.4	6.2	10	7.6	8.3	8.1
29	8.2	12	20	10	11	9.0	9.4	7.0	10	7.6	8.3	8.1
30	8.9	12	38	10	---	8.8	9.4	7.1	9.7	7.6	8.6	8.3
31	11	---	110	10	---	9.0	---	7.1	---	7.9	8.3	---
TOTAL	257.4	510.0	730	1661	325.9	321.1	273.4	286.7	319.3	255.6	265.5	246.8
MEAN	8.30	17.0	23.5	53.6	11.2	10.4	9.11	9.25	10.6	8.25	8.56	8.23
MAX	11	71	110	203	15	16	10	12	12	9.7	8.8	8.3
MIN	7.9	8.6	11	10	9.9	8.6	8.4	6.2	7.0	7.6	8.3	7.9
AC-FT	511	1010	1450	3290	646	637	542	569	633	507	527	490
a	20990	22900	23520	24010	15140	14170	10000	9440	16930	17440	12830	18350

CAL YR 1983 TOTAL 13818.6 MEAN 37.9 MAX 622 MIN 4.6 AC-FT 27410
WTR YR 1984 TOTAL 5452.7 MEAN 14.9 MAX 203 MIN 6.2 AC-FT 10820

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant, furnished by Placer County Water Agency.

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°08'09", long 120°28'39", in NE 1/4 NW 1/4 sec.24, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.2 mi upstream from diversion dam, 0.5 mi downstream from Little Duncan Creek, 2 mi northwest of French Meadows, and 20 mi northeast of Foresthill.

DRAINAGE AREA.--9.94 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,270 ft, from topographic map. Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

REMARKS.--No storage or diversion above station. See schematic diagram of Middle Fork American River 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.--24 years, 39.2 ft^3/s, 28,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft^3/s Dec. 22, 1964, gage height, 10.6 ft from floodmarks, from rating curve extended above 400 ft^3/s on basis of computation of flow over diversion dam; minimum daily, 0.10 ft^3/s on several days during July and August 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0145	594	7.86	Dec. 25	1945	779	8.16
Nov. 17	Unknown	*1,730	9.24	Dec. 30	0830	451	7.58
Nov. 24	1000	863	8.28	Mar. 13	1745	285	7.17

Minimum daily, 0.65 ft^3/s Sept. 17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	90	66	206	28	29	62	74	50	5.1	1.5	.96
2	14	34	66	154	26	31	59	95	41	4.6	1.4	.86
3	6.8	19	61	124	25	32	59	134	36	4.4	1.4	.82
4	4.6	14	52	123	26	31	59	128	65	4.0	1.4	.78
5	3.9	12	46	117	26	33	57	116	50	3.6	1.3	.86
6	3.6	19	43	109	26	34	58	107	66	3.4	1.3	.88
7	3.1	47	40	101	26	37	64	112	67	3.1	1.3	.82
8	3.1	21	45	91	25	40	70	132	48	3.0	1.2	.77
9	3.3	29	69	81	31	43	59	149	40	2.9	1.2	.73
10	3.2	87	71	74	28	45	55	154	35	2.7	1.1	.71
11	3.0	293	73	66	26	45	57	172	30	2.6	1.0	.71
12	2.7	204	60	59	30	42	62	185	28	2.4	1.1	.72
13	2.7	136	57	54	62	124	64	191	25	2.4	1.1	.72
14	2.6	85	75	48	52	121	82	180	23	2.1	1.1	.68
15	2.5	72	88	43	54	92	103	144	22	2.0	1.1	.67
16	2.5	270	83	41	58	76	114	109	20	2.2	1.1	.66
17	2.3	884	86	37	46	70	118	102	19	2.6	1.0	.65
18	2.3	319	75	35	43	65	105	100	17	2.3	.99	.66
19	2.1	387	67	32	41	73	87	112	15	2.1	.96	1.3
20	2.1	354	61	30	39	84	75	127	14	1.9	.95	1.1
21	2.0	207	54	29	37	88	73	127	13	1.9	.92	.90
22	2.0	144	50	27	35	79	76	125	12	1.8	.92	.84
23	2.5	122	48	26	33	77	91	126	11	3.8	.92	.79
24	2.4	477	165	27	31	80	94	115	9.7	3.2	.90	.79
25	2.2	264	530	28	29	80	84	102	8.9	2.3	.89	.79
26	2.1	177	431	26	28	102	72	96	8.2	2.1	.94	.79
27	2.0	133	400	25	28	90	63	88	7.2	1.9	.90	.78
28	1.9	105	275	26	28	89	60	88	6.6	1.7	.88	.75
29	2.2	86	200	26	27	83	59	84	6.3	1.6	.86	.73
30	28	73	342	27	---	74	57	74	5.7	1.6	.93	1.1
31	100	---	294	28	---	71	---	62	---	1.5	1.1	---
TOTAL	224.8	5164	4073	1920	994	2060	2198	3710	799.6	82.8	33.66	24.32
MEAN	7.25	172	131	61.9	34.3	66.5	73.3	120	26.7	2.67	1.09	.81
MAX	100	884	530	206	62	124	118	191	67	5.1	1.5	1.3
MIN	1.9	12	40	25	25	29	55	62	5.7	1.5	.86	.65
AC-FT	446	10240	8080	3810	1970	4090	4360	7360	1590	164	67	48

CAL YR 1983 TOTAL 36462.80 MEAN 99.9 MAX 884 MIN 1.9 AC-FT 72320
WTR YR 1984 TOTAL 21284.18 MEAN 58.2 MAX 884 MIN .65 AC-FT 42220

11427750 DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°07'59", long 120°28'58", in NE 1/4 SE 1/4 sec.23, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 800 ft downstream from unnamed right bank tributary, 1,000 ft downstream from Duncan Creek diversion dam, and 20 mi northeast of Foresthill.

DRAINAGE AREA.--10.5 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,210 ft, from topographic map.

REMARKS.--Flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir (station 11427400). Maximum design flow of tunnel is 400 ft^3/s. 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.--20 years, 14.7 ft^3/s, 10,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft^3/s Dec. 22, 1964, gage height, 8.74 ft in gage well, 10.0 ft from floodmarks, from rating curve extended above 400 ft^3/s on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1290 ft^3/s Nov. 17, gage height, 5.68 ft; minimum daily, 0.82 ft^3/s Sept. 17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	14	14	22	11	13	13	8.7	6.8	5.8	2.0	1.1
2	12	10	14	19	11	13	13	9.5	6.8	5.4	1.9	1.1
3	8.3	6.3	14	18	11	13	13	10	6.8	4.8	1.9	1.0
4	5.8	5.6	14	19	11	13	13	9.8	7.0	4.5	1.9	.98
5	4.8	5.1	13	20	11	13	13	9.2	7.2	4.0	1.9	1.1
6	4.3	6.5	13	19	11	14	13	9.0	7.5	3.8	1.8	1.0
7	3.9	11	13	18	11	14	13	8.7	7.7	3.5	1.7	.95
8	3.7	9.2	13	18	11	14	13	8.7	7.5	3.3	1.6	.91
9	4.3	9.3	15	17	12	14	13	8.4	7.2	3.1	1.5	.89
10	4.0	16	17	16	12	14	13	8.4	7.0	3.0	1.4	.87
11	3.6	136	18	16	11	14	14	8.4	6.8	2.9	1.4	.86
12	3.2	28	16	15	12	13	14	8.2	6.8	2.8	1.4	.87
13	3.1	15	16	14	14	18	14	8.2	6.6	2.5	1.4	.87
14	3.1	13	16	14	14	19	15	8.2	7.6	2.4	1.4	.86
15	3.0	12	17	13	15	17	15	8.2	8.4	2.4	1.4	.85
16	2.9	79	17	13	15	16	15	7.9	8.4	2.4	1.4	.84
17	2.8	674	18	13	14	15	15	7.9	8.4	3.0	1.4	.82
18	2.7	118	17	12	14	15	15	7.7	8.4	2.5	1.4	.84
19	2.8	83	16	12	13	15	15	7.7	8.4	2.3	1.3	1.5
20	2.6	86	16	12	13	16	14	7.7	8.7	2.1	1.3	1.5
21	2.6	21	15	12	14	17	14	7.7	8.7	2.1	1.2	1.1
22	2.6	18	14	12	13	16	15	7.7	8.7	2.0	1.2	1.0
23	3.4	17	14	11	13	16	14	7.5	8.4	3.7	1.2	.96
24	3.4	174	20	11	13	15	10	7.2	8.4	4.6	1.2	.98
25	2.3	32	280	11	13	15	7.9	7.2	8.2	3.1	1.1	.95
26	2.6	20	253	11	13	15	7.7	7.2	7.5	2.9	1.2	.96
27	2.6	18	218	12	13	15	7.5	7.2	7.0	2.5	1.2	.96
28	2.6	16	61	12	13	14	7.2	7.0	6.6	2.4	1.1	.95
29	2.9	15	21	12	13	14	7.0	7.0	6.4	2.3	1.1	.90
30	8.7	14	88	12	---	13	7.5	7.0	6.0	2.2	1.2	1.4
31	12	---	30	12	---	13	---	6.8	---	2.1	1.3	---
TOTAL	134.2	1682.0	1321	448	365	456	373.8	250.0	225.9	96.4	44.4	29.87
MEAN	4.33	56.1	42.6	14.5	12.6	14.7	12.5	8.06	7.53	3.11	1.43	1.00
MAX	12	674	280	22	15	19	15	10	8.7	5.8	2.0	1.5
MIN	2.3	5.1	13	11	11	13	7.0	6.8	6.0	2.0	1.1	.82
AC-FT	266	3340	2620	889	724	904	741	496	448	191	88	59

CAL YR 1983 TOTAL 10969.00 MEAN 30.0 MAX 674 MIN 2.0 AC-FT 21760
WTR YR 1984 TOTAL 5426.57 MEAN 14.8 MAX 674 MIN .82 AC-FT 10760

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERHOUSE, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'31", long 120°35'40", in NW 1/4 NW 1/4 sec.36, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 300 ft upstream from Middle Fork powerhouse, 3.7 mi upstream from Big Mosquito Creek, and 11 mi east of Foresthill.

DRAINAGE AREA.--87.8 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft, from topographic map. Prior to Nov. 9, 1982, at datum 1.00 ft higher.

REMARKS.--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.--19 years, 109 ft^3/s, 78,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft^3/s Jan. 13, 1980, gage height, 8.47 ft datum then in use; minimum daily, 5.3 ft^3/s Sept. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,330 ft^3/s Nov. 17, gage height, 5.47 ft; minimum daily, 17 ft^3/s on several days during September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	87	194	642	92	141	116	102	44	33	24	20
2	49	58	216	588	89	146	111	128	41	33	24	19
3	37	40	275	514	87	147	104	122	39	32	24	19
4	31	34	252	468	85	144	100	109	61	31	24	18
5	29	32	216	456	84	141	102	101	56	31	23	19
6	28	31	204	435	83	139	96	94	60	31	23	18
7	27	56	191	401	81	139	92	93	58	30	23	18
8	26	42	208	361	80	139	120	87	53	29	22	18
9	27	44	309	317	101	137	105	85	50	29	22	18
10	27	58	466	277	96	136	135	83	48	29	21	18
11	26	356	495	240	85	133	139	82	46	29	22	18
12	24	147	411	205	95	132	130	79	43	29	22	18
13	24	168	359	190	165	198	120	77	40	28	22	17
14	24	126	347	179	174	297	116	75	40	28	21	17
15	24	98	334	169	183	297	116	77	45	28	21	17
16	24	160	318	168	271	260	114	73	41	28	21	17
17	24	1000	339	155	209	244	110	70	39	29	21	17
18	23	504	300	146	189	224	117	67	38	30	20	17
19	23	478	273	138	177	220	136	66	38	28	20	19
20	23	672	254	131	169	222	115	64	38	28	20	19
21	23	382	230	128	195	220	106	64	38	27	20	18
22	23	293	216	122	176	208	100	62	38	27	20	18
23	24	258	214	117	168	192	97	61	38	27	20	18
24	24	723	344	113	165	181	92	60	38	31	19	18
25	23	581	876	110	157	171	86	58	37	30	19	18
26	23	397	989	105	149	173	82	57	36	28	20	18
27	22	325	997	101	146	162	79	55	36	26	19	17
28	22	273	804	99	143	147	74	51	35	25	19	17
29	23	238	600	97	140	139	63	50	35	24	19	17
30	41	211	729	96	---	128	68	49	34	24	19	20
31	99	---	696	94	---	129	---	47	---	23	20	---
TOTAL	904	7872	12656	7362	4034	5486	3141	2348	1283	885	654	540
MEAN	29.2	262	408	237	139	177	105	75.7	42.8	28.5	21.1	18.0
MAX	99	1000	997	642	271	297	139	128	61	33	24	20
MIN	22	31	191	94	80	128	63	47	34	23	19	17
AC-FT	1790	15610	25100	14600	8000	10880	6230	4660	2540	1760	1300	1070

CAL YR 1983 TOTAL 91055 MEAN 249 MAX 1000 MIN 22 AC-FT 180600
WTR YR 1984 TOTAL 47165 MEAN 129 MAX 1000 MIN 17 AC-FT 93550

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'35", long 120°36'09", in SW 1/4 SE 1/4 sec.26, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 500 ft downstream from Interbay Dam, 3.3 mi upstream from Big Mosquito Creek, and 10.6 mi east of Foresthill.

DRAINAGE AREA.--89.1 mi^2.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 2,470 ft, from topographic map.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) and after Aug. 22, 1966, by Interbay Reservoir, capacity, 130 acre-ft between normal operating limits of 2,502.0 ft and 2,526.0 ft. 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.--19 years, 68.3 ft^3/s, 49,480 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft^3/s Jan. 13, 1980, gage height, 7.95 ft; minimum daily, 1.0 ft^3/s Oct. 25-30, 1966, Jan. 19, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,390 ft^3/s Nov. 17, gage height, 6.36 ft; minimum daily, 19 ft^3/s Aug. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	24	27	661	150	23	20	24	83	24	23	24
2	24	24	26	597	103	23	21	24	86	23	23	24
3	24	24	27	536	23	23	21	24	91	23	22	24
4	24	24	28	490	21	24	21	25	62	23	21	24
5	24	24	130	600	23	23	21	25	76	23	19	24
6	24	24	178	415	23	23	21	25	115	23	21	24
7	24	24	185	374	25	23	21	25	101	22	20	24
8	24	24	207	342	28	23	22	25	95	22	21	24
9	24	24	302	276	24	24	22	25	96	22	20	24
10	24	24	498	256	22	24	22	25	62	22	22	24
11	24	149	531	203	22	24	21	25	33	22	22	24
12	24	27	439	175	22	24	22	25	25	22	21	24
13	24	28	413	162	21	24	23	25	25	22	22	24
14	24	28	374	154	22	24	25	25	25	22	22	24
15	24	28	356	167	22	24	25	25	25	22	23	24
16	24	28	325	159	23	24	25	25	25	23	23	24
17	24	2160	363	178	23	25	26	25	25	23	23	22
18	24	128	316	145	23	25	26	29	25	23	23	20
19	24	90	276	161	23	25	27	23	25	23	23	20
20	25	183	278	162	23	24	27	22	25	24	23	20
21	25	27	230	167	23	25	27	25	25	24	23	20
22	25	25	251	135	23	25	26	25	25	24	23	20
23	25	24	218	140	23	25	26	25	25	23	23	20
24	25	776	377	162	23	25	26	72	25	23	23	20
25	25	101	2220	144	24	25	26	100	25	23	23	20
26	49	32	2310	148	24	25	27	98	25	23	23	20
27	21	31	2210	147	23	26	26	78	25	23	23	20
28	23	30	1400	147	23	25	26	82	25	23	23	21
29	23	29	928	145	23	25	24	84	24	23	22	22
30	25	28	693	153	---	40	24	95	24	23	23	22
31	24	---	871	152	---	20	---	94	---	23	23	---
TOTAL	771	4192	16987	7853	875	762	717	1274	1373	708	699	671
MEAN	24.9	140	548	253	30.2	24.6	23.9	41.1	45.8	22.8	22.2	22.4
MAX	49	2160	2310	661	150	40	27	100	115	24	23	24
MIN	21	24	26	135	21	20	20	22	24	22	19	20
AC-FT	1530	8310	33690	15580	1740	1510	1420	2530	2720	1400	1370	1330
a	26190	45740	51820	57240	53550	57030	39460	41500	53520	40930	41030	41070

CAL YR 1983 TOTAL 72603 MEAN 199 MAX 2330 MIN 11 AC-FT 144000
WTR YR 1984 TOTAL 36872 MEAN 101 MAX 2310 MIN 19 AC-FT 73140

a Diversion, in acre-feet, to Ralston powerplant.

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'16" (revised), long 120°13'29", in NE 1/4 SE 1/4 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 upstream from diversi dam on Rubicon River, 2.5 mi upstream from Rubicon Springs, and 6.4 mi southwest of Meeks Bay.

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

GAGE.--Water-stage recorder. Datum of gage is 6,533.23 ft National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 220 ft 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.--21 years, 111 ft^3/s, 80,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,120 ft^3/s Dec. 23, 1964, no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	554	58	130	28	21	55	131	520	239	27	2.0
2	116	325	55	84	26	29	46	130	428	265	25	1.3
3	94	142	53	66	24	32	48	280	391	281	23	.70
4	56	103	56	59	24	30	66	402	646	271	20	.63
5	37	81	56	63	25	26	65	293	725	246	18	.56
6	28	73	51	64	27	32	59	240	565	231	16	.56
7	24	356	46	61	27	40	79	257	393	234	15	.56
8	31	155	47	56	26	46	116	374	261	202	14	.56
9	35	126	73	50	33	51	85	501	239	154	14	.56
10	36	255	65	47	31	55	66	548	265	129	13	.56
11	27	821	118	41	28	52	54	691	249	119	12	.56
12	21	395	105	38	26	43	61	762	262	113	11	.53
13	16	257	74	34	36	65	86	753	287	104	11	.47
14	13	137	88	32	36	96	142	768	325	110	11	77
15	11	106	107	30	35	59	227	471	305	112	9.9	51
16	8.8	229	84	30	37	41	305	251	483	108	9.1	11
17	7.1	822	72	26	33	34	302	258	470	52	8.0	3.0
18	5.8	336	58	25	28	31	208	348	439	21	6.7	.67
19	4.7	358	50	25	24	36	137	467	409	81	5.4	.07
20	3.8	665	44	22	23	64	97	640	369	88	4.6	0
21	3.1	252	38	23	25	106	78	730	304	80	3.7	0
22	2.6	132	36	21	23	94	92	669	270	69	3.6	0
23	2.6	105	36	20	22	77	153	736	293	59	3.4	0
24	8.1	605	188	21	20	90	209	778	351	67	2.9	0
25	7.9	412	814	25	19	100	182	603	352	57	2.6	0
26	5.7	170	785	25	18	151	120	594	313	52	2.3	0
27	4.1	109	337	23	18	161	92	548	280	46	1.9	0
28	2.8	84	158	23	20	108	80	635	288	42	1.6	0
29	2.0	71	109	23	19	102	89	735	331	36	1.6	0
30	54	64	224	24	---	76	116	817	274	30	1.7	0
31	297	---	256	27	---	66	---	728	---	28	2.2	---
TOTAL	1083.1	8300	4341	1238	761	2014	3515	16138	11087	3726	301.2	152.29
MEAN	34.9	277	140	39.9	26.2	65.0	117	521	370	120	9.72	5.08
MAX	297	822	814	130	37	161	305	817	725	281	27	77
MIN	2.0	64	36	20	18	21	46	130	239	21	1.6	0
AC-FT	2150	16460	8610	2460	1510	3990	6970	32010	21990	7390	597	302

CAL YR 1983 TOTAL 77312.1 MEAN 212 MAX 948 MIN 2.0 AC-FT 153300
WTR YR 1984 TOTAL 52656.59 MEAN 144 MAX 822 MIN 0 AC-FT 104400

11428000 RUBICON RIVER AT RUBICON SPRINGS, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°01'10", long 120°14'46", in SW 1/4 NE 1/4 sec.31, T.14 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 200 ft downstream from Rubicon Springs, 0.7 mi upstream from Miller Creek, and 7 mi west of Meeks Bay.

DRAINAGE AREA.--31.4 mi^2.

PERIOD OF RECORD.--February 1910 to March 1914 (published as "at Rubicon Springs"), October 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,052.97 ft National Geodetic Vertical Datum of 1929. Feb. 1, 1910, to Mar. 31, 1914, nonrecording gage or water-stage recorder at site 0.4 mi 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. Flow below 1,200 ft^3/s controlled by Rubicon diversion dam 3.5 mi 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).--31 years (water years 1911-13, 1957-84), 129 ft^3/s, 93,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s Feb. 1, 1963, gage height, 14.28 ft, from rating curve extended above 1,200 ft^3/s on basis of slope-conveyance computation of maximum flow; no flow at times in some years prior to construction of Rubicon diversion dam in 1963 and 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1955 reached a stage of 13.0 ft from floodmarks, present site and datum, discharge, 9,270 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft^3/s Nov. 11, gage height, 7.92 ft; minimum daily, 6.0 ft^3/s Oct. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	53	19	36	14	17	23	36	13	7.6	7.6	7.4
2	14	19	21	28	14	21	22	47	12	7.6	7.6	7.5
3	10	12	22	25	13	22	26	68	11	7.6	7.6	7.7
4	8.4	9.7	20	32	13	20	30	51	122	7.7	7.5	8.3
5	7.8	8.9	18	41	13	18	30	43	55	7.6	7.4	8.5
6	7.4	9.5	17	38	14	22	29	38	39	7.5	7.4	7.8
7	7.3	25	17	31	13	25	36	39	27	7.5	7.4	7.4
8	7.2	12	20	26	13	26	42	48	16	7.5	7.4	7.3
9	9.0	17	38	23	19	28	29	51	13	7.3	7.4	7.3
10	7.8	111	32	22	17	28	30	51	12	7.1	7.4	7.3
11	7.2	657	74	19	15	25	28	59	11	7.2	7.4	7.3
12	6.9	112	35	18	17	22	32	55	11	7.1	7.3	7.4
13	6.8	47	31	17	28	76	38	56	10	7.1	7.4	7.4
14	6.7	31	49	15	23	56	51	50	10	6.8	7.4	7.4
15	6.6	29	44	15	23	33	62	33	10	6.8	7.4	7.8
16	6.6	149	34	15	28	25	61	25	10	6.8	7.4	7.4
17	6.6	370	36	14	19	23	52	26	10	7.1	7.3	7.2
18	6.6	59	27	13	17	22	45	29	9.6	7.6	7.5	7.2
19	6.6	192	23	13	16	33	37	34	9.2	8.0	7.6	7.4
20	6.4	123	21	12	16	48	32	37	8.9	8.1	7.4	7.2
21	6.2	39	18	12	17	55	29	33	8.7	8.1	7.5	7.1
22	6.1	27	17	12	15	37	35	30	8.4	8.1	7.5	7.0
23	6.5	31	17	12	14	34	47	30	8.2	8.8	7.4	6.9
24	6.3	286	154	13	14	39	46	52	8.3	8.7	7.3	6.9
25	6.3	64	325	15	13	40	35	23	8.1	8.3	7.4	6.8
26	6.3	34	207	14	13	76	25	21	8.0	8.1	7.5	6.8
27	6.2	27	95	13	14	43	23	19	7.7	8.0	7.5	6.8
28	6.0	24	43	13	14	35	23	19	7.7	7.8	7.5	6.8
29	6.1	21	38	13	14	35	26	18	7.8	7.8	7.4	6.6
30	12	19	125	14	---	26	29	17	7.7	7.7	7.5	7.6
31	54	---	66	14	---	26	---	18	---	7.6	7.6	---
TOTAL	279.9	2618.1	1703	598	473	1036	1053	1156	500.3	236.6	230.9	219.5
MEAN	9.03	87.3	54.9	19.3	16.3	33.4	35.1	37.3	16.7	7.63	7.45	7.32
MAX	54	657	325	41	28	76	62	68	122	8.8	7.6	8.5
MIN	6.0	8.9	17	12	13	17	22	17	7.7	6.8	7.3	6.6
AC-FT	555	5190	3380	1190	938	2050	2090	2290	992	469	458	435
MEAN a	44.0	364	195	59.4	42.6	98.2	152	558	386	128	17.2	12.4
AC-FT a	2700	21650	11990	3650	2450	6040	9060	34300	22980	7860	1060	737

CAL YR 1983 TOTAL 17876.5 MEAN 49.0 MAX 669 MIN 6.0 AC-FT 35460 MEAN a 261 AC-FT a 188800
WTR YR 1984 TOTAL 10104.3 MEAN 27.6 MAX 657 MIN 6.0 AC-FT 20040 MEAN a 171 AC-FT a 124400

a Adjusted for diversion to Rubicon-Rockbound tunnel.

11428300 BUCK-LOON TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'17", long 102°15'21", in SE 1/4 NW 1/4 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 southwest of Meeks Bay.

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

GAGE.--Water-stage recorder. Datum of gage is 6,425.0 ft 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.--21 years, 142 ft^3/s, 102,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,240 ft^3/s Dec. 23, 1964; no flow many days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	741	77	227	34	25	81	172	748	294	24	1.2
2	161	592	74	138	33	31	67	192	564	302	22	1.2
3	151	275	81	99	31	39	62	279	508	329	20	1.2
4	101	170	77	82	30	40	77	535	643	327	18	1.2
5	64	130	72	81	30	36	91	437	1000	306	16	1.2
6	43	102	68	84	32	37	85	341	778	278	14	1.1
7	33	346	62	81	33	46	94	324	608	280	12	1.1
8	31	304	61	75	33	56	143	430	380	260	11	1.1
9	44	184	90	68	41	63	133	609	308	208	9.7	1.1
10	53	300	105	63	47	70	105	698	329	170	9.1	1.1
11	43	1050	139	57	39	71	82	844	321	151	8.4	1.1
12	31	725	164	50	36	63	78	1020	326	142	7.5	1.1
13	24	501	119	46	49	79	96	992	346	132	6.9	1.1
14	19	271	114	43	57	148	151	1040	397	129	6.8	98
15	16	193	141	40	53	112	263	757	372	135	6.4	87
16	13	267	128	41	61	70	377	394	503	134	6.0	42
17	11	1040	110	36	49	56	408	321	578	86	5.3	18
18	9.4	707	87	33	40	44	317	410	550	1.0	4.5	8.7
19	8.0	371	72	32	35	45	218	539	506	3.0	3.6	5.1
20	6.8	922	62	30	31	68	151	750	473	56	2.7	3.2
21	5.7	459	54	29	37	122	114	959	398	75	2.1	2.0
22	4.8	218	51	28	34	137	108	900	345	68	1.7	1.3
23	4.5	150	52	27	30	113	163	925	347	59	1.4	.73
24	4.9	623	158	26	29	113	260	1040	402	60	1.2	.38
25	6.2	728	928	29	28	128	261	853	416	56	1.2	.14
26	7.4	299	1090	32	25	176	190	780	378	50	1.2	.04
27	6.9	169	648	30	24	236	139	706	341	45	1.2	0
28	5.8	123	281	29	25	169	112	758	321	40	1.2	0
29	4.8	98	168	29	25	141	112	904	372	36	1.2	0
30	24	86	243	30	---	117	140	1020	345	31	1.2	0
31	296	---	391	32	---	96	---	1000	---	27	1.2	---
TOTAL	1398.2	12144	5967	1727	1051	2747	4678	20929	13903	4270.0	228.7	281.39
MEAN	45.1	405	192	55.7	36.2	88.6	156	675	463	138	7.38	9.38
MAX	296	1050	1090	227	61	236	408	1040	1000	329	24	98
MIN	4.5	86	51	26	24	25	62	172	308	1.0	1.2	0
AC-FT	2770	24090	11840	3430	2080	5450	9280	41510	27580	8470	454	558

CAL YR 1983 TOTAL 98274.2 MEAN 269 MAX 1090 MIN 4.5 AC-FT 194900
WTR YR 1984 TOTAL 69324.29 MEAN 189 MAX 1090 MIN 0 AC-FT 137500

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 upstream from Hell Hole Dam on Rubicon River, and 15.6 mi west of Meeks Bay.

DRAINAGE AREA.--114 mi².

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 between elevations 4,287.65 ft, invert of river outlet and 4,630.0 ft, crest of ogee spillway. Dead storage 248 acre-ft. 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, 211,050 acre-ft Dec. 20, 1981, elevation, 4,632.75 ft; minimum since reservoir first filled, 37,499 acre-ft Mar. 23, 1973, elevation, 4,428.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 206,626 acre-ft Jan. 6, June 7, elevation, 4,629.20 ft; minimum, 122,089 acre-ft Sept. 30, elevation, 4,549.26 ft.

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

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136235	136883	185120	206015	189888	171899	164831	173307	205677	193813	172270	144347
2	134683	137189	185237	206189	189267	171326	164285	174349	205454	193452	171360	143416
3	132949	137245	185721	206226	188660	170722	163741	175835	205067	192969	170442	142481
4	131406	137189	185815	206251	188017	170106	163264	177315	205690	192729	169472	141446
5	130354	136818	185579	206426	187389	169438	162787	178008	205990	192223	168405	140570
6	129292	136448	185084	206626	186677	168777	162387	178638	206326	191611	167167	139585
7	128226	137012	184566	206589	185904	168106	161999	179388	206626	191935	165958	138589
8	127166	136633	184038	206414	185061	167465	161934	180384	206564	191623	165432	137682
9	126251	136410	184637	206114	184425	166903	161945	181150	206314	190952	164678	136846
10	125643	137282	184801	205740	183685	166331	162387	183111	205790	190389	163698	135839
11	125617	143407	185355	205466	182912	165728	162700	185319	205192	189948	163535	134857
12	125254	144883	185108	204794	182268	165081	163722	186832	204669	189231	162733	133983
13	124994	145539	184872	204173	182350	165629	163665	188922	204334	188565	161783	133347
14	124779	145549	185014	203564	182036	166727	164078	191179	204011	187673	160644	132625
15	124529	145363	185155	202957	182106	166969	164852	191789	203812	186879	159469	131933
16	124331	147640	185167	202364	182280	166837	165673	192416	203601	186228	158715	131182
17	124934	157900	185343	201648	181930	166595	167024	191647	203353	185532	158059	130604
18	125686	160237	185120	201155	181441	166287	167564	192704	202599	184848	156890	129938
19	126451	165977	184731	200158	180917	166100	168316	194708	201450	184213	156115	129213
20	127245	168949	184307	199372	180360	166012	168660	196759	200232	183497	155126	128631
21	127998	169995	183732	198577	180036	166232	168827	197648	199385	182842	154142	128033
22	128710	170485	182760	197746	179458	166144	169082	198907	197941	182082	153318	127394
23	129513	171304	182327	196966	178834	165903	169950	200232	197221	181127	152385	126651
24	130310	176972	183932	196187	178005	165826	170922	201401	196601	180233	151865	125981
25	131093	179133	191108	195447	176903	165673	171371	202265	195786	179446	150566	125176
26	131844	180024	196114	194660	175657	166144	171707	202833	195592	178626	149759	124572
27	132571	180511	199152	193825	174394	166199	172112	203849	195386	177499	148907	123909
28	133338	181418	200023	193041	173217	165990	172360	204707	194781	176560	147979	123276
29	134119	182024	200637	192272	172496	165782	172360	205640	194176	175225	147046	122635
30	134839	182702	203849	191479	---	165629	172484	205815	194055	174315	146069	122089
31	135958	---	205466	190712	---	165289	---	205740	---	173398	145245	---
MAX	136235	182702	205466	206626	189888	171899	172484	205815	206626	193813	172270	144347
MIN	124331	136410	182327	190712	172496	165081	161934	173307	194055	173398	145245	122089
a	4564.97	4609.45	4628.30	4616.22	4600.56	4594.07	4600.55	4628.52	4619.00	4601.36	4574.75	4549.26
b	-1976	+46744	+22764	-14754	-18217	-7206	+7195	+33256	-11685	-20657	-28153	-23156

CAL YR 1983 b +73452
WTR YR 1984 b -15845

a Elevation, in feet NGVD, at end of month.
b 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 NE 1/4 NE 1/4 sec.21, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 600 ft downstream from outlet of dam, and 15.3 mi west of Meeks Bay.

DRAINAGE AREA.--114 mi^2.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 4,231.52 ft 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.--18 years, 31.1 ft^3/s, 22,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,380 ft^3/s Dec. 20, 1981, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 102 ft^3/s Nov. 17, gage height 4.82 ft; minimum daily, 8.1 ft^3/s Mar. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	21	18	38	12	12	13	13	22	21	20	22
2	22	20	20	30	12	12	13	14	22	21	21	22
3	22	20	23	37	12	12	14	15	22	21	21	22
4	22	20	22	38	12	12	14	15	23	21	21	22
5	22	20	23	37	12	12	14	15	22	21	21	22
6	22	20	22	36	11	12	14	15	23	20	21	22
7	21	21	22	36	11	12	14	15	23	20	21	22
8	20	20	22	35	11	12	14	16	22	20	21	22
9	20	20	23	34	11	12	15	15	22	20	21	22
10	20	23	28	34	11	8.1	16	16	22	20	21	22
11	20	31	30	34	11	9.0	16	16	22	21	21	22
12	20	25	25	33	12	11	15	16	22	21	21	22
13	20	25	26	33	16	16	14	16	22	21	21	22
14	20	23	26	32	14	18	14	18	21	21	21	22
15	20	21	19	32	17	16	14	25	21	21	21	22
16	21	25	17	32	16	14	14	26	21	21	21	22
17	20	54	17	32	13	14	14	26	21	21	21	22
18	20	21	16	31	13	14	14	24	21	21	21	22
19	20	38	15	31	13	14	15	24	21	21	21	22
20	20	34	15	32	13	14	14	24	21	21	21	23
21	20	27	15	32	13	14	13	24	21	21	22	22
22	20	25	14	32	13	13	13	23	21	21	22	22
23	20	26	14	23	13	13	13	23	21	21	22	22
24	20	50	29	13	13	13	13	23	21	20	22	22
25	20	30	54	12	12	13	13	23	21	20	22	22
26	20	27	40	12	12	13	13	23	20	20	22	22
27	20	26	40	12	12	13	13	22	21	21	22	22
28	20	23	33	12	12	13	13	22	20	21	22	22
29	21	19	31	12	12	13	13	22	21	21	22	22
30	21	18	43	11	---	13	12	22	20	21	22	22
31	22	---	42	12	---	13	---	22	---	21	22	---
TOTAL	639	773	784	860	365	400.1	414	613	643	643	661	661
MEAN	20.6	25.8	25.3	27.7	12.6	12.9	13.8	19.8	21.4	20.7	21.3	22.0
MAX	23	54	54	38	17	18	16	26	23	21	22	23
MIN	20	18	14	11	11	8.1	12	13	20	20	20	22
AC-FT	1270	1530	1560	1710	724	794	821	1220	1280	1280	1310	1310
a	26070	35390	57460	60620	50000	50570	34140	39870	54880	41410	41630	41170

CAL YR 1983 TOTAL 35877.0 MEAN 98.3 MAX 1950 MIN 14 AC-FT 71160
WTR YR 1984 TOTAL 7456.1 MEAN 20.4 MAX 54 MIN 8.1 AC-FT 14790

a Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant, furnished by Placer County Water Agency.

11429300 ROBBS PEAK POWERPLANT NEAR KYBURZ, CA

LOCATION.--Lat 38°53'50", long 120°22'38", in SE 1/4 SW 1/4 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 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, from topographic map. Prior to October 1965, water-stage recorder and concrete control in abandoned section of canal 0.5 mi upstream at different datum.

REMARKS.--Tunnel diverts at South Fork Rubicon River diversion dam in NE 1/4 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.--22 years, 256 ft^3/s, 185,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,440 ft^3/s Dec. 22-24, 1964; no flow many days in each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	310	352	432	661	381	575	186	480	320	97	243	410
2	143	146	280	569	371	611	544	714	237	394	241	.50
3	34	74	223	537	361	579	513	711	242	398	241	1.0
4	0	54	169	512	418	201	521	584	553	84	251	85
5	0	42	169	536	108	538	564	289	536	321	1.0	42
6	0	47	155	481	399	637	630	225	512	334	266	1.0
7	0	115	184	443	352	671	573	433	634	335	259	.50
8	0	71	174	283	363	704	342	327	654	20	273	.50
9	0	73	291	438	392	715	504	410	506	294	302	.50
10	0	96	366	376	400	727	590	313	440	279	313	.50
11	0	734	395	348	374	297	620	291	448	272	309	1.0
12	0	474	307	237	154	591	626	325	333	271	1.0	.50
13	0	351	267	318	477	694	631	317	388	237	327	.50
14	0	187	376	300	500	795	654	492	325	262	308	.50
15	0	148	356	146	516	587	384	400	323	1.0	313	1.0
16	0	487	494	271	531	531	643	374	108	286	415	.50
17	0	786	627	280	577	598	658	224	2.5	256	320	.50
18	0	733	318	276	532	241	666	392	490	204	336	1.0
19	0	917	408	267	235	641	587	302	774	238	.50	.50
20	0	910	480	258	125	691	601	226	612	241	300	.50
21	0	917	215	283	493	747	591	393	569	254	284	.50
22	0	903	500	109	558	632	290	443	564	11	312	.50
23	0	895	508	279	573	581	553	405	559	235	333	.50
24	0	902	600	292	587	516	669	403	458	224	330	.50
25	0	810	927	383	557	266	647	370	572	225	278	.50
26	32	808	612	369	503	629	539	221	434	227	1.5	0
27	0	814	675	350	533	548	492	152	411	218	317	0
28	0	828	666	362	574	499	518	229	441	193	412	0
29	0	556	800	146	556	521	158	404	422	0	415	0
30	0	460	948	317	---	483	507	367	90	212	417	0
31	137	---	953	353	---	476	---	339	---	232	423	---
TOTAL	656	14690	13875	10780	12500	17522	16001	11555	12957.5	6855.0	8542.00	550.50
MEAN	21.2	490	448	348	431	565	533	373	432	221	276	18.4
MAX	310	917	953	661	587	795	669	714	774	398	423	410
MIN	0	42	155	109	108	201	158	152	2.5	0	.50	0
AC-FT	1300	29140	27520	21380	24790	34750	31740	22920	25700	13600	16940	1090

CAL YR 1983 TOTAL 172248.00 MEAN 472 MAX 988 MIN 0 AC-FT 341700
WTR YR 1984 TOTAL 126484.00 MEAN 346 MAX 953 MIN 0 AC-FT 250900

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 38°58'59", long 120°19'22", in SE 1/4 SW 1/4 sec.8, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerhouse intake structure, 1.6 mi southwest of right bank end of Loon Lake Dam on Gerle Creek, and 10 mi southwest of town of Meeks Bay.

DRAINAGE AREA.--7.96 mi^2.

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

REVISED RECORDS.--WDR CA-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District). Prior to Sept. 23, 1975, at site 1.6 mi 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. Usable capacity, 73,900 acre-ft, between elevations 6,325 ft, invert of fishwater release valve and 6,410 ft crest of spillway. Dead storage, 2,300 acre-ft. 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 June 6, 1969, elevation, 6,411.1 ft; minimum since reservoir first filled, 3,690 acre-ft Nov. 3, 1970, elevation, 6,330.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 77,000 acre-ft Dec. 26, elevation, 6,410.6 ft; minimum, 32,200 acre-ft May 2, elevation, 6,373.9 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56900	60500	71200	75100	67500	52300	40300	32300	68800	74000	67500	48600
2	57300	61700	71300	74800	67000	51500	39600	32200	69500	74000	67000	48600
3	57600	62200	71900	74500	66500	50600	39000	32500	70200	73800	66500	48400
4	57700	62400	72000	74400	65800	50800	38600	33200	70900	74400	66000	48400
5	57700	62600	72100	74200	65800	50000	38100	34400	72100	74400	66000	48400
6	57800	62800	72300	74100	65300	49000	37400	35200	73100	74200	65400	48400
7	57800	63600	72600	74000	64900	48100	36900	35600	73400	74000	64900	48300
8	57800	64100	72700	74100	64400	47100	37400	36600	73100	74500	64400	48300
9	58000	64500	73100	73700	64000	46200	37000	37600	73000	74200	63700	48300
10	58000	65300	73500	73500	63500	45100	36500	39200	72800	74000	63100	48200
11	58100	67800	74100	73400	63100	45200	35800	41100	72800	73700	62400	48200
12	58100	69500	74500	73300	63200	44200	35200	43100	72800	73400	62300	48200
13	58100	70600	74800	73000	63100	44200	34600	45100	73000	73100	61700	48200
14	58100	71200	75100	72800	62700	44500	34100	46800	73100	72700	61000	48200
15	58100	71400	75500	72800	62300	44200	34900	48100	73400	73000	60400	48300
16	58100	72600	75400	72700	62200	43800	35000	48600	74400	72700	59500	48400
17	58100	74800	75100	72400	61400	43200	35300	49200	75500	72300	58900	48400
18	58100	74500	75400	72000	60700	43400	35400	49400	75600	71900	58100	48400
19	58100	74100	74900	71700	60700	42600	35200	51300	75200	71400	58100	48400
20	58100	74400	74500	71600	60800	42100	34800	52900	75100	71000	57500	48400
21	58100	73500	74500	71300	60300	41600	34100	53800	74800	70600	56700	48200
22	58100	72100	74000	71300	59400	41300	34500	55200	74400	70700	56000	48200
23	58100	71200	73700	70900	58600	40900	34300	56600	74000	70500	55300	48100
24	58000	73300	74400	70600	57700	40700	34000	58300	74000	70200	54700	48100
25	58000	74400	76200	70200	56800	41000	33700	59600	73700	69800	53900	48000
26	58000	74100	77000	69600	55900	41100	33400	61200	73700	69500	53900	48000
27	58000	73300	76600	69200	54900	41100	33000	62400	73500	69100	53300	48000
28	58000	72400	75500	68800	54000	40900	32500	63700	73300	68700	52100	47800
29	58000	71900	74500	68800	53200	40700	32700	65000	73100	68700	51400	47800
30	58100	71600	74700	68300	---	40300	32300	66500	73800	68300	50500	47800
31	59000	---	75100	67900	---	40000	---	67900	---	67900	49500	---
MAX	59000	74800	77000	75100	67500	52300	40300	67900	75600	74500	67500	48600
MIN	56900	60500	71200	67900	53200	40000	32300	32200	68800	67900	49500	47800
a	6397.1	6406.7	6409.2	6404.0	6392.5	6381.3	6374.0	6404.0	6408.3	6404.0	6389.6	6388.2
b	+1700	+12600	+3500	-7200	-14700	-13200	-7700	+35600	+5900	-5900	-18400	-1700

CAL YR 1983 b +32100
WTR YR 1984 b -9500

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

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'20", long 120°18'52", in NE 1/4 NE 1/4 sec.5, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.3 mi downstream from Loon Lake Dam, and 11 mi southwest of Meeks Bay.

DRAINAGE AREA.--8.01 mi^2.

PERIOD OF RECORD.--July 1910 to April 1914 (fragmentary), August 1962 to current year. Prior to August 1962, published as "near Rubicon Springs."

GAGE.--Water-stage recorder and V-notch concrete weir. Altitude of gage is 6,250 ft, from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft 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 ft^3/s, 94,910 acre-ft/yr; 13 years (water years 1972-84), 8.43 ft^3/s, 6,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft^3/s, unregulated, Feb. 1, 1963, gage height, 12.65 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of maximum flow; no flow Oct. 15, 1913. Maximum discharge since construction of Loon Lake Dam in 1963, 1,050 ft^3/s June 5, 1969, gage height, 9.03 ft; minimum daily, 3.6 ft^3/s Sept. 27, 28, Nov. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 370 ft^3/s Dec. 27, gage height, 5.84 ft; minimum daily, 7.7 ft^3/s Aug. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	9.4	8.9	8.9	8.3	9.0	8.3	9.5	8.8	8.0	8.0	8.0
2	8.6	8.3	8.9	8.7	8.3	8.9	8.3	9.4	8.3	8.0	8.0	8.0
3	8.3	8.2	8.9	8.6	8.3	8.9	8.5	10	8.3	8.0	7.9	8.0
4	8.3	8.1	8.8	9.0	8.3	8.9	8.4	8.9	9.0	8.0	7.8	8.0
5	8.3	8.0	8.6	9.0	8.3	8.9	8.4	8.7	8.4	8.0	7.7	8.0
6	8.3	8.5	8.7	8.9	8.3	8.9	8.7	8.6	8.9	8.0	8.0	8.0
7	8.3	8.3	8.7	8.6	8.1	9.2	8.8	8.5	8.5	8.0	8.0	8.3
8	8.3	8.3	8.9	8.6	8.2	9.7	8.5	8.5	8.3	8.0	8.0	8.6
9	8.3	8.4	9.1	8.6	8.3	9.7	8.3	8.8	8.3	8.0	8.1	8.6
10	8.3	11	8.9	8.3	8.2	9.7	8.2	9.0	8.3	8.0	8.3	8.6
11	8.3	11	9.6	8.3	8.0	9.5	8.2	9.8	8.1	8.0	8.3	8.6
12	8.3	10	9.0	8.3	8.2	9.5	8.4	9.7	8.1	8.0	8.3	8.6
13	8.2	8.9	9.3	8.3	8.5	12	8.6	9.3	8.1	8.0	8.3	8.6
14	8.0	8.6	9.6	8.3	8.3	10	9.2	8.9	8.1	8.0	8.3	8.6
15	8.0	8.6	9.3	8.3	8.3	9.6	9.6	8.6	8.2	8.0	8.3	8.6
16	8.0	14	9.2	8.2	8.4	9.5	9.5	8.7	8.2	8.0	8.3	8.6
17	8.0	17	9.2	8.0	8.2	9.3	9.2	8.7	8.3	8.0	8.3	8.6
18	8.0	9.7	9.1	8.0	8.0	9.3	8.6	8.6	8.1	8.0	8.3	8.6
19	8.0	14	8.9	8.0	8.0	9.6	8.3	8.6	8.0	8.0	8.2	8.6
20	8.0	10	8.9	8.0	8.0	9.9	8.1	8.6	8.0	8.0	8.1	8.6
21	8.0	9.2	8.9	8.0	8.1	10	8.2	8.5	8.0	8.0	8.0	8.6
22	8.0	8.9	8.9	8.0	8.0	9.6	8.2	8.3	8.0	8.0	8.0	8.6
23	8.0	9.8	8.9	8.0	8.0	9.2	9.0	8.3	8.0	8.2	8.0	8.6
24	8.0	15	12	8.4	8.0	8.8	8.8	8.3	8.0	8.0	8.0	8.6
25	8.0	9.7	22	8.3	8.0	8.8	8.2	8.4	8.0	8.0	8.0	8.6
26	8.0	9.2	214	8.3	7.9	10	8.1	8.4	8.0	8.0	8.0	8.6
27	8.0	9.1	238	8.3	7.8	8.9	8.0	8.6	8.0	8.0	8.0	8.6
28	8.0	8.9	17	8.3	8.5	8.8	8.1	8.6	8.0	8.0	8.0	8.6
29	8.1	8.9	9.4	8.3	8.9	8.6	8.2	8.7	8.0	8.0	8.2	8.6
30	8.6	8.9	12	8.3	---	8.4	8.2	8.9	8.0	8.0	8.3	8.8
31	9.9	---	9.7	8.3	---	8.3	---	8.7	---	8.0	8.0	---
TOTAL	254.9	295.9	741.3	259.4	237.7	289.4	255.1	273.1	246.3	248.2	251.0	254.3
MEAN	8.22	9.86	23.9	8.37	8.20	9.34	8.50	8.81	8.21	8.01	8.10	8.48
MAX	9.9	17	238	9.0	8.9	12	9.6	10	9.0	8.2	8.3	8.8
MIN	8.0	8.0	8.6	8.0	7.8	8.3	8.0	8.3	8.0	8.0	7.7	8.0
AC-FT	506	587	1470	515	471	574	506	542	489	492	498	504
a	684	17430	13550	11610	18590	21200	19970	8470	22640	13980	18110	1110

CAL YR 1983 TOTAL 3744.7 MEAN 10.3 MAX 238 MIN 5.8 AC-FT 7430
WTR YR 1984 TOTAL 3606.6 MEAN 9.85 MAX 238 MIN 7.7 AC-FT 7150

a 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 SW 1/4 SW 1/4 sec.22, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 600 ft downstream from Gerle Creek, and 18 mi east of Georgetown.

DRAINAGE AREA.--47.6 mi^2.

PERIOD OF RECORD.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,970 ft, from topographic map. Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft downstream 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. 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. Water is diverted 1.2 mi upstream at South Fork Rubicon River diversion dam to Robbs Peak Powerplant (station 11429300). Diversion of up to 1,320 ft^3/s to Silver Creek basin began in October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE (unadjusted).--22 years (water years 1963-84), 24.6 ft^3/s, 17,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s Jan. 31, 1963, gage height, 12.32 ft, from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement of maximum flow; minimum, 0.8 ft^3/s Sept. 21, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,000 ft^3/s Nov. 24, gage height, 8.97 ft; minimum daily, 4.3 ft^3/s Apr. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	18	7.2	13	4.9	7.4	5.7	9.2	11	10	10	10
2	12	11	7.9	12	4.8	7.5	5.6	13	11	11	10	10
3	11	8.7	12	11	4.7	7.4	5.4	13	11	10	11	10
4	11	5.0	9.0	10	4.7	7.1	5.4	12	12	10	11	9.9
5	11	4.8	7.8	10	4.6	6.9	5.7	12	12	10	11	11
6	11	4.8	7.7	9.2	4.7	7.2	5.5	12	12	10	11	7.9
7	11	5.0	7.9	8.7	5.2	7.1	5.3	12	12	10	11	8.3
8	11	4.7	7.5	8.4	5.1	6.9	7.0	11	11	10	10	9.5
9	11	5.3	16	7.6	6.4	6.7	6.0	11	11	10	10	9.4
10	11	7.0	20	5.7	5.8	6.6	7.1	11	14	10	11	10
11	11	326	20	5.7	5.4	6.4	6.7	11	13	10	11	12
12	11	12	12	7.4	5.9	6.1	6.1	11	11	10	10	12
13	11	9.5	12	6.8	12	112	5.6	11	10	10	10	12
14	11	7.8	12	6.6	9.5	36	5.3	11	10	10	11	12
15	11	7.4	11	6.5	12	14	5.1	11	10	10	10	12
16	11	68	11	6.6	13	10	4.9	11	9.8	10	10	12
17	11	2600	13	7.2	9.0	9.5	5.0	11	9.7	10	9.9	12
18	11	709	9.9	6.1	8.1	8.8	5.9	11	10	10	9.6	11
19	11	1030	8.9	5.8	7.6	9.0	6.4	11	10	10	9.5	11
20	11	1010	8.1	5.5	7.2	8.4	6.1	10	10	10	9.7	12
21	11	370	7.5	5.5	7.6	8.0	5.8	11	9.9	10	11	18
22	11	249	7.3	5.4	7.2	7.4	5.4	11	9.9	10	11	10
23	11	152	8.1	5.3	7.1	6.9	5.1	11	9.9	10	11	10
24	11	1320	99	5.7	7.1	6.6	5.3	11	9.8	10	11	10
25	11	49	2210	5.6	6.9	6.2	5.2	11	10	10	11	10
26	11	12	1910	5.4	7.6	6.7	5.0	10	10	9.9	11	10
27	10	9.5	1560	5.2	6.8	6.3	4.6	10	10	9.9	11	10
28	9.9	8.6	808	5.1	7.1	6.1	4.5	11	10	9.9	11	10
29	10	8.9	260	5.0	7.0	5.9	4.3	11	10	10	11	10
30	11	7.8	422	5.0	---	5.6	5.2	11	10	11	11	11
31	14	---	180	5.0	---	5.8	---	11	---	11	11	---
TOTAL	342.9	8040.8	7692.8	218.0	205.0	362.5	166.2	344.2	320.0	312.7	327.7	323.0
MEAN	11.1	268	248	7.03	7.07	11.7	5.54	11.1	10.7	10.1	10.6	10.8
MAX	14	2600	2210	13	13	112	7.1	13	14	11	11	18
MIN	9.9	4.7	7.2	5.0	4.6	5.6	4.3	9.2	9.7	9.9	9.5	7.9
AC-FT	680	15950	15260	432	407	719	330	683	635	620	650	641

CAL YR 1983 TOTAL 32226.2 MEAN 88.3 MAX 2600 MIN 4.7 AC-FT 63920
WTR YR 1984 TOTAL 18655.8 MEAN 51.0 MAX 2600 MIN 4.3 AC-FT 37000

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA

LOCATION.--Lat 38°53'41", long 120°34'02", in NE 1/4 NW 1/4 sec.18, T.12 N., R.13 E., El Dorado County, Hydrologic Unit 18020128, on right bank 2.1 mi upstream from Stumpy Meadows Dam, and 12.5 mi east of Georgetown.

DRAINAGE AREA.--11.7 mi^2.

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971, published as "above Stumpy Meadows Reservoir."

GAGE.--Water-stage recorder. Altitude of gage is 4,280 ft, from topographic map.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--24 years, 26.8 ft^3/s, 19,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,490 ft^3/s Jan. 13, 1980, gage height, 6.31 ft in gage well, 6.84 ft from floodmarks, from rating curve extended above 170 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 8.05 ft Jan. 31, 1963; minimum daily discharge, 0.14 ft^3/s Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 140 ft^3/s, from rating curve extended above 160 ft^3/s on basis of slope-area measurement of peak flow, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0515	154	2.89	Dec. 9	2330	235	3.20
Nov. 17	1130	846	4.51	Dec. 25	1815	*1050	4.81
Nov. 24	1430	782	4.41				

Minimum daily, 4.2 ft^3/s Sept. 17,18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 83 TO SEPTEMBER 84
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	29	42	132	28	39	41	31	15	10	6.2	5.1
2	12	19	47	113	27	39	40	32	15	9.7	6.2	4.8
3	10	14	74	100	27	39	38	30	14	9.4	6.1	4.7
4	9.4	12	64	92	26	38	37	28	18	9.2	6.1	4.5
5	8.9	11	53	84	25	37	37	27	17	9.1	6.0	4.7
6	8.7	11	50	77	25	37	35	26	19	9.0	5.9	4.7
7	8.6	13	47	70	24	37	34	25	18	8.8	5.8	4.6
8	8.6	11	49	65	24	37	40	24	16	8.6	5.7	4.5
9	9.0	12	90	60	29	36	37	24	15	8.4	5.5	4.4
10	8.9	17	173	56	28	36	43	23	15	8.3	5.4	4.4
11	8.4	84	182	53	26	35	41	23	14	8.3	5.5	4.4
12	8.1	46	142	50	29	35	37	23	14	8.1	5.4	4.5
13	8.1	48	116	48	62	70	35	22	14	8.0	5.5	4.5
14	8.2	34	100	46	57	104	33	22	14	7.9	5.4	4.4
15	8.1	26	90	44	63	101	32	22	14	7.9	5.4	4.3
16	8.0	55	82	44	92	88	32	21	14	7.9	5.7	4.3
17	8.0	469	88	42	64	82	31	21	13	8.0	5.4	4.2
18	7.8	120	73	40	55	75	34	20	13	7.7	5.2	4.2
19	7.7	88	66	39	50	71	38	20	13	7.4	5.1	4.3
20	7.6	106	61	37	47	69	37	19	12	7.3	5.0	4.6
21	7.4	69	55	36	53	66	36	19	12	7.3	5.1	4.6
22	7.3	52	52	35	47	61	35	18	12	7.2	5.0	4.5
23	7.8	48	53	34	46	56	33	18	12	7.4	4.9	4.5
24	8.0	320	121	33	45	53	32	18	11	7.4	4.9	4.6
25	7.4	169	613	33	43	51	31	17	11	7.2	4.9	4.5
26	7.1	102	588	32	41	51	30	17	11	7.0	5.0	4.5
27	7.0	77	472	30	40	48	30	17	11	6.8	4.9	4.5
28	7.0	63	274	30	39	44	29	16	11	6.6	4.8	4.4
29	7.3	53	188	29	38	43	28	16	10	6.6	4.8	4.4
30	13	46	201	29	---	41	27	15	10	6.4	4.8	4.8
31	36	---	166	28	---	41	---	15	---	6.3	5.4	---
TOTAL	290.4	2224	4472	1641	1200	1660	1043	669	408	245.2	167.0	135.4
MEAN	9.37	74.1	144	52.9	41.4	53.5	34.8	21.6	13.6	7.91	5.39	4.51
MAX	36	469	613	132	92	104	43	32	19	10	6.2	5.1
MIN	7.0	11	42	28	24	35	27	15	10	6.3	4.8	4.2
AC-FT	576	4410	8870	3250	2380	3290	2070	1330	809	486	331	269

CAL YR 83 TOTAL 26572.3 MEAN 72.8 MAX 1220 MIN 5.6 AC-FT 52710
WTR YR 84 TOTAL 14155.0 MEAN 38.7 MAX 613 MIN 4.2 AC-FT 28080

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°55'25", long 120°38'27", in NE 1/4 NW 1/4 sec.4, T.12 N., R.12 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide diversion dam, 2.5 mi downstream from Stumpy Meadows Dam, and 10 mi east of Georgetown.

DRAINAGE AREA.--21.1 mi^2.

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,760 ft, from topographic map.

REMARKS.--Records good. Flow regulated by Stumpy Meadows Lake, usable capacity, 17,500 acre-ft completed in November 1961. Georgetown Irrigation District ditch, capacity, about 20 ft^3/s diverts water out of Pilot Creek, 500 ft above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--23 years, 34.0 ft^3/s, 24,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft^3/s Dec. 22, 1964, gage height, 9.60 ft, from rating curve extended above 300 ft^3/s on basis of slope-area measurement at gage height 5.00 ft; maximum gage height, 10.06 ft Dec. 23, 1964; minimum daily discharge, 0.20 ft^3/s Sept. 24, Nov. 1-5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,210 ft^3/s Dec. 25, gage height, 7.46 ft, from rating curve extended above 270 ft^3/s on basis of drainage-area comparison with upstream station. Minimum daily, 1.5 ft^3/s several days during August.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.8	57	221	26	49	49	21	6.2	11	2.1	3.4
2	5.5	3.8	61	186	24	49	46	29	6.1	13	2.1	3.3
3	3.8	3.0	139	160	23	47	42	21	5.6	14	2.0	3.2
4	2.3	2.6	115	141	22	45	40	15	8.2	12	2.0	3.2
5	2.3	2.5	85	125	21	42	41	12	7.0	9.9	1.9	3.1
6	2.2	2.7	79	113	21	42	37	9.3	8.4	5.8	1.9	3.1
7	2.2	4.3	73	102	21	41	34	7.9	7.4	3.9	1.8	3.0
8	2.2	2.9	78	92	20	40	50	6.6	6.7	3.8	1.8	3.0
9	2.3	3.0	128	84	40	39	42	5.6	6.4	3.0	1.8	3.0
10	2.3	4.2	284	78	39	38	55	4.7	6.2	2.9	1.7	3.0
11	2.2	19	303	73	27	36	48	4.2	6.1	3.9	1.7	3.0
12	2.1	8.2	250	67	30	35	39	4.1	6.1	6.3	1.7	3.0
13	2.1	13	201	64	75	87	31	3.8	6.0	8.6	1.6	2.9
14	2.1	7.7	171	60	88	151	23	3.9	6.0	8.8	1.6	2.6
15	2.1	4.7	148	56	89	141	22	6.2	7.1	8.8	1.7	2.6
16	2.1	9.0	135	60	143	117	19	5.0	9.2	8.6	1.7	2.5
17	2.1	97	138	53	93	111	18	5.8	9.1	8.5	1.6	2.5
18	2.0	19	116	48	77	96	23	4.3	9.0	8.2	1.6	2.4
19	2.0	24	102	45	69	90	38	3.5	8.9	7.8	1.6	2.9
20	2.0	25	96	42	66	85	29	3.4	8.9	7.1	1.6	2.9
21	2.0	12	85	41	103	81	24	3.8	8.9	6.8	1.5	2.8
22	1.9	7.3	85	39	72	75	22	3.6	8.8	6.8	1.5	2.8
23	2.0	8.5	96	36	64	69	20	3.2	8.9	5.4	1.5	2.8
24	2.0	77	163	35	67	65	18	3.2	8.8	3.3	1.5	2.8
25	1.9	41	739	34	61	61	15	3.2	8.7	2.4	1.5	2.8
26	1.9	104	969	33	56	60	15	3.1	8.6	2.3	1.6	2.8
27	1.9	110	905	30	54	56	14	3.5	8.6	2.3	1.5	2.8
28	1.9	92	550	29	52	51	13	5.1	8.5	2.3	1.5	2.7
29	2.0	78	354	28	50	48	12	4.9	9.7	2.3	1.5	2.7
30	4.2	66	358	28	---	44	11	5.4	11	2.2	2.5	4.6
31	9.4	---	293	27	---	55	---	6.4	---	2.1	3.5	---
TOTAL	82.0	857.2	7356	2230	1593	2046	890	221.7	235.1	194.3	55.1	88.2
MEAN	2.65	28.6	237	71.9	54.9	66.0	29.7	7.15	7.84	6.27	1.78	2.94
MAX	9.4	110	969	221	143	151	55	29	11	14	3.5	4.6
MIN	1.9	2.5	57	27	20	35	11	3.1	5.6	2.1	1.5	2.4
AC-FT	163	1700	14590	4420	3160	4060	1770	440	466	385	109	175

CAL YR	83	TOTAL	41364.4	MEAN	113	MAX	1870	MIN	1.9	AC-FT	82050
WTR YR	84	TOTAL	15848.6	MEAN	43.3	MAX	969	MIN	1.5	AC-FT	31440

11433060 SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 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 upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 mi 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, 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.--19 years, 9.88 ft^3/s, 7,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 251 ft^3/s Nov. 12, 1973; no flow for part of each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	21	96	11	19	24	29	7.0			
2		0	45	78	10	20	24	36	6.1			
3		9.7	48	69	9.8	21	23	35	5.2			
4		28	38	72	9.8	19	23	30	8.6			
5		36	32	69	9.4	18	24	27	7.4			
6		30	30	62	9.1	18	23	24	8.6			
7		0	29	55	8.7	19	25	22	7.0			
8		0	34	49	8.4	19	28	20	5.4			
9		0	49	44	12	19	28	19	4.6			
10		0	0	41	11	18	31	18	4.1			
11		0	0	36	9.8	17	29	16	3.8			
12		0	0	34	14	17	26	15	3.3			
13		0	23	31	32	49	26	14	3.1			
14		0	61	28	22	52	26	13	2.9			
15		0	58	26	34	45	27	12	2.6			
16		0	58	25	41	37	28	12	2.2			
17		0	68	23	28	36	32	11	1.6			
18		0	50	21	25	34	30	11	1.0			
19		0	44	20	23	38	30	11	.70			
20		0	40	19	22	41	29	10	.43			
21		0	35	18	23	38	28	10	.28			
22		0	33	17	21	34	26	9.8	0			
23		0	34	16	20	31	25	9.6	0			
24		0	14	16	19	30	23	9.5	0			
25		0	0	16	18	29	23	9.3	0			
26		0	0	15	17	34	22	8.9	0			
27		0	0	13	18	31	22	8.7	0			
28		0	0	13	17	28	21	8.5	0			
29		0	39	13	17	27	20	8.2	0			
30		0	180	12	---	24	20	8.1	0			
31		---	135	12	---	25	---	8.0	---			---
TOTAL	0	103.7	1198	1059	520.0	887	766	483.6	85.91	0	0	0
MEAN	0	3.46	38.6	34.2	17.9	28.6	25.5	15.6	2.86	0	0	0
MAX	0	36	180	96	41	52	32	36	8.6	0	0	0
MIN	0	0	0	12	8.4	17	20	8.0	0	0	0	0
AC-FT	0	206	2380	2100	1030	1760	1520	959	170	0	0	0

CAL YR 1983 TOTAL 5485.47 MEAN 15.0 MAX 181 MIN 0 AC-FT 10880
WTR YR 1984 TOTAL 5103.21 MEAN 13.9 MAX 180 MIN 0 AC-FT 10120

11433080 NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°02'57", long 120°28'56", in SW 1/4 NW 1/4 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 upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi east of Volcanoville.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,700 ft, 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.--19 years, 3.78 ft^3/s, 2,740 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 75 ft^3/s May 25, 1983; no flow for part of each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	34	2.2	8.3	11	16	0			
2			0	27	3.1	9.1	11	20	0			
3			0	24	2.6	9.7	10	20	0			
4			0	30	2.4	10	9.7	15	1.7			
5			0	27	2.4	9.5	9.5	13	1.4			
6			0	23	2.3	9.5	9.5	11	2.6			
7			3.3	19	2.1	9.9	9.5	10	2.2			
8			9.7	16	2.0	9.9	12	9.9	.91			
9			21	14	3.8	9.7	11	9.5	.11			
10			0	12	3.6	9.3	12	8.7	0			
11			0	10	2.8	8.5	14	8.5	0			
12			0	8.9	5.6	7.9	14	7.9	0			
13			8.5	7.9	16	30	12	7.3	0			
14			27	6.8	13	30	12	6.6	0			
15			26	5.9	16	24	13	6.6	0			
16			24	5.7	20	19	12	5.7	0			
17			31	4.8	13	18	12	4.8	0			
18			20	4.2	11	18	12	4.4	0			
19			16	3.8	9.9	23	12	3.6	0			
20			14	3.2	9.7	24	13	3.2	0			
21			11	3.1	9.7	22	14	2.8	0			
22			9.7	2.5	8.5	18	13	2.3	0			
23			9.5	2.1	7.9	16	13	2.0	0			
24			3.9	2.1	7.7	16	12	1.7	0			
25			0	2.4	7.0	15	9.5	1.5	0			
26			0	1.9	7.0	18	8.7	1.1	0			
27			0	1.5	7.7	15	7.9	.68	0			
28			0	1.6	7.7	14	7.5	.34	0			
29			16	1.5	7.9	13	7.1	0	0			
30			72	1.4	---	12	6.8	0	0			
31		---	54	1.3	---	11	---	0	---			---
TOTAL	0	0	376.6	308.6	214.6	467.3	330.7	204.12	8.92	0	0	0
MEAN	0	0	12.1	9.95	7.40	15.1	11.0	6.58	.30	0	0	0
MAX	0	0	72	34	20	30	14	20	2.6	0	0	0
MIN	0	0	0	1.3	2.0	7.9	6.8	0	0	0	0	0
AC-FT	0	0	747	612	426	927	656	405	18	0	0	0

CAL YR 1983 TOTAL 1982.60 MEAN 5.43 MAX 75 MIN 0 AC-FT 3930
WTR YR 1984 TOTAL 1910.84 MEAN 5.22 MAX 72 MIN 0 AC-FT 3790

11433100 LONG CANYON CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°01'16", long 120°30'53", in SE 1/4 NW 1/4 sec.34, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 75 ft downstream from North Fork Long Canyon, 6.5 mi south of French Meadows, and 16 mi east of Foresthill.

DRAINAGE AREA.--18.0 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft, 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).--18 years (water years 1967-84), 35.6 ft^3/s, 25,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft^3/s Jan. 13, 1980, gage height, 10.05 ft, from rating curve extended above 900 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 11.20 ft Dec. 23, 1964; minimum daily discharge, 0.08 ft^3/s Sept. 27, 28, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft^3/s Nov. 17, gage height, 7.43 ft; minimum daily, 1.3 ft^3/s Sept. 10, 16-18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	44	70	102	19	32	32	21	13	6.3	2.3	1.5
2	4.4	20	71	86	17	33	31	24	13	6.0	2.2	1.4
3	3.5	11	98	74	16	32	30	23	12	5.6	2.2	1.4
4	2.6	8.2	82	68	16	31	28	21	16	5.4	2.1	1.4
5	2.4	7.1	58	62	16	30	27	21	15	5.1	2.0	1.4
6	2.4	7.1	53	57	16	29	25	20	17	4.9	2.0	1.4
7	2.4	22	49	53	16	28	24	19	16	4.8	2.0	1.4
8	2.4	12	52	49	16	27	29	18	15	4.6	1.9	1.4
9	2.5	12	94	46	19	26	27	18	14	4.3	1.9	1.4
10	2.6	30	267	43	18	26	32	18	14	4.3	1.8	1.3
11	2.6	183	293	41	17	25	31	17	13	4.0	1.8	1.4
12	2.6	87	194	38	20	24	29	17	13	3.7	1.8	1.4
13	2.7	75	139	36	39	46	27	16	13	3.6	1.8	1.4
14	2.7	56	89	34	43	68	25	16	12	3.7	1.7	1.4
15	2.7	50	83	33	47	73	24	16	12	3.7	1.7	1.4
16	2.7	146	79	33	64	64	23	16	12	3.6	1.7	1.3
17	2.7	849	85	31	46	60	23	15	11	3.5	1.7	1.3
18	2.6	260	72	29	40	57	24	15	11	3.6	1.6	1.3
19	2.5	379	65	28	37	56	27	15	11	3.5	1.6	1.7
20	2.4	395	59	27	35	53	26	14	11	3.3	1.5	1.8
21	2.4	188	54	27	43	50	25	14	10	3.2	1.5	1.6
22	2.4	131	50	26	39	46	24	14	9.9	2.9	1.5	1.5
23	2.6	129	49	25	37	43	23	14	9.4	2.9	1.5	1.4
24	2.6	672	219	25	36	41	21	13	8.9	2.8	1.5	1.4
25	2.4	324	873	24	34	39	20	13	8.3	2.8	1.4	1.4
26	2.4	196	776	23	33	39	19	13	7.9	2.7	1.5	1.5
27	2.4	147	766	23	33	37	19	13	7.5	2.7	1.4	1.5
28	2.2	121	435	22	32	35	18	13	7.1	2.5	1.4	1.5
29	2.5	105	238	22	32	33	17	13	6.9	2.4	1.4	1.5
30	6.0	92	191	21	---	32	17	13	6.6	2.4	1.4	2.1
31	43	---	129	21	---	32	---	13	---	2.3	1.6	---
TOTAL	124.7	4758.4	5832	1229	876	1247	747	506	346.5	117.1	53.4	43.8
MEAN	4.02	159	188	39.6	30.2	40.2	24.9	16.3	11.6	3.78	1.72	1.46
MAX	43	849	873	102	64	73	32	24	17	6.3	2.3	2.1
MIN	2.2	7.1	49	21	16	24	17	13	6.6	2.3	1.4	1.3
AC-FT	247	9440	11570	2440	1740	2470	1480	1000	687	232	106	87

CAL YR 1983 TOTAL 37258.5 MEAN 102 MAX 1120 MIN 1.6 AC-FT 73900
WTR YR 1984 TOTAL 15880.9 MEAN 43.4 MAX 873 MIN 1.3 AC-FT 31500

11433260 NORTH FORK OF MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'27", long 120°43'03", in NE 1/4 NW 1/4 sec.35, T.14 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 1.0 mi downstream from El Dorado Canyon, and 4.8 mi east of Foresthill.

DRAINAGE AREA.--88.9 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft, 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.--19 years, 285 ft^3/s, 206,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,100 ft^3/s Jan. 13, 1980, gage height, 17.00 ft from floodmarks; minimum daily, 7.1 ft^3/s Sept. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,340 ft^3/s Nov. 17, gage height, 10.82 ft; minimum daily, 22 ft^3/s Sept. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	327	482	1180	172	325	289	286	102	65	37	29
2	96	180	482	881	166	334	270	361	100	63	37	28
3	69	93	695	715	161	334	258	365	96	61	37	27
4	51	70	698	675	158	334	263	352	120	60	36	26
5	47	60	581	656	155	325	259	325	123	59	36	26
6	45	54	518	606	147	321	255	296	118	57	36	26
7	44	112	480	587	147	317	253	285	132	56	35	25
8	44	83	540	610	144	312	312	279	110	54	35	25
9	44	70	960	515	190	312	308	292	102	53	34	25
10	45	161	1890	464	203	312	321	303	94	52	33	25
11	43	1450	1660	442	167	308	338	312	92	52	33	24
12	42	637	1350	424	187	300	338	320	90	51	33	25
13	41	742	984	399	432	448	304	300	88	50	33	24
14	41	581	881	389	504	702	300	270	96	49	33	24
15	41	399	821	361	491	729	304	245	102	49	33	24
16	41	819	742	361	767	662	317	220	86	48	34	23
17	41	6290	821	343	551	569	317	194	84	47	32	23
18	41	1550	695	330	476	539	334	187	80	47	32	22
19	41	1650	650	308	409	510	361	184	77	45	31	23
20	40	2180	600	300	379	521	330	181	77	45	30	25
21	40	1030	557	293	485	516	338	175	75	44	31	25
22	39	928	527	275	480	476	334	167	75	43	30	24
23	41	763	539	262	440	434	334	161	72	43	30	24
24	43	4070	1340	252	410	409	325	155	70	44	29	23
25	40	1870	6070	245	387	384	308	144	68	43	29	24
26	39	1050	5370	236	365	394	289	135	67	42	30	24
27	38	770	4920	225	343	370	282	126	66	41	29	24
28	38	682	2660	210	335	347	262	123	67	40	28	24
29	39	594	1450	198	321	330	255	118	66	39	28	24
30	70	539	2210	186	---	308	249	112	65	39	28	27
31	273	---	2010	178	---	304	---	107	---	38	31	---
TOTAL	1654	29704	44173	13106	9572	12786	9007	7080	2660	1519	1003	742
MEAN	53.4	990	1425	423	330	412	300	228	88.7	49.0	32.4	24.7
MAX	273	6290	6070	1180	767	729	361	365	132	65	37	29
MIN	38	54	480	178	144	300	249	107	65	38	28	22
AC-FT	3280	58920	87620	26000	18990	25360	17870	14040	5280	3010	1990	1470

CAL YR 1983 TOTAL 240442 MEAN 659 MAX 6730 MIN 37 AC-FT 476900
WTR YR 1984 TOTAL 133006 MEAN 363 MAX 6290 MIN 22 AC-FT 263800

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°00'23", long 120°45'40", in NW 1/4 NW 1/4 sec.4, T.13 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 1.7 mi downstream from Oxbow powerhouse, and 3.2 mi east of Foresthill.

DRAINAGE AREA.--524 mi^2.

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft, from topographic map. Prior to Oct. 22, 1965, at site 3.2 mi 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, and Ralston and Oxbow powerplants. Robbs Peak tunnel (station 11429800) and Georgetown Divide ditch, capacity, about 25 ft^3/s divert water out of basin above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--26 years, 1,207 ft^3/s, 874,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310,000 ft^3/s Dec. 23, 1964, gage height, 69.0 ft from floodmarks, site and datum then in use, caused by overtopping of the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 ft^3/s on basis of slope-area measurement at gage height 38.0 ft and slope-conveyance study at gage height 69.0 ft at site and datum then in use; next highest peak, 113,000 ft^3/s Feb. 1, 1963, gage height, 38.00 ft site and datum then in use; minimum, 35 ft^3/s Oct. 10-20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,900 ft^3/s Nov. 17, gage height, 15.20 ft; minimum daily, 124 ft^3/s Oct. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	1080	1820	5050	1560	1910	1950	1160	1390	888	973	766
2	1120	908	2090	4420	1520	1960	1950	1350	1360	959	878	787
3	1120	699	2760	3930	1470	1930	1860	1360	1380	955	841	783
4	1090	622	2860	3700	1450	1890	1820	1310	1430	901	788	845
5	1110	765	2270	3480	1440	1860	1850	1230	1410	942	834	782
6	1100	802	2410	3300	1410	1850	1780	1280	1430	1030	984	804
7	1090	736	2360	3110	1450	1830	1770	1200	1440	529	1010	819
8	1090	888	2470	2920	1420	1820	1880	1160	1410	756	697	770
9	1080	864	2910	2760	1550	1780	1600	1200	1360	949	674	758
10	819	921	5610	2620	1650	1820	1330	1120	1330	892	771	821
11	597	3300	5330	2510	1480	1750	1470	1160	1270	888	461	814
12	766	1960	4630	2400	1530	1770	1110	1200	1230	900	625	785
13	672	2290	3880	2350	2080	2130	1410	1160	1230	865	688	830
14	649	2090	3540	2280	2460	3230	1320	1150	1250	900	853	798
15	661	1650	3380	2160	2280	3130	1280	1400	1250	811	942	822
16	646	2090	3180	2190	3340	2840	1440	1290	1240	802	759	848
17	229	15500	3360	2080	2550	2740	1260	1510	1230	790	841	797
18	124	4830	3050	2020	2350	2570	1300	968	1230	783	795	805
19	157	4290	2850	1970	2180	2530	1380	585	1230	717	750	860
20	146	6310	2790	1920	2090	2500	1470	663	1230	771	835	815
21	144	3520	2590	1920	2430	2460	1310	1440	1200	737	883	799
22	142	2830	2500	1830	2260	2340	1270	1450	1230	779	775	820
23	140	2550	2540	1830	2190	2280	1260	1440	1190	910	785	862
24	130	9700	4010	1790	2150	2200	1210	1450	1220	872	760	817
25	133	5090	16200	1770	2110	2160	1340	1520	1190	831	815	806
26	138	3360	18400	1710	2030	2160	1250	1470	960	812	770	835
27	144	2880	15600	1680	2020	2140	1100	1480	996	953	749	841
28	140	2220	9360	1650	1940	2070	1010	1450	1070	946	800	773
29	165	2040	6370	1640	1950	2010	1210	1400	1100	1020	809	804
30	509	1760	6850	1600	---	1800	1220	1440	851	896	767	654
31	892	---	6700	1610	---	2000	---	1420	---	873	732	---
TOTAL	18043	88545	154670	76200	56340	67460	43410	39416	37337	26657	24644	24200
MEAN	582	2952	4989	2458	1943	2176	1447	1271	1245	860	795	807
MAX	1120	15500	18400	5050	3340	3230	1950	1520	1440	1030	1010	886
MIN	124	622	1820	1600	1410	1750	1010	585	851	529	461	654
AC-FT	35790	175600	306800	151100	111800	133800	86100	78180	74060	52870	48880	48000

CAL YR 1983 TOTAL 1039643 MEAN 2848 MAX 18600 MIN 124 AC-FT 2062000
WTR YR 1984 TOTAL 656922 MEAN 1795 MAX 18400 MIN 124 AC-FT 1303000

11433420 MAINE BAR CANYON CREEK NEAR GREENWOOD, CA

LOCATION.--Lat 38°55'34", long 120°56'51", in NW 1/4 NW 1/4 sec.2, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, on right bank 2.8 mi northwest of Greenwood, and 4.5 mi northeast of Cool.

DRAINAGE AREA.--0.76 mi^2.

PERIOD OF RECORD.--March to September 1972 (discharge measurements only), October 1972 to September 1983, June 28, 1984 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,520 ft, from topographic map.

REMARKS.--Records fair. Beginning June 28, 1984 low flow regulated by Indian Bow Lake.

AVERAGE DISCHARGE.--11 years (water years 1973-83), 1.14 ft^3/s, 826 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 263 ft^3/s Jan. 13, 1980, gage height, 2.35 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge during period June 28 to September, 1.5 ft^3/s June 29; minimum daily, .01 ft^3/s Aug. 13, Sept. 3, 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.73	.04	.09
2									---	.10	.05	.03
3									---	.07	.04	.01
4									---	.08	.04	.01
5									---	.09	.04	.02
6									---	.09	.04	.03
7									---	.09	.04	.04
8									---	.16	.04	.04
9									---	.18	.05	.05
10									---	.17	.04	.05
11									---	.18	.04	.05
12									---	.19	.02	.07
13									---	.05	.01	.07
14									---	.03	.02	.04
15									---	.07	.02	.04
16									---	.08	.04	.05
17									---	.09	.03	.04
18									---	.11	.03	.03
19									---	.09	.02	.08
20									---	.10	.03	.11
21									---	.13	.04	.12
22									---	.14	.04	.10
23									---	.07	.04	.08
24									---	.02	.04	.10
25									---	.03	.02	.10
26									---	.04	.03	.10
27									---	.03	.03	.09
28									.11	.02	.03	.09
29									.72	.02	.03	.12
30									1.5	.02	.11	.17
31									---	.03	.16	---
TOTAL									---	3.30	1.25	2.02
MEAN									---	.11	.040	.067
MAX									---	.73	.16	.17
MIN									---	.02	.01	.01
AC-FT									---	6.5	2.5	4.0

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA

LOCATION.--Lat 38°55'05", long 121°00'51", in NE 1/4 SW 1/4 sec.6, T.12 N., R.9 E., Placer County, Hydrologic Unit 18020128, on right bank at quarry, 1.4 mi upstream from mouth, and 3.3 mi northeast of Auburn.

DRAINAGE AREA.--614 mi^2.

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 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 upstream at different datum.

REMARKS.--Records good except those for Dec. 25-28, which are fair. Natural flow affected by French Meadows Reserv (station 11427400), Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), Stumpy Meadows Lake, usable capacity, 20,000 acre-ft, 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.--73 years, 1,350 ft^3/s, 978,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 253,000 ft^3/s Dec. 23, 1964, gage height, 60.4 ft from floodmarks, from rating curve extended above 69,000 ft^3/s on basis of slope-area measurement of maximum flow (caused by overtopping of the partly constructed Hell Hole Dam); next highest peak, 121,000 ft^3/s Feb. 1, 1963, gage height, 43.1 ft from floodmarks, site and datum then in use; maximum gage height, 102.65 ft Jan. 14, 1980, backwater from Auburn Dam (under construction); minimum discharge, 20 ft^3/s Sept. 6, 1931, Sept. 19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 20,100 ft^3/s Dec. 26; minimum daily, 164 ft^3/s Oct. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1230	1750	5390	1610	1850	1820	1160	1330	856	905	720
2	1160	1080	2020	4640	1550	1870	1800	1370	1320	884	867	740
3	1180	856	2790	4120	1480	1850	1750	1310	1330	976	784	736
4	1150	797	3140	3790	1460	1820	1720	1320	1310	837	812	794
5	1140	892	2400	3530	1440	1790	1700	1220	1330	854	879	735
6	1140	911	2420	3320	1440	1770	1680	1240	1350	1010	1000	756
7	1130	876	2360	3100	1420	1750	1660	1170	1390	816	938	770
8	1130	1030	2510	2910	1440	1740	1750	1120	1380	475	770	724
9	1110	988	2660	2720	1550	1700	1680	1190	1320	883	640	713
10	1050	1090	6760	2570	1680	1700	1290	1070	1160	899	741	772
11	463	3600	6290	2460	1520	1690	1490	1150	1260	914	838	765
12	855	2020	5440	2350	1530	1660	1190	1120	1260	899	254	738
13	777	2430	4210	2240	1970	1870	1360	1080	1170	859	735	780
14	683	2220	3740	2180	2830	3130	1340	1080	1240	950	902	750
15	680	1660	3500	2110	2280	3060	1350	1310	1260	744	881	773
16	714	1740	3200	2120	3520	2820	1440	1220	1240	815	829	797
17	514	9390	3370	2040	2730	2780	1330	1400	1220	804	780	749
18	164	6020	3060	1970	2370	2540	1350	1090	1250	773	758	757
19	200	3700	2800	1930	2160	2430	1510	559	1110	754	705	808
20	190	7510	2650	1860	2060	2380	1520	535	1190	701	785	796
21	188	3970	2500	1860	2550	2330	1350	1170	1180	714	830	751
22	181	3020	2380	1840	2400	2210	1300	1370	1180	767	729	771
23	181	2580	2490	1790	2240	2130	1300	1330	1170	829	738	810
24	180	6670	4180	1770	2130	2050	1260	1330	1210	880	714	768
25	169	5880	11400	1760	2100	2020	1330	1400	1170	819	766	837
26	175	3680	20100	1710	2000	1970	1280	1390	933	760	724	796
27	185	3090	15700	1680	1970	1980	1150	1370	970	876	704	809
28	187	2380	10600	1660	1900	1900	1030	1330	1040	902	752	748
29	181	2110	6890	1660	1900	1850	1170	1340	1070	965	760	780
30	366	1860	6730	1620	---	1660	1210	1320	849	859	721	784
31	1010	---	7340	1640	---	1860	---	1350	---	827	688	---
TOTAL	19593	85280	157580	76340	57230	64160	43130	37414	36192	25901	23929	23027
MEAN	632	2843	5083	2463	1973	2070	1438	1207	1206	836	772	768
MAX	1180	9390	20100	5390	3520	3130	1820	1400	1390	1010	1000	837
MIN	164	797	1750	1620	1420	1660	1030	535	849	475	254	713
AC-FT	38860	169200	312600	151400	113500	127300	85550	74210	71790	51370	47460	45670

CAL YR 1983 TOTAL 1123077 MEAN 3077 MAX 20100 MIN 164 AC-FT 2228000
WTR YR 1984 TOTAL 649776 MEAN 1775 MAX 20100 MIN 164 AC-FT 1289000

NOTE.--No gage-height record Dec. 25-28.

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA

LOCATION.--Lat 38°52'24", long 121°03'13", in SE 1/4 SW 1/4 sec.23, T.12 N., R.8 E., El Dorado County, Hydrologic Unit 18020128, on left bank 1,300 ft upstream from Knickerbocker Creek, 4,000 ft downstream from Auburn damsite, and 2.0 mi southeast of Auburn. Prior to Oct. 7, 1983, at site on right bank.

DRAINAGE AREA.--973 mi^2.

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

REVISED RECORDS.--WDR CA-80-4: 1973-75(M), 1978(M), 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Records fair. Natural flow of stream affected by many reservoirs and diversions (see REMARKS for stations 11427000, 11433500).

AVERAGE DISCHARGE.--12 years, 2,355 ft^3/s, 1,706,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,700 ft^3/s Jan. 14, 1980, gage height, 87.5 ft from floodmarks, affected by temporary storage at Auburn damsite; minimum daily, 51 ft^3/s July 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,000 ft^3/s Dec. 26, gage height, 79.83 ft; minimum daily, 240 ft^3/s Oct. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1310	2460	2830	9870	2170	2830	2910	2090	2430	1120	995	802
2	1320	2130	3000	8140	2090	2860	2780	2770	2330	1120	977	858
3	1410	1290	4420	7080	1990	2830	2660	2650	2320	1220	870	870
4	1290	1080	5020	6140	1970	2770	2670	3170	2370	1050	900	909
5	1260	1110	3750	5880	1940	2720	2620	2710	2710	1050	951	847
6	1240	1090	3590	5470	1950	2650	2600	2560	2520	1200	1090	820
7	1240	1260	3520	5030	1920	2660	2530	2440	2750	1090	1040	830
8	1220	1420	3830	4640	1920	2620	2790	2530	2570	615	882	790
9	1210	1260	4480	4310	2070	2610	2820	2850	2440	1010	732	824
10	1150	1470	11400	4030	2490	2580	2270	2730	2300	999	812	830
11	573	8490	10700	3830	2110	2570	2630	2890	2150	1100	1010	875
12	962	4020	9310	3610	2100	2480	2410	3140	2080	1060	283	851
13	879	4850	7040	3410	3060	2720	2380	3080	2040	1020	717	849
14	786	3700	6210	3260	5270	6090	2440	3060	1940	1090	970	841
15	782	2670	5790	3140	3850	5380	2660	3000	1980	889	958	849
16	810	3150	5210	3120	6050	4940	2950	2500	1880	959	900	865
17	613	23300	5480	3000	4740	4770	2760	2470	1800	945	850	848
18	254	10400	4870	2850	3920	4330	2680	2370	1760	915	854	848
19	289	6720	4350	2770	3500	4060	2940	1790	1690	891	800	857
20	277	13500	4100	2660	3260	4090	2760	1980	1650	828	850	887
21	273	6870	3760	2620	4210	4120	2440	2680	1590	837	890	844
22	265	4960	3540	2580	4090	3870	2300	2830	1580	880	803	810
23	266	4140	3680	2490	3710	3580	2350	2760	1540	940	827	895
24	266	15000	6800	2410	3410	3430	2660	2870	1560	1000	780	864
25	256	11200	25300	2420	3320	3400	2580	2690	1520	955	830	900
26	259	6540	34000	2380	3100	3350	2360	2630	1270	875	790	853
27	269	5150	27400	2280	3000	3510	2150	2550	1290	985	770	867
28	244	4040	17900	2240	2970	3160	1950	2510	1300	1010	820	807
29	240	3520	11900	2230	2900	3070	2010	2580	1340	1070	877	837
30	364	3080	12400	2190	---	2730	2110	2600	1150	963	830	850
31	1700	---	14400	2200	---	2950	---	2570	---	918	865	---
TOTAL	23277	159870	269980	118280	89080	105730	76170	82050	57850	30604	26523	25477
MEAN	751	5329	8709	3815	3072	3411	2539	2647	1928	987	856	849
MAX	1700	23300	34000	9870	6050	6090	2950	3170	2750	1220	1090	909
MIN	240	1080	2830	2190	1920	2480	1950	1790	1150	615	283	790
AC-FT	46170	317100	535500	234600	176700	209700	151100	162700	114700	60700	52610	50530

CAL YR 1983 TOTAL 1881107 MEAN 5154 MAX 36000 MIN 240 AC-FT 3731000
WTR YR 1984 TOTAL 1064891 MEAN 2910 MAX 34000 MIN 240 AC-FT 2112000

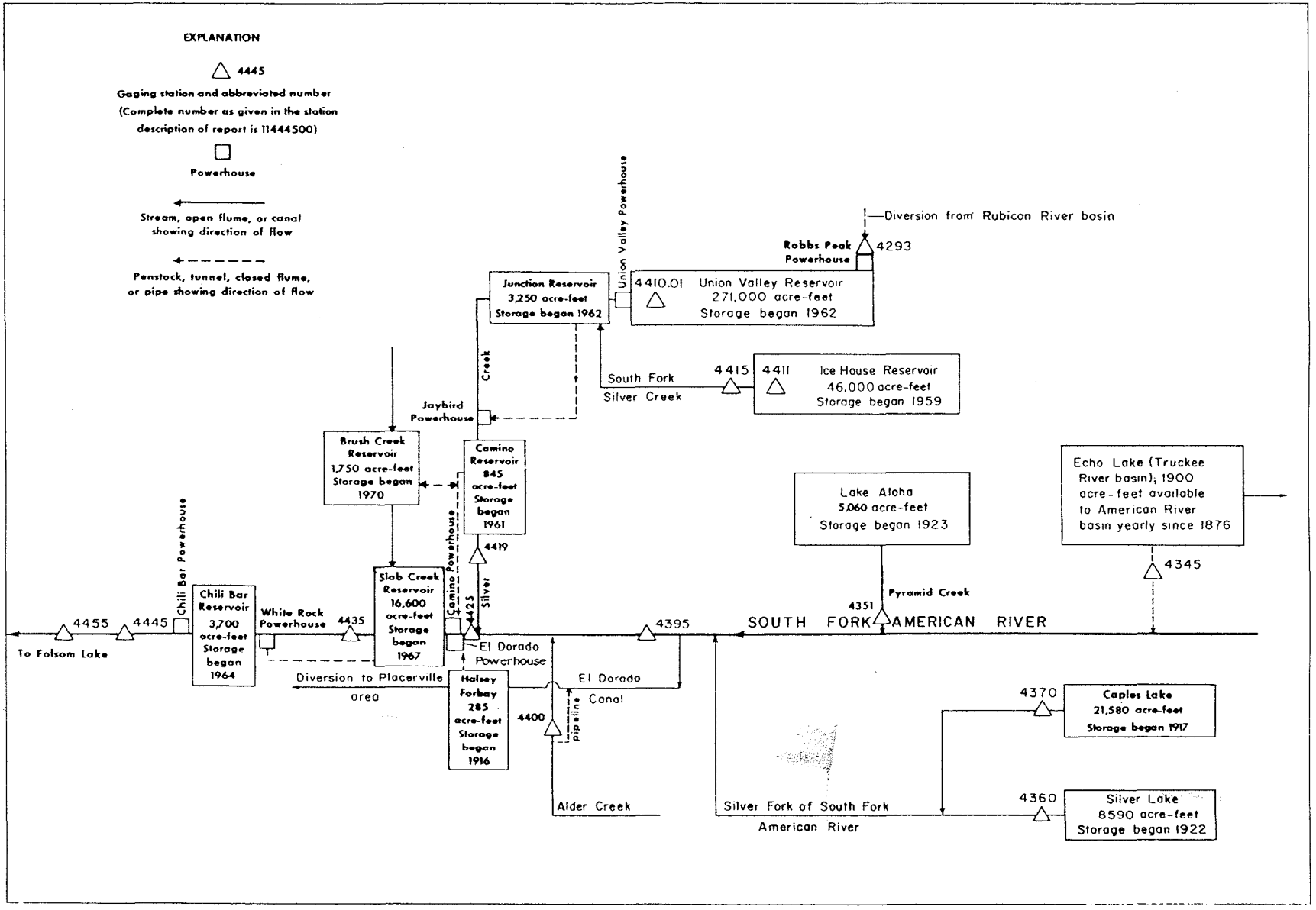

FIGURE 12.--Schematic diagram showing diversions and storage in South Fork American River basin.

11434500 ECHO LAKE CONDUIT NEAR PHILLIPS, CA

LOCATION.--Lat 38°49'52", long 120°02'12", in NW 1/4 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 downstream from intake, and 2.4 mi 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, from topographic map. Prior to July 16, 1929, nonrecording gage at site 0.4 mi upstream at different datum.

REMARKS.--Conduit diverts from Echo Lake, capacity, 1,900 acre-ft in Truckee River basin into South Fork American River basin 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 ft^3/s Sept. 10, 11, 1980; no flow for most of each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	19										0
2	26	21										0
3	28	21										0
4	28	20										0
5	28	19										0
6	27	18										0
7	27	15										0
8	27	16										0
9	27	16										0
10	27	8.0										0
11	26	3.9										0
12	26	3.7										0
13	26	3.6										0
14	26	1.8										0
15	26	0										14
16	25	0										32
17	25	0										30
18	25	0										30
19	25	0										30
20	25	0										29
21	24	0										29
22	24	0										28
23	23	0										28
24	22	0										27
25	22	0										17
26	21	0										18
27	20	0										26
28	19	0										26
29	17	0										25
30	13	0										25
31	14	---										---
TOTAL	746	186.0	0	0	0	0	0	0	0	0	0	414
MEAN	24.1	6.20	0	0	0	0	0	0	0	0	0	13.8
MAX	28	21	0	0	0	0	0	0	0	0	0	32
MIN	13	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1480	369	0	0	0	0	0	0	0	0	0	821

CAL YR 1983 TOTAL 1059.00 MEAN 2.90 MAX 28 MIN 0 AC-FT 2100
WTR YR 1984 TOTAL 1346.00 MEAN 3.68 MAX 32 MIN 0 AC-FT 2670

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA

LOCATION.--Lat 38°48'57", long 120°06'58", in NW 1/4 SW 1/4 sec.9, T.11 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.5 mi northeast of Twin Bridges, and 2.2 mi west of Phillips.

DRAINAGE AREA.--8.76 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,320 ft, from topographic map.

REMARKS.--Flow regulated by Lake Aloha, capacity, 5,060 acre-ft. Lake of the Woods, Ropi Lake, and Toem Lake (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.--14 years, 42.4 ft^3/s, 30,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 858 ft^3/s June 26, 1971, gage height, 4.62 ft, from rating curve extended above 300 ft^3/s; minimum daily, 0.07 ft^3/s Sept. 20-24, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 395 ft^3/s June 4, gage height, 3.40 ft; minimum daily, 4.0 ft^3/s Sept. 28-29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	102	23	29	19	18	21	32	190	68	82	35
2	84	56	23	25	18	19	21	33	186	72	82	26
3	81	30	22	24	18	19	23	79	177	71	80	17
4	76	28	29	25	18	18	24	77	272	67	82	14
5	67	23	23	28	19	18	22	56	211	72	91	12
6	67	22	23	28	19	20	21	52	192	90	90	11
7	64	64	21	26	19	22	27	63	157	105	89	8.2
8	61	25	22	25	19	23	30	89	152	97	91	6.5
9	58	24	23	24	19	24	25	105	160	81	95	5.8
10	53	39	27	23	19	24	23	110	157	70	94	5.5
11	45	117	27	22	18	23	23	140	155	66	92	5.1
12	40	69	25	20	20	20	25	132	159	62	92	4.9
13	35	44	27	20	22	24	31	151	160	58	92	4.8
14	30	37	31	19	22	23	44	150	146	63	90	4.8
15	21	30	29	19	22	22	62	148	122	66	89	4.6
16	16	49	26	19	23	20	80	125	161	66	87	4.5
17	13	101	25	18	21	20	71	137	134	73	86	4.5
18	11	49	23	18	19	19	45	156	126	74	85	4.7
19	10	96	22	17	18	21	33	180	125	64	83	5.1
20	8.6	98	20	17	18	28	28	208	111	59	82	5.0
21	7.3	46	19	17	18	35	27	200	104	56	81	4.8
22	6.6	31	19	17	18	29	34	193	101	51	78	4.6
23	9.6	32	21	17	17	26	44	219	109	43	77	4.4
24	15	112	34	18	17	29	49	207	114	41	76	4.3
25	10	60	76	19	17	29	40	190	104	39	74	4.2
26	8.2	35	87	18	17	52	29	187	89	40	71	4.2
27	7.5	29	53	17	17	35	25	189	78	59	68	4.1
28	6.8	26	32	17	16	29	23	203	87	73	63	4.0
29	6.4	25	34	18	16	27	24	218	85	71	57	4.0
30	22	23	56	18	---	24	27	228	71	72	50	4.4
31	67	---	42	19	---	23	---	215	---	83	42	---
TOTAL	1095.0	1522	964	641	543	763	1001	4472	4195	2072	2491	232.0
MEAN	35.3	50.7	31.1	20.7	18.7	24.6	33.4	144	140	66.8	80.4	7.73
MAX	88	117	87	29	23	52	80	228	272	105	95	35
MIN	6.4	22	19	17	16	18	21	32	71	39	42	4.0
AC-FT	2170	3020	1910	1270	1080	1510	1990	8870	8320	4110	4940	460

CAL YR 1983 TOTAL 24660.0 MEAN 67.6 MAX 277 MIN 6.4 AC-FT 48910
WTR YR 1984 TOTAL 19991.0 MEAN 54.6 MAX 272 MIN 4.0 AC-FT 39650

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION (REVISED).--Lat 38°40'18", long 120°07'19", in NE 1/4 SW 1/4 sec.32, T.10 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 1,000 ft downstream from Silver Lake Dam, and 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WDR CA-75-4: 1927(M), 1929(M), 1932(M), 1937-38(M), 1940-45(M), 1950-53(M), 1955-58(M), 1963(M), 1965(M), 1967(M), 1969-70(M), 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 7,198.0 ft (revised) National Geodetic Vertical Datum of 1929 (level by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Silver Lake 1,000 ft upstream, capacity, 3,840 acre-ft at spillway level and 8,590 acre-ft with 11 ft of flashboards; contents in Silver Lake were 4,571 acre-ft Sept. 30, 1983, and 4,454 acre-ft Sept. 30, 1984. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation and is measured at staff gage 0.25 mi east of station. For leakage from Silver Lake, refer to listed annual figures below; not included in average discharge. 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.--62 years, 35.7 ft^3/s, 25,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft^3/s Nov. 21, 1950, gage height, 6.03 ft, from rating curve extended above 430 ft^3/s; no flow many days in February and March 1948, Jan. 13, 14, 1954, Nov. 3, 1959, to Feb. 5, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 512 ft^3/s May. 30, gage height, 4.28 ft; minimum daily, 0.52 ft^3/s Aug. 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	45	58	61	39	2.6	44	58	188	2.3	1.5	3.6
2	97	47	57	56	38	2.6	38	61	141	1.9	2.1	3.3
3	75	47	57	54	38	2.6	35	78	135	1.7	.86	3.0
4	59	47	57	54	37	2.6	37	126	188	1.9	.52	7.6
5	43	47	56	54	37	2.6	38	143	155	2.1	.76	16
6	34	46	56	54	11	2.7	37	139	99	1.5	1.1	21
7	35	46	55	53	2.2	2.8	39	147	99	1.2	1.7	27
8	59	46	54	53	2.0	3.0	54	125	98	1.2	2.1	27
9	65	45	54	53	2.2	3.0	52	75	93	1.5	3.3	27
10	59	45	53	52	2.2	3.0	48	78	73	1.9	3.0	27
11	58	51	53	51	2.0	3.0	41	81	46	3.6	2.8	30
12	57	52	53	51	2.0	3.0	39	86	28	5.0	2.3	34
13	56	53	52	50	2.0	3.3	41	93	30	2.8	2.3	32
14	55	53	52	49	2.2	3.3	60	115	31	1.4	2.5	29
15	54	53	52	49	2.2	3.2	95	129	33	1.2	2.5	30
16	54	54	52	48	2.2	3.5	131	126	96	1.5	2.1	33
17	53	57	52	48	2.2	3.7	160	123	145	2.1	1.7	37
18	52	57	52	47	2.2	3.2	137	109	126	2.5	1.5	39
19	51	60	52	46	2.2	3.3	111	108	114	1.9	1.4	38
20	50	111	49	46	2.2	3.3	87	143	100	1.7	1.2	37
21	49	105	48	44	2.4	6.8	68	288	98	1.9	1.7	37
22	48	86	47	43	2.4	18	63	253	79	1.2	2.5	39
23	47	74	47	43	2.4	25	76	219	55	2.5	1.7	40
24	45	111	48	42	2.4	32	102	297	37	3.6	1.5	43
25	44	141	52	42	2.4	40	107	301	67	2.1	3.0	20
26	44	107	55	41	2.4	55	90	290	112	1.5	4.7	47
27	43	85	56	41	2.4	64	76	278	45	1.5	4.4	64
28	41	71	57	40	2.5	60	62	276	12	1.7	4.4	70
29	40	62	58	39	2.6	58	54	280	12	1.7	4.4	69
30	40	59	60	40	---	53	54	417	6.2	1.1	4.1	68
31	41	---	64	39	---	49	---	359	---	1.2	3.9	---
TOTAL	1665	1963	1668	1483	251.9	521.1	2076	5401	2541.2	60.9	73.54	998.5
MEAN	53.7	65.4	53.8	47.8	8.69	16.8	69.2	174	84.7	1.96	2.37	33.3
MAX	117	141	64	61	39	64	160	417	188	5.0	4.7	70
MIN	34	45	47	39	2.0	2.6	35	58	6.2	1.1	.52	3.0
AC-FT	3300	3890	3310	2940	500	1030	4120	10710	5040	121	146	1980
a	0	0	0	0	0	0	0	423	742	781	453	139

CAL YR 1983 TOTAL 32191.90 MEAN 88.2 MAX 469 MIN 1.9 AC-FT 63850 AC-FT a 2140
WTR YR 1984 TOTAL 18703.14 MEAN 51.1 MAX 417 MIN .52 AC-FT 37100 AC-FT a 2540

a Leakage, in acre-feet, from Silver Lake.

11437000 CAPLES LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION (REVISED).--Lat 38°42'31", long 120°03'02", in NW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., Alpine County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 500 ft downstream from main dam and outlet gate of Caples Lake, and 1.3 mi east of Kirkwood.

DRAINAGE AREA.--13.5 mi^2.

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1969, published as Twin Lakes Outlet near Kirkwood.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control for outlet, and water-stage recorder for spillway. Altitude of gage is 7,730 ft (revised), from topographic map.

REMARKS.--Flow regulated by Caples Lake 500 ft upstream, capacity, 19,750 acre-ft at spillway level and 21,580 acre-ft with 3 ft of flashboards; contents in Caples Lake were 15,586 acre-ft Sept. 30, 1983, and 14,906 acre-ft Sept. 30, 1984. Flow over Caples Lake spillway and leakage occurred May 29 to Sept. 15, 915 acre-ft, and is included in the table below. 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).--62 years, 37.8 ft^3/s, 27,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum combined daily discharge for outlet and spillway, 669 ft^3/s June 3, 1969; minimum daily, 0.1 ft^3/s Mar. 25-31, 1944, Nov. 27, 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum combined daily discharge for outlet and spillway, 445 ft^3/s May 30; minimum daily, 6.2 ft^3/s Oct. 3.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	8.6	67	36	17	14	35	67	318	71	24	88
2	6.3	8.6	66	31	17	14	35	67	238	40	21	103
3	6.2	8.6	67	28	17	14	26	67	162	58	18	111
4	6.9	8.2	67	26	17	14	17	67	209	86	18	109
5	7.8	7.8	67	26	17	14	17	68	255	86	17	106
6	7.8	7.8	66	26	16	14	17	68	226	86	14	103
7	7.9	7.8	66	26	15	14	18	92	220	86	13	103
8	15	7.8	65	26	15	14	18	111	149	85	13	103
9	22	7.8	65	26	15	14	22	112	80	84	14	102
10	22	7.8	66	24	15	14	26	112	81	63	17	102
11	22	8.6	66	23	15	14	26	163	82	38	20	101
12	22	8.1	66	23	15	14	26	206	83	28	20	101
13	22	8.1	65	22	15	14	27	206	83	23	20	101
14	22	8.0	65	22	15	14	27	237	87	14	20	100
15	22	7.9	65	22	15	14	28	198	92	9.4	23	86
16	21	7.9	65	22	15	14	28	156	91	10	28	73
17	21	8.4	65	23	15	14	28	157	88	25	30	73
18	21	9.1	65	22	15	14	28	106	161	100	32	72
19	21	11	65	22	15	14	27	71	226	84	34	68
20	21	11	66	20	15	14	36	72	192	50	37	67
21	19	34	68	17	15	14	45	72	122	32	39	67
22	17	57	68	17	15	14	45	73	141	31	42	67
23	17	57	67	17	15	14	45	59	151	30	45	67
24	15	58	67	17	15	14	46	47	117	28	46	66
25	13	57	67	17	15	14	45	63	105	27	48	36
26	11	57	67	17	15	34	52	78	80	27	52	52
27	11	57	67	17	15	55	60	86	81	26	61	70
28	9.5	62	67	17	14	56	60	114	82	25	63	82
29	8.2	67	67	17	14	55	60	277	84	25	62	92
30	8.4	67	67	17	---	44	64	445	82	26	68	92
31	8.5	---	54	17	---	35	---	375	---	29	80	---
TOTAL	520.5	741.9	2041	683	444	629	1034	4092	4168	1432.4	1039	2563
MEAN	16.8	24.7	65.8	22.0	15.3	20.3	34.5	132	139	46.2	33.5	85.4
MAX	66	67	68	36	17	56	64	445	318	100	80	111
MIN	6.2	7.8	54	17	14	14	17	47	80	9.4	13	36
AC-FT	1030	1470	4050	1350	881	1250	2050	8120	8270	2840	2060	5080

CAL YR 1983 TOTAL 28838.4 MEAN 79.0 MAX 292 MIN 6.2 AC-FT 57200
WTR YR 1984 TOTAL 19387.8 MEAN 53.0 MAX 445 MIN 6.2 AC-FT 38460

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA

LOCATION.--Lat 38°45'49", long 120°19'39", in SW 1/4 SW 1/4 sec.29, T.11 N., R.15 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.8 mi downstream from Silver Fork of South Fork, and 1.9 mi southwest of Kyburz.

DRAINAGE AREA.--193 mi^2.

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, from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

REMARKS.--Flow at low and medium stages partly regulated by four reservoirs since beginning of record, total capacity, 37,100 acre-ft. 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: 62 years (water years 1923-84), 306 ft^3/s, 221,700 acre-ft/yr.
Combined river and diversion: 62 years (water years 1923-84), 421 ft^3/s, 305,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 17,400 ft^3/s Dec. 23, 1964, gage height, 10.92 ft, from rating curve extended above 6,300 ft^3/s on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.13 ft^3/s Nov. 26, 1977.
Combined flow: Maximum discharge, 17,500 ft^3/s Dec. 23, 1964; minimum daily, 10 ft^3/s Oct. 17, 19, 1929.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 5,880 ft^3/s Nov. 24, gage height, 8.11 ft; minimum daily, 5.2 ft^3/s Aug. 20, 21, 24, 25.
Combined flow: Maximum discharge, 5,880 ft^3/s Nov. 24; minimum daily, 93 ft^3/s Sept. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	846	659	1160	424	351	597	711	1670	263	18	5.9
2	406	467	663	998	394	383	565	807	1440	239	13	5.6
3	332	303	697	917	394	383	557	1110	1220	191	8.4	10
4	279	262	660	944	390	380	575	1170	1920	224	5.3	5.9
5	252	232	603	973	390	369	569	1070	1680	216	11	11
6	230	210	581	924	383	390	544	1030	1440	231	9.9	6.3
7	225	290	560	874	341	417	590	1140	1170	225	21	11
8	281	221	570	825	331	436	704	1380	1020	200	6.2	9.2
9	284	211	685	772	351	456	606	1440	885	164	10	7.2
10	257	284	751	739	345	457	608	1540	841	138	44	6.0
11	238	1790	881	695	328	452	569	1790	767	90	8.2	5.8
12	224	785	748	659	355	422	574	1910	733	72	8.1	7.5
13	215	684	737	629	468	659	620	2100	723	49	8.6	9.3
14	207	471	872	593	440	799	788	2070	768	41	7.1	6.1
15	193	431	824	578	481	640	1000	1660	805	37	5.4	5.9
16	181	709	740	568	515	556	1160	1330	885	30	6.2	5.9
17	174	2620	796	533	440	540	1220	1320	894	44	6.7	7.1
18	168	1080	717	509	409	510	1040	1390	870	108	5.5	14
19	164	1580	671	500	398	549	891	1550	938	106	5.3	21
20	160	2130	635	483	390	639	780	1810	823	73	5.2	11
21	155	1070	591	473	409	701	746	1920	698	28	5.2	7.2
22	150	844	568	454	380	630	790	1910	613	19	5.4	6.1
23	154	793	564	441	369	606	925	1990	638	12	5.3	5.8
24	176	2820	1050	442	362	651	1010	1930	576	16	5.2	5.8
25	150	1640	3400	448	348	681	915	1820	514	23	5.2	5.8
26	138	1100	2960	436	341	899	731	1780	530	6.7	5.5	25
27	132	919	2050	409	345	858	659	1740	436	6.9	5.6	34
28	128	819	1430	405	348	761	602	1860	372	15	8.4	38
29	123	747	1250	424	338	757	593	2030	365	11	6.1	42
30	199	694	1550	420	---	670	630	2330	307	7.3	5.7	48
31	406	---	1510	428	---	647	---	2160	---	20	5.6	---
TOTAL	6925	27052	30973	19653	11207	17649	22158	49798	26541	2905.9	276.3	389.4
MEAN	223	902	999	634	386	569	739	1606	885	93.7	8.91	13.0
MAX	544	2820	3400	1160	515	899	1220	2330	1920	263	44	48
MIN	123	210	560	405	328	351	544	711	307	6.7	5.2	5.6
AC-FT	13740	53660	61430	38980	22230	35010	43950	98770	52640	5760	548	772

CAL YR 1983 TOTAL 373572.0 MEAN 1023 MAX 5460 MIN 123 AC-FT 741000
WTR YR 1984 TOTAL 215527.6 MEAN 589 MAX 3400 MIN 5.2 AC-FT 427500

11439501 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 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	550	850	663	1160	430	359	606	789	1830	424	184	169
2	412	470	669	1000	400	391	572	885	1600	400	179	168
3	337	307	702	922	400	389	564	1190	1380	352	174	175
4	284	266	663	950	396	386	582	1250	2080	385	171	166
5	257	236	606	977	396	376	577	1150	1840	377	177	176
6	235	214	584	928	391	398	552	1110	1600	392	176	170
7	230	293	564	878	348	425	597	1220	1330	387	173	176
8	286	225	575	830	339	442	712	1480	1180	362	168	174
9	289	215	689	778	357	462	615	1570	1050	326	173	172
10	262	288	754	745	350	464	619	1650	1000	300	178	170
11	243	1790	884	699	333	460	576	1910	928	252	174	170
12	229	788	751	663	360	430	581	2040	894	234	174	174
13	221	687	741	633	474	665	627	2240	884	211	175	175
14	211	474	877	598	447	805	795	2210	931	203	173	170
15	197	434	827	584	487	647	1010	1800	967	199	169	165
16	186	712	743	575	521	564	1170	1420	1050	192	172	155
17	179	2620	799	537	447	548	1230	1470	1060	206	173	172
18	172	1080	721	514	418	516	1050	1550	1030	270	171	180
19	169	1580	674	505	407	555	898	1710	1100	268	169	187
20	166	2140	638	489	395	646	788	1970	984	235	168	177
21	159	1070	596	480	415	709	755	2080	859	190	169	173
22	154	847	573	463	386	639	798	2070	774	181	170	171
23	158	797	567	446	375	613	931	2150	799	174	170	171
24	181	2820	1050	447	368	658	1030	2090	737	178	168	171
25	154	1640	3400	453	356	689	959	1980	675	185	166	165
26	143	1100	2960	442	348	909	803	1940	691	165	170	93
27	137	924	2050	415	351	868	737	1900	598	169	171	172
28	133	825	1430	412	354	767	680	2020	533	180	174	194
29	129	751	1260	430	345	764	671	2190	526	176	166	207
30	204	698	1560	425	---	677	708	2490	469	172	161	213
31	410	---	1510	433	---	654	---	2320	---	185	167	---
TOTAL	7077	27141	31080	19811	11394	17875	22793	53844	31379	7930	5323	5171
MEAN	228	905	1003	639	393	577	760	1737	1046	256	172	172
MAX	550	2820	3400	1160	521	909	1230	2490	2080	424	184	213
MIN	129	214	564	412	333	359	552	789	469	165	161	93
AC-FT	14040	53830	61650	39300	22600	35460	45210	106800	62240	15730	10560	10260

CAL YR 1983 TOTAL 387522 MEAN 1062 MAX 5480 MIN 129 AC-FT 768600
WTR YR 1984 TOTAL 240818 MEAN 658 MAX 3400 MIN 93 AC-FT 477700

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION.--Lat 38°51'49", long 120°26'15", in NW 1/4 NW 1/4 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 upstream from Little Silver Creek, and 6.6 mi north of Riverton.

DRAINAGE AREA.--83.7 mi^2.

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 May 1962. Usable capacity, 270,300 acre-ft between elevations 4,645.0 ft, minimum operating level and 4,870.0 ft, top of radial spillway gates. Dead storage, 7,000 acre-ft. Reservoir receives water from the South Fork Rubicon River via Robbs Peak powerplant (station 11429300). 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 July 9, 1974, elevation, 4,870.6 ft; minimum since reservoir first filled, 18,300 acre-ft Jan. 13, 1977, elevation, 4,683.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 274,600 acre-ft June 29, 30, elevation, 4,869.1 ft; minimum, 179,500 acre-ft Sept. 30, elevation, 4,832.1 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	268000	235600	234600	239400	205600	195100	197000	186100	234300	274100	258200	222000
2	267700	234600	234000	238300	204600	195600	196500	187000	235600	273800	256800	221300
3	267100	234000	234000	237300	203900	195600	195600	189100	236700	273800	255400	220500
4	266200	233500	233300	236700	202700	194600	194900	190900	239100	273800	253700	219200
5	265400	232700	233300	236500	201700	193900	194400	191800	241600	273200	252900	217700
6	264200	231900	233300	235900	201200	193700	193700	193000	244000	273200	251500	215900
7	263400	231700	233300	235100	200500	193500	193200	193900	246200	272600	250100	213900
8	262200	230900	233500	234000	199300	193200	192800	194600	248200	272900	248700	212400
9	261100	230300	234300	233300	198800	193000	191800	196000	249800	272600	247600	211700
10	259900	230300	234300	232500	197900	193000	191600	197400	251200	272300	246500	210000
11	258800	234800	234600	231900	197000	192100	190900	198600	252600	272000	245400	208200
12	257700	236500	233500	230900	196000	191600	190500	200700	253700	271400	244600	206500
13	256500	238100	234000	229800	196300	192500	190000	203400	255100	270900	243200	204600
14	255400	238100	234800	228800	196000	193900	189800	204600	256200	270000	242100	202900
15	254000	238100	234600	227500	196500	194400	189800	206000	257400	269700	240800	201000
16	252900	240200	234300	226700	197900	194400	190000	207300	258200	269100	239400	200000
17	251500	244600	234600	225600	198100	194200	190200	208500	258800	268500	238600	198400
18	250400	244900	234300	224300	197700	193700	190500	210000	260500	267700	237300	196700
19	249300	242900	234000	223100	196300	193700	190200	211400	262500	267100	236500	195100
20	247900	242700	233800	221800	195800	194400	189800	213200	263900	266200	235100	193700
21	246800	240800	232500	220500	195600	194900	189300	214900	265600	265100	233800	191800
22	245400	239400	231700	218700	195100	195300	188600	216900	267100	265100	232500	190000
23	244300	238900	231700	217200	194600	195800	188600	219000	268800	264500	231400	189500
24	243200	242400	233300	216400	193900	196500	188600	220800	270000	263600	230100	187700
25	241800	241000	240000	214700	193200	197000	188400	222300	271400	263100	228500	185900
26	240800	239400	242700	213400	193000	198400	187700	223600	272300	262500	227700	184300
27	239400	238300	242900	212200	193500	198400	187000	225100	272600	261900	226400	182800
28	238300	237800	241000	210900	193900	198400	186600	227200	273800	261100	225400	181200
29	237000	236700	239900	209200	194400	198400	186100	229000	274600	261100	224300	179900
30	236200	235400	240800	207800	---	197900	185500	231100	274600	260500	223600	179500
31	235900	---	240800	206500	---	197900	---	233000	---	259600	222500	---
MAX	268000	244900	242900	239400	205600	198400	197000	233000	274600	274100	258200	222000
MIN	235900	230300	231700	206500	193000	191600	185500	186100	234300	259600	222500	179500
a	4855.3	4855.1	4857.1	4843.8	4838.7	4840.2	4834.8	4854.2	4869.1	4863.9	4850.2	4832.1
b	-32100	-500	+5400	-34300	-12100	+3500	-12400	+47500	+41600	-15000	-37100	-43000

CAL YR 1983 b +42000
WTR YR 1984 b -88500

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

11441100 ICE HOUSE RESERVOIR NEAR KYBURZ, CA

LOCATION.--Lat 38°49'26", long 120°21'34", in SE 1/4 SW 1/4 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 upstream from Peavine Creek, and 4.8 mi northwest of Kyburz.

DRAINAGE AREA.--27.2 mi^2.

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 between elevations 5,327.5 ft, centerline of fishwater outlet, and 5,450.0 ft, top of spillway gates. Dead storage, 160 acre-ft. 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 June 27, 1971, elevation, 5,450.6 ft; minimum since reservoir first filled, 1,450 acre-ft Dec. 8, 1983, elevation, 5,347.9 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,700 acre-ft June 18-24, elevation, 5,449.7 ft; minimum, 1,450 acre-ft Dec. 8, elevation, 5,347.9 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1940	2170	1540	8900	14100	15100	21000	28800	44200	45400	45100	43400
2	1900	2170	1520	9250	14100	15200	21200	29200	44500	45400	45100	43300
3	1810	2050	1560	9530	14100	15300	21400	29600	44800	45400	45000	43300
4	1680	1970	1600	9920	14100	15400	21600	30100	45200	45400	44900	43300
5	1630	1940	1620	10100	14100	15500	21800	30500	45400	45300	44900	43200
6	1600	1890	1570	9980	14100	15600	22000	30900	45400	45200	44800	43200
7	1600	2010	1460	10100	14000	15700	22200	31400	44900	45100	44800	43200
8	1600	2010	1450	10300	14000	15900	22400	32000	44600	45000	44800	43100
9	1600	2010	1620	10500	14000	16100	22700	32700	44600	45000	44700	43000
10	1600	2080	1780	10800	14000	16200	22900	33500	44500	44900	44600	43000
11	1590	2830	1940	11000	14000	16300	23100	34400	44500	44800	44600	42900
12	1560	2700	2050	11200	14000	16500	23300	35400	44400	44800	44600	42800
13	1530	2400	2150	11400	14100	16700	23500	36500	44400	44800	44500	42800
14	1530	2230	2340	11600	14100	17000	23800	37100	44400	44800	44400	42700
15	1530	2060	2500	11800	14100	17200	24200	37200	44500	44900	44400	42600
16	1520	2260	2640	12000	14200	17400	24600	37300	45100	44900	44400	42600
17	1520	3500	2770	12100	14200	17500	25200	37400	45400	44800	44300	42500
18	1490	3340	2880	12300	14200	17700	25500	37700	45700	44900	44300	42400
19	1470	4060	2940	12500	14200	17900	25800	38400	45700	45000	44200	42300
20	1460	4460	3050	12600	14100	18000	26000	39200	45700	45000	44200	42100
21	1470	4180	3240	12800	14100	18300	26200	39900	45700	45100	44100	42000
22	1490	3720	3430	12900	14200	18500	26600	40400	45700	45100	44000	41800
23	1500	3310	3650	13000	14300	18700	26800	40900	45700	45100	43900	41700
24	1530	4200	4200	13200	14400	19000	27200	41500	45700	45100	43900	41500
25	1540	4150	5900	13300	14500	19200	27400	41800	45500	45100	43900	41300
26	1540	3790	7120	13500	14700	19500	27700	42400	45400	45100	43800	41200
27	1560	3360	7480	13600	14800	19800	28000	43000	45400	45100	43700	41100
28	1560	2880	7330	13700	14900	20200	28100	43500	45400	45100	43700	40900
29	1560	2380	7180	13900	15000	20400	28300	43900	45400	45100	43600	40800
30	1600	1890	7900	14000	---	20600	28500	44100	45400	45100	43500	40700
31	1860	---	8480	14100	---	20800	---	44200	---	45100	43500	---
MAX	1940	4460	8480	14100	15000	20800	28500	44200	45700	45400	45100	43400
MIN	1460	1890	1450	8900	14000	15100	21000	28800	44200	44800	43500	40700
a	5350.6	5350.8	5376.8	5391.4	5393.7	5406.8	5422.2	5447.6	5449.2	5448.8	5446.5	5442.2
b	-150	+30	+6590	+5620	+900	+5800	+7700	+15700	+1200	-300	-1600	-2800

CAL YR 1983 b -21720
WTR YR 1984 b +38690

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

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA

LOCATION.--Lat 38°49'08", long 120°21'51", in NW 1/4 NW 1/4 sec.12, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft upstream from Peavine Creek, 0.4 mi downstream from Ice House Dam, and 4.8 mi northwest of Kyburz.

DRAINAGE AREA.--27.5 mi^2.

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1395: 1928, 1938. WSP 1635: Drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,290 ft, from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi upstream at different datum.

REMARKS.--Records good. Flow regulated by Ice House Reservoir beginning in December 1959 (station 11441100). See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Ice House Reservoir).--60 years, 78.1 ft^3/s, 56,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft^3/s Dec. 23, 1955, gage height, 6.71 ft site and datum then in use, from rating curve extended above 540 ft^3/s on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of Ice House Dam in 1959, 1,930 ft^3/s May 26, 1982, gage height, 5.74 ft, from rating curve extended above 730 ft^3/s on basis of computation of flow over dam at gage height 5.66 ft; minimum daily, 1.2 ft^3/s Mar. 17-19, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 411 ft^3/s June 6-8, gage height, 4.33 ft; minimum daily, 1.3 ft^3/s Jan. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	112	239	12	66	1.9	4.9	8.5	196	100	16	27
2	124	134	131	12	68	2.3	4.9	11	98	100	23	27
3	118	133	92	9.5	68	2.8	4.8	11	99	101	26	27
4	92	104	92	7.6	68	2.6	4.7	11	192	101	24	27
5	60	72	92	87	68	2.6	4.7	11	257	100	25	27
6	48	72	113	253	68	2.5	4.3	11	313	101	26	27
7	38	74	132	111	68	2.4	4.2	11	410	101	27	27
8	38	76	103	7.3	68	2.3	4.8	9.8	316	100	27	27
9	38	76	60	5.5	68	3.1	4.7	8.9	157	100	28	27
10	38	86	61	4.0	68	4.3	5.1	8.8	157	100	28	27
11	38	115	61	3.8	68	4.3	4.7	8.8	157	101	28	27
12	38	281	61	3.6	68	4.1	4.6	8.9	156	53	28	27
13	30	298	62	3.5	69	4.9	4.7	8.9	156	16	28	27
14	23	201	63	3.4	69	4.9	4.6	83	153	16	28	27
15	23	149	63	3.4	70	4.6	4.3	207	101	16	27	27
16	23	151	64	3.3	69	4.2	4.1	210	12	16	27	27
17	23	276	65	3.2	69	4.2	4.2	210	12	16	27	53
18	23	347	65	3.0	70	4.1	4.9	139	100	16	27	80
19	23	350	65	3.1	70	4.0	5.0	9.7	154	16	27	80
20	17	366	37	3.4	70	3.9	5.3	9.7	154	16	27	80
21	12	362	6.2	3.4	69	3.8	5.1	96	154	16	27	81
22	12	353	6.0	3.4	45	3.9	4.7	151	154	16	27	81
23	12	348	6.1	2.4	1.6	3.8	4.8	151	154	16	27	81
24	12	356	7.7	1.7	1.6	3.9	4.5	152	154	16	27	80
25	12	361	12	1.5	1.6	3.9	4.3	125	154	16	27	80
26	12	354	188	1.3	1.6	3.9	4.4	77	154	16	27	79
27	12	348	315	1.4	1.6	3.8	4.5	78	154	16	27	79
28	12	340	398	1.4	1.5	3.7	4.5	78	136	16	27	81
29	12	332	274	1.4	1.6	4.0	4.6	184	100	16	27	80
30	12	322	14	1.4	---	4.4	4.5	264	100	16	27	79
31	36	---	12	21	---	4.7	---	262	---	16	27	---
TOTAL	1140	6949	2960.0	582.9	1495.1	113.8	139.4	2615.0	4764	1462	821	1526
MEAN	36.8	232	95.5	18.8	51.6	3.67	4.65	84.4	159	47.2	26.5	50.9
MAX	129	366	398	253	70	4.9	5.3	264	410	101	28	81
MIN	12	72	6.0	1.3	1.5	1.9	4.1	8.5	12	16	16	27
AC-FT	2260	13780	5870	1160	2970	226	276	5190	9450	2900	1630	3030

CAL YR 1983	TOTAL	80829.3	MEAN	221	MAX	766	MIN	5.2	AC-FT	160300	MEAN a	191	AC-FT a	138600
WTR YR 1984	TOTAL	24568.2	MEAN	67.1	MAX	410	MIN	1.3	AC-FT	48730	MEAN a	120	AC-FT a	87420

a Adjusted for change in contents in Ice House Reservoir.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA

LOCATION.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft downstream from Round Tent Canyon, 0.4 mi downstream from diversion dam, and 5 mi northeast of Pollock Pines.

DRAINAGE AREA.--171 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft National Geodetic Vertical Datum of 1929 (Sacramento Municipal Utility District bench mark).

REMARKS.--Records good except November to April which are fair. Flow is regulated by Ice House Reservoir (statio 11441100) since 1959, Union Valley Reservoir, (station 11441001) since 1962, Junction and Camino reservoirs, an diversions to Camino powerplant since 1961. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (unadjusted).--24 years, 98.7 ft^3/s, 71,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft^3/s Jan. 31, 1963, gage height, 11.28 ft in gage well, 11.9 ft from floodmarks, from rating curve extended above 1,500 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft^3/s Nov. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,800 ft^3/s Nov. 17, gage height, 10.40 ft; minimum daily, 3.8 ft^3/s July 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	558	854	1470	13	20	16	17	19	19	25	23
2	20	425	411	1010	11	20	16	20	19	20	24	24
3	20	25	363	758	10	21	15	19	19	20	24	24
4	20	17	422	554	11	22	15	19	20	20	25	23
5	20	10	87	492	11	20	16	18	20	19	25	23
6	20	10	30	780	11	20	15	17	20	22	27	23
7	20	11	25	516	9.9	19	14	16	20	21	25	23
8	20	13	22	207	11	19	15	15	19	20	26	23
9	20	16	33	145	13	18	16	15	19	21	25	22
10	20	15	705	87	12	18	19	15	19	23	24	20
11	20	30	673	26	11	17	19	15	19	26	26	22
12	20	20	536	19	13	16	17	13	18	16	29	22
13	20	29	91	18	21	26	17	12	19	3.8	28	22
14	20	24	35	19	23	43	16	14	19	15	26	20
15	20	18	30	19	30	45	14	16	20	27	26	21
16	20	27	135	20	44	40	14	19	20	29	25	21
17	20	4470	170	21	34	38	14	21	20	30	25	21
18	20	2800	165	20	31	35	13	20	20	31	24	20
19	20	2420	87	18	28	32	18	19	20	31	26	20
20	20	3070	25	14	26	29	19	20	20	30	26	20
21	20	2350	24	15	31	26	18	19	19	30	24	20
22	20	1790	24	17	27	24	18	19	20	30	23	20
23	20	1510	24	17	25	23	18	20	21	30	23	21
24	20	3220	105	15	26	23	17	19	20	29	24	21
25	20	2850	1580	14	26	20	16	19	20	29	24	20
26	20	1940	3830	14	25	20	16	19	20	29	23	20
27	20	1560	4210	13	25	18	16	19	20	28	23	20
28	20	1320	2660	13	21	15	16	19	19	29	23	21
29	20	1140	1890	13	20	16	15	20	20	30	23	20
30	21	956	1690	14	---	17	15	20	20	28	23	20
31	24	---	1680	14	---	17	---	20	---	27	23	---
TOTAL	625	32644	22616	6372	599.9	737	483	553	588	762.8	767	640
MEAN	20.2	1088	730	206	20.7	23.8	16.1	17.8	19.6	24.6	24.7	21.3
MAX	24	4470	4210	1470	44	45	19	21	21	31	29	24
MIN	20	10	22	13	9.9	15	13	12	18	3.8	23	20
AC-FT	1240	64750	44860	12640	1190	1460	958	1100	1170	1510	1520	1270

CAL YR 1983 TOTAL 169277 MEAN 464 MAX 4470 MIN 10 AC-FT 335800
WTR YR 1984 TOTAL 67387.7 MEAN 184 MAX 4470 MIN 3.8 AC-FT 133700

11442500 SOUTH FORK AMERICAN RIVER BELOW SILVER CREEK, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°47'37", long 120°37'02", in NE 1/4 NE 1/4 sec.22, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 350 ft upstream from El Dorado powerhouse, 2.4 mi downstream from Silver Creek, and 2.8 mi northwest of Pollock Pines.

DRAINAGE AREA.--449 mi^2.

PERIOD OF RECORD.--August to December 1923 (published as "below Silver Creek"), November 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,862.79 ft 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).--14 years, 564 ft^3/s, 408,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft^3/s Jan. 13, 1980, gage height, 17.83 ft, from rating curve extended above 13,000 ft^3/s; minimum daily, 9.6 ft^3/s Oct. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,000 ft^3/s Nov. 17, gage height, 14.00 ft; minimum daily, 37 ft^3/s Sept. 16-18, 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	589	1440	1690	3340	515	535	768	877	1790	327	62	40
2	480	1070	1250	2530	499	567	733	1040	1530	303	59	40
3	407	393	1460	2110	485	566	709	1180	1280	260	53	40
4	347	333	1450	1830	473	560	724	1450	1800	269	49	43
5	315	294	1000	1780	469	536	721	1260	1890	263	46	41
6	291	269	843	1970	469	546	694	1150	1520	285	50	43
7	276	314	786	1660	437	565	703	1160	1250	281	50	42
8	322	294	773	1300	424	583	868	1430	1100	263	65	43
9	318	259	1000	1150	454	596	764	1540	912	228	47	43
10	318	323	2080	1030	462	599	786	1640	907	203	54	53
11	299	2120	2220	926	429	594	743	1820	815	167	79	41
12	282	910	1850	853	451	565	729	2050	773	140	51	38
13	272	1040	1270	809	645	780	738	2150	756	153	50	39
14	265	656	1270	766	693	1360	854	2260	762	148	49	40
15	253	559	1200	745	753	1110	1060	1900	847	109	46	39
16	240	754	1140	749	1070	955	1270	1450	882	88	45	37
17	231	8370	1360	692	786	942	1380	1350	935	88	43	37
18	225	4710	1190	659	700	872	1200	1440	881	133	42	37
19	221	4420	1060	652	662	867	1100	1550	975	165	43	51
20	215	6610	918	618	631	929	958	1850	891	144	43	56
21	211	4030	845	612	782	991	909	2020	771	109	40	46
22	205	3080	810	589	677	905	929	2010	628	77	40	40
23	203	2630	811	571	650	849	1030	2030	672	69	40	39
24	221	7610	1510	561	629	872	1150	2090	629	60	40	38
25	211	5800	7430	569	599	890	1110	1880	556	64	40	37
26	196	3700	9900	552	570	1030	947	1890	583	78	40	41
27	188	2940	8360	528	568	1100	874	1800	517	53	40	68
28	183	2490	5600	527	557	945	815	1930	410	50	39	70
29	179	2170	4110	521	538	942	789	2040	430	60	41	74
30	214	1850	4160	518	---	849	814	2380	376	57	42	80
31	387	---	4150	523	---	826	---	2320	---	51	40	---
TOTAL	8564	71438	73496	32240	17077	24826	26869	52937	28068	4745	1468	1376
MEAN	276	2381	2371	1040	589	801	896	1708	936	153	47.4	45.9
MAX	589	8370	9900	3340	1070	1360	1380	2380	1890	327	79	80
MIN	179	259	773	518	424	535	694	877	376	50	39	37
AC-FT	16990	141700	145800	63950	33870	49240	53290	105000	55670	9410	2910	2730
a	40360	48390	72030	81260	65680	68510	75570	31400	15990	33390	52900	44980
b	0	615	1140	363	807	968	341	6650	8560	8140	8180	7650

CAL YR 1983 TOTAL 678894 MEAN 1860 MAX 10300 MIN 179 AC-FT 1347000
WTR YR 1984 TOTAL 343104 MEAN 937 MAX 9900 MIN 37 AC-FT 680500

a Diversion, in acre-feet, to Camino powerplant, furnished by Sacramento Municipal Utility District.
b Diversion, in acre-feet, to El Dorado powerplant, furnished by Pacific Gas and Electric Company.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION.--Lat 38°46'23", long 120°42'02", in NE 1/4 SW 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on right bank 500 ft downstream from Slab Creek Dam, 500 ft upstream from Iowa Canyon Creek, and 2.8 mi northwest of Camino.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for October 1922, published in WSP 1315-A. Records for the river and the American River flume, published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

REVISED RECORDS.--WSP 931: 1928, 1938, 1940(M). WSP 1931: Drainage area at former site.

GAGE.--Water-stage recorder. Altitude of gage is 1,620 ft, from topographic map. See WSP 2131 for history of changes prior to Oct. 12, 1966.

REMARKS.--Records fair. Flow regulated by six reservoirs, total usable capacity, 347,000 acre-ft. 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 each year from Truckee River basin. Variable amounts of El Dorado Canal water, up to 40 ft^3/s May to October, and about 7 ft^3/s remainder of the year, diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Consumnes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962 water is imported from the Upper Rubicon River basin by way of Robbs Peak tunnel (station 11429800). See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE.--37 years (water years 1923-59, prior to extensive regulation and transbasin diversion in South Fork American River basin), 961 ft^3/s, 695,700 acre-ft/yr, combined flow of South Fork American River and American River flume; 8 years (water years 1960-67, transition period prior to bypass to White Rock powerplant), 1,062 ft^3/s, 769,400 acre-ft/yr; 17 years (water years 1968-84), 159 ft^3/s, 115,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft^3/s Dec. 23, 1955, gage height, 32.6 ft from floodmarks, site and datum then in use, from rating curve extended above 24,000 ft^3/s on basis of computation of maximum flow over dam; minimum daily, 1.3 ft^3/s Aug. 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft^3/s Dec. 26, by computation of peak flow over dam; minimum daily, 33 ft^3/s Jan. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	38	38	1450	38	38	38	38	38	40	39	39
2	37	38	38	606	38	38	38	38	38	38	38	39
3	37	39	38	165	38	38	38	38	38	38	38	39
4	39	39	38	49	37	38	38	52	37	38	38	39
5	39	39	39	49	37	38	38	38	37	38	38	39
6	39	38	39	49	37	38	38	38	37	38	38	39
7	40	38	39	49	37	38	38	38	38	38	38	39
8	39	37	39	49	37	38	38	38	38	38	38	39
9	39	37	40	49	37	38	37	38	38	37	39	39
10	39	44	40	49	37	38	37	38	37	37	38	40
11	38	37	40	49	37	38	37	38	38	37	38	39
12	39	36	40	48	37	38	37	38	38	38	38	39
13	39	36	40	48	37	38	38	38	38	38	38	39
14	39	35	39	44	37	38	38	38	38	38	38	39
15	39	35	38	41	37	44	39	38	38	38	38	39
16	38	35	38	127	37	38	38	38	38	38	38	39
17	38	5210	38	34	37	38	38	38	38	38	38	39
18	39	2570	38	38	37	38	38	38	38	38	39	39
19	39	1600	38	42	37	38	37	38	38	42	38	38
20	40	4570	38	47	37	38	37	38	38	38	39	38
21	38	1560	38	44	37	38	37	38	38	38	39	44
22	37	626	38	41	40	38	38	38	38	59	39	39
23	37	61	38	38	38	38	38	38	42	38	38	39
24	37	5070	38	35	38	38	38	38	38	38	39	38
25	37	3750	3880	33	38	38	38	38	38	39	38	39
26	37	1270	9920	38	38	38	38	38	38	39	43	39
27	37	482	7970	38	38	38	37	38	38	39	39	39
28	38	82	4210	38	38	38	38	39	38	40	39	39
29	38	38	2430	38	38	38	38	38	38	40	39	39
30	38	38	2580	38	---	38	38	38	38	40	41	38
31	38	---	2540	38	---	38	---	38	---	39	38	---
TOTAL	1185	27528	34457	3501	1086	1184	1133	1193	1140	1212	1196	1172
MEAN	38.2	918	1112	113	37.4	38.2	37.8	38.5	38.0	39.1	38.6	39.1
MAX	40	5210	9920	1450	40	44	39	52	42	59	43	44
MIN	37	35	38	33	37	38	37	38	37	37	38	38
AC-FT	2350	54600	68350	6940	2150	2350	2250	2370	2260	2400	2370	2320

CAL YR 1983 TOTAL 238324 MEAN 653 MAX 9920 MIN 17 AC-FT 472700
WTR YR 1984 TOTAL 75987 MEAN 208 MAX 9920 MIN 33 AC-FT 150700

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA

LOCATION.--Lat 38°46'16", long 120°48'55", in NE 1/4 SW 1/4 sec.25, T.11 N., R.10 E., El Dorado County, Hydrologic Unit 18020129, on right bank 700 ft downstream from Chili Bar Dam, 0.5 mi upstream from Big Canyon, and 2.5 mi north of Placerville.

DRAINAGE AREA.--598 mi^2.

PERIOD OF RECORD.--August 1911 to July 1920, July 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 931.05 ft 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 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 ft^3/s, 820,100 acre-ft/yr; 20 years (water years 1965-84), 1,589 ft^3/s, 1,151,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s Dec. 23, 1964, gage height, 17.4 ft from floodmarks, from rating curve extended above 18,000 ft^3/s on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 ft^3/s Nov. 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 15,500 ft^3/s Dec. 26; minimum daily, 396 ft^3/s June 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	1780	4100	6350	2180	2590	2380	1780	3180	1080	1240	1250
2	1660	2720	2820	5450	2140	2500	2650	1720	2620	1350	1280	1280
3	1560	2200	2950	4870	2140	2090	2600	1900	2480	830	1180	695
4	1080	1590	2570	4560	2080	1860	2640	2360	1750	812	1240	716
5	521	1220	2350	4470	1280	2040	2590	2300	1960	926	764	754
6	1600	844	2180	4250	1650	2080	2350	1580	1950	636	854	1140
7	1010	1120	2100	4270	1850	2090	2430	2210	2450	760	1020	1140
8	809	1100	2470	3590	1840	2030	2210	2050	2370	649	1390	1290
9	1140	1010	2690	3400	1970	2110	2340	2450	1600	1120	1340	1160
10	1030	702	4150	3400	2220	2190	2440	2500	1040	1070	1170	1150
11	877	1350	3810	2740	2150	1830	2500	2610	1230	1210	910	791
12	533	3200	4430	2070	1450	2190	2410	2790	1530	1130	1330	1090
13	946	693	4190	2410	2040	2330	2370	2500	396	883	660	1160
14	584	1160	2810	2620	3400	3410	2550	2470	826	557	893	1120
15	597	1860	2920	1560	3000	3520	2280	3140	836	532	1210	1150
16	523	1720	2490	2400	3660	3100	2470	2810	573	972	1150	815
17	850	6970	2880	2620	2980	3280	2650	2260	851	1020	1180	1200
18	833	7380	2340	2280	2580	1490	2820	2290	1600	803	1250	585
19	850	5310	3140	2110	1200	2020	3140	1560	1450	835	1070	1050
20	763	9210	3410	2430	1820	2730	3080	1490	1290	765	640	1110
21	1010	6440	3170	2470	2770	3200	2460	3000	1710	600	1090	1070
22	776	5130	2680	1870	2670	2500	1530	3320	1650	643	1100	1110
23	747	4530	3260	2430	2670	3140	2650	2710	1180	1160	1150	1070
24	851	8550	3880	2210	2640	2720	3040	2880	925	1010	1220	989
25	900	12300	8210	2150	2530	1770	2510	2890	1240	848	1270	744
26	998	6250	15500	2350	1980	1620	2430	2300	1340	848	1270	651
27	882	5000	13400	2500	1960	1980	2980	2380	1670	989	845	751
28	987	4520	9660	2410	1460	1930	2360	2110	870	730	1010	1050
29	1030	4220	8020	1670	1750	2050	1930	2560	753	686	1150	1110
30	565	4100	7300	2070	---	2440	1940	2620	1160	825	1180	915
31	1010	---	7730	2230	---	2440	---	3170	---	583	1280	---
TOTAL	28982	114179	143610	92210	64060	73270	74730	74710	44480	26862	34336	30106
MEAN	935	3806	4633	2975	2209	2364	2491	2410	1483	867	1108	1004
MAX	1660	12300	15500	6350	3660	3520	3140	3320	3180	1350	1390	1290
MIN	521	693	2100	1560	1200	1490	1530	1490	396	532	640	585
AC-FT	57490	226500	284900	182900	127100	145300	148200	148200	88230	53280	68110	59720

CAL YR 1983 TOTAL 1318913 MEAN 3613 MAX 15800 MIN 457 AC-FT 2616000
WTR YR 1984 TOTAL 801535 MEAN 2190 MAX 15500 MIN 396 AC-FT 1590000

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA

LOCATION.--Lat 38°49'07", long 120°56'45", in NW 1/4 SW 1/4 sec.11, T.11 N., R.9 E., El Dorado County, Hydrologic Unit 18020129, on left bank 0.4 mi downstream from Greenwood Creek, 2.4 mi northwest of Lotus, and 3.3 mi northwest of Coloma.

DRAINAGE AREA.--673 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1931: Drainage area. WDR CA-75-4: 1964, 1966, 1970.

GAGE.--Water-stage recorder. Altitude of gage is 635 ft, from topographic map.

REMARKS.--Records fair. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE.--11 years (water years 1952-62, prior to extensive regulation and transbasin diversion), 1,109 ft^3/s, 802,900 acre-ft/yr; 22 years (water years 1963-84), 1,612 ft^3/s, 1,168,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft^3/s Dec. 23, 1955, gage height, 21.37 ft; minimum daily, 14 ft^3/s on several days during July 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1862 and prior to beginning of record, 20.4 ft from floodmarks, Nov. 21, 1950, discharge, 64,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,200 ft^3/s Nov. 17, gage height, 12.91 ft ; minimum daily, 535 ft^3/s July 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1370	2090	3930	6260	2230	2590	2500	1960	3080	1080	1070	1130
2	1570	2870	2920	5290	2140	2520	2550	1820	2730	1340	1270	598
3	1540	2440	3070	4630	2240	2130	2670	1900	2500	900	1210	691
4	1220	1780	2670	4320	2150	1920	2680	2460	1830	809	1220	1010
5	754	1390	2620	4230	1470	2240	2620	2400	2000	907	734	1110
6	1090	1050	2550	3970	1900	2090	2420	1700	1990	668	953	1120
7	1110	1040	2550	4160	2120	2130	2370	2420	2570	712	1130	1260
8	1150	1330	2590	3520	2110	2140	2370	2430	2590	717	1320	1130
9	1060	990	2790	3500	2090	2060	2280	2500	1790	841	1340	873
10	1090	970	4660	3500	2360	2280	2500	2660	1210	1160	1110	996
11	1150	1660	4120	2840	2270	1870	2430	2670	1230	1180	1060	1090
12	715	3560	4600	2690	1720	2240	2470	2850	1700	1140	1000	1090
13	1000	1320	4380	2510	2150	2620	2500	3170	816	795	691	1140
14	598	2750	3260	2580	3620	3520	2550	3090	748	772	1120	878
15	598	2160	2990	1810	3200	3220	2420	3160	858	535	1200	1110
16	558	1910	2950	2680	3870	3190	2570	2950	721	753	1150	741
17	764	7100	3000	2930	3240	3530	2790	2310	794	1180	1170	966
18	862	7730	2440	2660	2650	1930	3050	2350	1300	823	1240	1050
19	953	5430	3460	2210	1390	2440	3180	1790	1690	788	719	1090
20	842	9870	3390	2370	1830	3210	3140	1410	1090	803	975	1080
21	969	6300	3220	2740	3470	3730	2640	2760	1700	562	1100	1060
22	971	5040	3100	2000	2800	2950	1800	3430	1730	618	1090	1060
23	803	4250	3370	2480	2760	3700	2730	2640	1270	1000	1120	768
24	853	8090	4880	2220	2750	3210	3060	2930	971	1110	1270	936
25	1120	8910	9530	2190	2650	1900	2550	2940	1130	882	1250	1070
26	1000	5820	16600	2440	2030	2190	2500	2520	1280	830	1020	1110
27	918	4740	14400	2510	2100	2000	2980	2430	1570	868	909	1130
28	995	4220	9620	2480	1720	1910	2460	2160	1090	833	1140	1040
29	1050	3990	7250	1830	1830	2090	2080	2530	666	756	1160	893
30	651	3970	7620	2080	---	2610	1930	2920	1010	722	1240	564
31	1070	---	7920	2330	---	2630	---	3320	---	709	1230	---
TOTAL	30394	114770	152450	93960	68860	78790	76790	78580	45654	26793	34211	29784
MEAN	980	3826	4918	3031	2374	2542	2560	2535	1522	864	1104	993
MAX	1570	9870	16600	6260	3870	3730	3180	3430	3080	1340	1340	1260
MIN	558	970	2440	1810	1390	1870	1800	1410	666	535	691	564
AC-FT	60290	227600	302400	186400	136600	156300	152300	155900	90550	53140	67860	59080

CAL YR 1983 TOTAL 1363426 MEAN 3735 MAX 21000 MIN 465 AC-FT 2704000
WTR YR 1984 TOTAL 831036 MEAN 2271 MAX 16600 MIN 535 AC-FT 1648000

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-68, 1970 to current year.
CHEMICAL ANALYSES: Water years 1958-66, 1978 to November 1980. December 1983 to current year.
BIOLOGICAL DATA: Water years 1979-80.
WATER TEMPERATURES: Water years 1960-68, 1970 to current year.
SEDIMENT RECORDS: Water years 1957-62.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1959 to September 1968, February 1970 to current year.

INSTRUMENTATION.--Temperature recorder December 1959 to September 1968, and since February 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 29.5°C July 20, 1960, Aug. 12, 22, 1977; minimum recorded, 1.0°C several days in 1960 and 1962.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 21.0°C July 4-9; minimum recorded, 4.5°C several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
DEC , 1983										
06...	1115	1730	34	7.2	7.0	755	11.8	98	14	0
MAR , 1984										
08...	1000	1660	36	7.5	7.0	755	12.2	101	14	0
JUN										
14...	0940	338	35	8.3	14.5	740	9.4	95	13	0
SEP										
13...	1035	330	23	6.5	14.0	745	10.3	102	9	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC , 1983										
06...	3.4	1.3	2.2	25	.3	.7	16	2.0	2.4	1.8
MAR , 1984										
08...	3.9	1.1	2.0	22	.2	.6	15	.9	1.5	1.5
JUN										
14...	3.2	1.1	2.0	25	.3	.5	16	.2	1.2	1.2
SEP										
13...	2.4	.70	1.4	24	.2	.7	11	6.7	1.0	.90

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
DEC , 1983										
06...	<.1	11	26	32	.04	<.10	<.01	.40	.01	<.01
MAR , 1984										
08...	<.1	9.7	24	29	.03	<.10	.01	<.20	.01	<.01
JUN										
14...	<.1	9.7	26	28	.04	<.10	.04	<.20	<.01	<.01
SEP										
13...	<.1	6.0	18	20	.02	<.10	<.01	.20	<.01	<.01

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

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

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

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

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

11446200 FOLSOM LAKE NEAR FOLSOM, CA

LOCATION.--Lat 38°42'29", long 121°09'22", in NW 1/4 NE 1/4 sec.24, T.10 N., R.7 E., Sacramento County, Hydrologic Unit 18020128, near center of dam on American River, 0.7 mi downstream from South Fork American River, and 2.3 mi northeast of Folsom.

DRAINAGE AREA.--1,861 mi^2.

PERIOD OF RECORD.--February 1955 to current year. Prior to October 1959, published as Folsom Reservoir near Folsom.

REVISED RECORDS.--WSP 1931: Drainage area.

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

REMARKS.--Reservoir is formed by concrete gravity-type dam with rolled-earth-wing dams, auxiliary dams, and dikes, completed May 14, 1956; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft between elevations 205.5 ft invert of lower tier of river outlets and 466.0 ft gross pool elevation, all of which is available for release. Spillway design flood pool elevation, 475.4 ft, capacity, 1,120,200 acre-ft. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,024,400 acre-ft June 15, 1963, elevation, 467.23 ft; minimum since storage pool first filled, 140,600 acre-ft Nov. 20, 21, 1977, elevation, 347.57 ft.

EXTREMES FOR CURRENT YEAR.-Maximum contents, 993,300 acre-ft June 8, elevation, 464.51 ft; minimum, 607,900 acre-ft Dec. 9, elevation, 426.78 ft.

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 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	751500	689500	622700	672800	636900	684600	773200	904100	988300	924500	698100	686900
2	751700	694600	618200	661500	640400	686000	773100	908600	989500	918600	694000	687200
3	753200	696900	619700	646500	643200	690300	773100	911400	989900	912700	689800	687500
4	757400	698000	621100	638500	645900	692700	775900	913800	989900	905800	686500	688000
5	755400	697000	618700	635500	647600	695300	779100	913400	990500	899300	683700	689000
6	753200	696300	615000	631500	649200	697400	781800	911300	990700	892400	681600	689900
7	753400	695200	611500	626900	651700	699600	788200	909400	992300	885500	680300	691100
8	751500	695300	608500	620200	654200	702100	792900	908400	993300	878100	680700	692100
9	748700	694600	607900	618100	658100	704100	795900	909000	992600	871000	680600	693300
10	745500	695600	626900	617700	662300	708900	799300	910900	990400	865600	680700	695200
11	741100	711900	644200	615300	666100	712900	802300	913400	988500	860000	680600	696000
12	737900	719000	651800	612500	669400	716900	804700	916300	987600	853500	679400	695000
13	734400	724900	652400	608800	675200	724000	807300	919600	985700	846200	677700	694100
14	730200	728300	648800	611900	685000	739100	811400	922200	982200	839600	677700	693000
15	727800	709400	643800	613700	685000	747300	816000	926100	979500	830900	677700	692300
16	725700	690100	637000	615700	690300	753200	821300	928700	974800	821700	677600	691100
17	723300	737700	637700	618300	690900	759500	826900	930400	969600	813400	677200	691200
18	720600	758800	639400	620500	687600	761500	834800	934200	965100	804400	677200	690300
19	716900	714000	645200	621400	686200	761800	843000	935900	963400	795400	676600	689600
20	714500	696300	650800	622900	684900	764700	850900	936200	960600	786400	676200	689100
21	711500	651000	654700	624400	690500	768100	856600	940500	958800	777000	677400	688600
22	709500	628600	657800	624800	689300	769200	860900	946800	956800	767600	677900	687900
23	706100	641600	661600	625200	686900	772700	867100	951300	954100	759100	678400	686800
24	702500	688900	676700	625200	683500	774000	873900	957000	950900	752100	679100	685500
25	700100	728600	738100	625700	684700	773900	879400	962400	948200	745000	680200	685000
26	697300	742200	794600	626400	685200	774100	884200	966400	945900	738300	681300	684400
27	694300	713000	804000	627400	684100	774700	889700	970500	943300	731600	681100	683900
28	691100	679200	765400	629700	682900	773900	894100	973600	940900	725200	682000	683200
29	688200	643700	708500	630300	682900	773400	897200	977600	937000	719000	682700	682200
30	685000	625200	677900	631500	---	772800	900600	982400	930700	711800	684000	681000
31	685500	---	677200	633500	---	773400	---	986100	---	704700	685500	---
MAX	851700	758800	804000	672800	690900	774700	900600	986100	993300	924500	698100	696000
MIN	685000	625200	607900	608800	636900	684600	773100	904100	930700	704700	676200	681000
a	435.13	428.69	434.25	429.59	434.85	444.05	456.17	463.87	458.92	437.12	435.12	434.65
b	-66300	-60300	+52000	-43700	+49400	+90500	+127200	+85500	-55400	-226000	-19200	-4500
c	2800	590	120	560	830	2490	4060	6390	7160	8060	6100	5160

CAL YR 1983 b +41300
WTR YR 1984 b -70800

11446500 AMERICAN RIVER AT FAIR OAKS, CA

LOCATION.--Lat 38°38'08", long 121°13'36", in SE 1/4 NE 1/4 sec.17, T.9 N., R.7 E., Sacramento County, Hydrologic Unit 18020111, on right bank 2,100 ft downstream from Nimbus Dam, 2.4 mi east of Fair Oaks, 8.1 mi downstream from South Fork, and at mile 22.2.

DRAINAGE AREA.--1,888 mi^2.

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 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 between normal operating elevations, 118.5 ft and 125.0 ft and by Nimbus powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River basins.

AVERAGE DISCHARGE (adjusted for change in contents, diversions, and evaporation from Folsom Lake since 1955).--80 years, 3,889 ft^3/s, 2,818,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s Nov. 21, 1950, gage height, 31.85 ft, site and datum then in use; minimum, 3.6 ft^3/s Aug. 16, 1924. Maximum discharge since construction of Folsom Dam in 1953, 115,000 ft^3/s Dec. 23-25, 1964, gage height, 27.65 ft, present datum; minimum, 86 ft^3/s Apr. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 48,500 ft^3/s Dec. 28, gage height, 18.18 ft; minimum daily, 573 ft^3/s Oct. 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3310	2700	8640	19600	3080	4890	5780	2400	4130	4940	4890	1410
2	3250	2700	8510	19600	3060	4910	5770	2440	4130	4960	4010	1410
3	2530	2810	8560	19500	3110	4030	5720	3030	4120	4960	3960	1400
4	573	2710	8550	14900	3120	3980	4370	4420	4120	4960	3480	1400
5	3760	2780	8510	12200	3080	3960	4120	5340	4110	5080	2960	1420
6	3810	2770	8570	12000	3070	3970	3960	5370	4070	4930	2480	1430
7	2270	2780	8580	12000	3070	3980	2160	5340	4060	4940	2420	1440
8	3890	2790	8570	11900	3070	3980	2930	5330	4080	4940	1910	1430
9	3880	2830	8620	9290	2990	3950	3910	4970	4090	4930	1900	1430
10	3920	2890	8630	8380	3060	2920	3940	4550	4100	4920	1890	930
11	3910	4890	8600	8260	3120	2850	3940	4520	4100	4900	1880	1560
12	3950	4940	11900	8240	3060	2870	3940	4520	4040	4990	1870	2240
13	3920	5030	12100	7870	3140	2920	3910	4520	3540	4970	1880	2250
14	3860	5890	12100	5000	5210	3050	3010	4530	3930	5010	1880	2250
15	2840	15000	12000	4960	8410	5820	2970	4200	4090	5470	1870	2240
16	2780	15700	11900	4960	8500	6040	2960	4070	4940	5790	1880	2250
17	2760	20700	8690	5000	8490	6000	2940	3700	5000	5810	1880	1540
18	2760	11600	7630	5000	8440	6010	2410	2990	4930	5830	1880	2200
19	2750	33700	5650	5040	6380	6020	2410	3000	3990	5830	1870	2180
20	2750	34400	5630	5040	6300	6090	2420	3040	3980	5800	1430	2230
21	2730	36200	5640	5030	7130	6160	2410	3040	3980	5780	1440	2230
22	2720	21600	5680	5050	8400	6120	2410	3040	3980	5790	1430	2240
23	2700	2890	6340	5050	8430	5770	2410	3050	3990	5780	1430	2210
24	2710	5400	8460	5040	8360	5760	2410	3050	3960	5350	1430	2210
25	2700	5370	10700	5020	6120	5800	2410	3060	3700	4950	1440	2200
26	2700	7010	27100	4990	5880	5830	2410	3050	3590	5000	1430	2200
27	2720	25100	39900	4920	5910	5780	2410	3050	3630	4930	1430	2200
28	2710	25600	47200	4020	5880	5790	2410	3050	3620	4940	1460	2200
29	2720	25300	46700	3960	4930	5790	2400	3050	3650	4920	1400	2200
30	2730	16900	35700	4010	---	5770	2400	3070	4810	4910	1470	2180
31	2720	---	24400	3950	---	5780	---	4060	---	4970	1420	---
TOTAL	93333	350980	439760	249780	152800	152590	97650	116850	122460	161280	64000	56710
MEAN	3011	11700	14190	8057	5269	4922	3255	3769	4082	5203	2065	1890
MAX	3950	36200	47200	19600	8500	6160	5780	5370	5000	5830	4890	2250
MIN	573	2700	5630	3950	2990	2850	2160	2400	3540	4900	1400	930
AC-FT	185100	696200	872300	495400	303100	302700	193700	231800	242900	319900	126900	112500
MEAN a	2139	10790	15110	7450	6240	6540	5590	5500	3540	1940	2110	2120
AC-FT a	131500	642000	929200	458000	359000	4024000	332900	338300	210700	119400	129700	126200
b	9917	5492	4796	5699	5663	6696	7925	14613	15995	17468	15867	13047

CAL YR 1983 TOTAL 3519903 MEAN 9644 MAX 47200 MIN 573 AC-FT 6982000 MEAN a 9890 AC-FT a 7159000
WTR YR 1984 TOTAL 2058193 MEAN 5623 MAX 47200 MIN 573 AC-FT 4082000 MEAN a 5760 AC-FT a 4179000

a Adjusted for change in contents, diversions, and evaporation from Folsom Lake.
b Diversions, in acre-feet, from Folsom-Nimbus Dam complex furnished by Bureau of Reclamation.

11447650 SACRAMENTO RIVER AT FREEPORT, CA
(National stream-quality accounting network station)

LOCATION.--Lat 38°27'15", long 121°29'54", T.7 N., R.4 E., Sacramento County, Hydrologic Unit 18020109, on left bank 630 ft downstream from drawbridge at Freeport, and 11 mi south of Sacramento.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Prior to October 1979, published as Sacramento River at Sacramento (station 11447500). Gage heights collected in the vicinity of "at Sacramento" gage November 1879 to May 1888, December 1890 to September 1963 are contained in reports of National Weather Service.

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 NGVD. Nov. 17, 1956, to Sept. 30, 1979, at site 1,000 ft upstream from I Street Bridge. Auxiliary water-stage recorder on right bank 2.6 mi 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.--36 years (water years 1949-84), 24,810 ft^3/s, 17,975,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum discharge, 104,000 ft^3/s Nov. 21, 1950, elevation, 30.14 ft site and datum then in use; minimum daily, 3,970 ft^3/s Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft^3/s Jan. 17, 1909, elevation, 29.6 ft site then in use at present datum, from reports of California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 94,500 ft^3/s Dec. 26, elevation, 20.74 ft; maximum elevation, 21.27 ft Dec. 27; minimum daily, 10,200 ft^3/s Apr. 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25400	17700	69400	80000	32400	32000	30300	11300	14600	19200	22000	18000
2	25500	18000	64700	78600	31000	30900	29000	11200	14300	19400	21300	18300
3	25300	18100	61900	77800	30200	30100	27600	12000	14100	20400	21000	18700
4	23800	18000	62400	75900	28800	30400	25100	13800	14200	21100	20700	18600
5	23600	17900	64300	74900	26400	29400	22500	15700	13800	20800	20300	18200
6	25400	17700	66100	74200	24600	27100	21300	16400	13900	20700	20400	17500
7	24200	18300	67100	73300	23800	25800	19800	16700	15000	20900	20500	17600
8	24600	18500	67000	71800	23000	25400	18900	16300	15500	21100	20100	18500
9	26000	18500	67100	69900	22300	24900	19600	15800	16400	21200	19800	18700
10	26200	18700	68900	67200	22300	24400	20300	15300	17100	21200	19300	17600
11	26100	26100	71600	65500	22100	23900	20800	15400	16200	21300	18900	17800
12	26000	35900	77200	64200	22500	23600	20800	15400	15100	21200	18100	18300
13	25400	41200	79900	62900	22600	22500	20600	15800	13900	21200	17200	18800
14	24400	42000	80400	59700	26700	23000	19600	16500	12900	21600	16700	18800
15	22700	46900	79500	57200	35100	25900	18300	17500	13200	21600	16500	18800
16	21300	51000	78000	56000	40500	31600	17700	17400	14200	21900	16700	18800
17	19900	55200	75700	55000	42600	36100	16500	17800	14800	22000	16700	18100
18	18400	62600	73600	54200	44500	39600	15400	16900	15300	22200	16800	18700
19	17400	76000	71000	53200	42400	40300	14500	16400	14700	22600	17100	19400
20	17000	84300	69800	51100	39400	38900	15000	16300	14500	22500	17600	19800
21	17000	86600	69200	47800	37500	38500	15700	16200	14700	22200	17800	19800
22	17100	84600	68500	45300	39800	38000	15600	16200	14200	22900	18200	18800
23	17100	67200	68000	43600	41100	37500	14500	15500	14900	23100	18400	18100
24	17000	63000	71600	42100	40300	36600	13500	15400	15500	22700	18400	17300
25	16700	66900	79400	40700	37700	35900	12000	15000	15600	22800	18700	15700
26	16600	70100	88400	39500	35900	35000	10800	15100	15200	21500	18800	14700
27	16700	78800	91900	38300	35300	34700	10200	15200	15300	22700	19400	14600
28	16700	83200	92700	36700	34700	34100	10400	14900	15600	22100	19500	14300
29	17000	82700	91900	35400	33300	33400	10600	15000	16900	22300	19000	14000
30	17500	78900	89100	34900	---	32200	11100	14600	18100	22100	18300	14500
31	17400	---	83600	34000	---	32500	---	14600	---	22100	18100	---
TOTAL	655600	1464600	2309900	1760900	938800	974200	538000	477600	449700	670600	582300	530800
MEAN	21150	48820	74510	56800	32370	31430	17930	15410	14990	21630	18780	17690
MAX	26200	86600	92700	80000	44500	40300	30300	17800	18100	23100	22000	19800
MIN	16600	17700	61900	34000	22100	22500	10200	11200	12900	19200	16500	14000
AC-FT	1300000	2905000	4582000	3493000	1862000	1932000	1067000	947300	892000	1330000	1155000	1053000

CAL YR 1983 TOTAL 18216300 MEAN 49910 MAX 93600 MIN 16600 AC-FT 36130000
WTR YR 1984 TOTAL 11353000 MEAN 31020 MAX 92700 MIN 10200 AC-FT 22520000

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 1974-81.
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 1972-82. 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 northwest of Freeport, and 7.4 mi 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, several days during May and June 1981, and June 16, 1984.
SEDIMENT DISCHARGE: Maximum daily, 525,000 tons Dec. 24, 1964; minimum daily, 151 tons Oct. 21, 22, 1977.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 23.0°C June 28; minimum recorded, 8.5°C Dec. 24,25, Jan. 15-23.
SEDIMENT CONCENTRACTIONS: Maximum daily mean, 315 mg/L Nov. 13; minimum daily mean, 8 mg/L June 16.
SEDIMENT DISCHARGE: Maximum daily, 58,000 tons Dec. 26; minimum daily, 307 tons June 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB , 1984											
09...	1115	19500	169	7.0	10.5	770	12	10.8	96	K20	>1000
MAR											
06...	1120	27700	129	7.5	11.0	775	6.7	11.2	100	K11	K5
JUN											
13...	1115	17900	145	7.8	19.0	760	14	8.9	96	K31	K6
AUG											
30...	1215	18600	164	7.3	22.0	765	17	8.4	96	K50	--

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
FEB , 1984											
09...	64	0	13	7.6	9.8	25	.5	1.0	65	12	6.5
MAR											
06...	56	0	12	6.3	7.7	23	.5	1.0	56	9.6	5.0
JUN											
13...	50	0	10	6.0	9.4	29	.6	1.0	58	9.7	5.4
AUG											
30...	59	0	12	6.9	10	27	.6	1.1	70	8.5	5.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
FEB , 1984											
09...	.1	17	105	110	.14	.26	.01	.20	.04	.01	.02
MAR											
06...	<.1	18	89	93	.12	.13	<.01	<.20	.03	.03	.02
JUN											
13...	<.1	17	94	94	.13	.10	.03	.30	.11	.04	.02
AUG											
30...	<.1	17	99	100	.13	<.10	<.01	<.20	.06	.03	.03

See footnotes at end of table.

11447650 SACRAMENTO RIVER AT FREEPORT, CA Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
FEB , 1984										
09...	1115	70	2	28	<.5	<1	<1	<3	1	87
MAR										
06...	1120	50	1	24	<.5	<1	<1	<3	1	40
JUN										
13...	1115	30	<1	26	<1	1	1	<3	3	21
AUG										
30...	1215	20	1	28	<.5	<1	2	<3	2	21

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
FEB , 1984											
09...	2	8	8	.3	<10	<1	<1	<1	100	<6	6
MAR											
06...	<1	5	7	.1	<10	<1	<1	<1	89	<6	12
JUN											
13...	2	<4	4	<.1	<10	1	<1	<1	91	<6	7
AUG											
30...	2	4	3	<.1	<10	<1	<1	<1	100	<6	<3

DATE	TIME	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM DISSOLVED, EXTRACTION (UG/L)
MAR , 1984									
06...	1120	<1.5	<.5	<1.1	.4	<.9	<.4	.05	.17
AUG									
30...	1215	2.1	<.5	<1.3	.5	<1.1	.4	.05	.06

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

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

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

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

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

	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	25400	36	2470	17700	16	765	69400	57	10700
2	25500	32	2200	18000	17	826	64700	55	9610
3	25300	28	1910	18100	14	684	61900	62	10400
4	23800	26	1670	18000	12	583	62400	84	14200
5	23800	25	1610	17900	13	628	64300	138	24000
6	25400	25	1710	17700	15	717	66100	160	28600
7	24200	25	1630	18300	15	741	67100	98	17800
8	24600	26	1730	18500	15	749	67000	72	13000
9	26000	27	1900	18500	17	849	67100	72	13000
10	26200	27	1910	18700	27	1360	68900	95	17700
11	26100	25	1760	26100	77	5430	71600	130	25100
12	26000	24	1680	35900	172	16700	77200	160	33400
13	25400	24	1650	41200	315	35000	79900	172	37100
14	24400	26	1710	42000	255	28900	80400	170	36900
15	22700	27	1650	46900	162	20500	79500	143	30700
16	21300	28	1610	51000	125	17200	78000	100	21100
17	19900	30	1610	55200	112	16700	75700	80	16400
18	18400	28	1390	62600	108	18300	73600	75	14900
19	17400	23	1080	76000	112	23000	71000	73	14000
20	17000	20	918	84300	130	29600	69800	72	13600
21	17000	15	689	86600	170	39700	69200	68	12700
22	17100	13	600	84600	232	53000	68500	64	11800
23	17100	14	646	67200	152	27600	68000	60	11000
24	17000	15	689	63000	98	16700	71600	56	10800
25	16700	15	676	66900	107	19300	79400	106	22700
26	16600	16	717	70100	106	20100	88400	243	58000
27	16700	17	767	78800	100	21300	91900	218	54100
28	16700	16	721	83200	88	19800	92700	88	22000
29	17000	18	826	82700	76	17000	91900	62	15400
30	17500	16	756	78900	64	13600	89100	63	15200
31	17400	15	705	---	---	---	83600	67	15100
TOTAL	655600	---	41590	1464600	---	467332	2309900	---	651010

	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	80000	65	14000	32400	48	4200	32000	32	2760
2	78600	60	12700	31000	47	3930	30900	30	2500
3	77800	57	12000	30200	47	3830	30100	37	3010
4	75900	53	10900	28800	47	3650	30400	42	3450
5	74900	51	10300	26400	47	3350	29400	35	2780
6	74200	50	10000	24600	47	3120	27100	30	2200
7	73300	50	9900	23800	45	2890	25800	28	1950
8	71800	48	9310	23000	43	2670	25400	27	1850
9	69900	48	9060	22300	40	2410	24900	27	1820
10	67200	52	9430	22300	40	2410	24400	27	1780
11	65500	56	9900	22100	38	2270	23900	27	1740
12	64200	60	10400	22500	36	2190	23600	28	1780
13	62900	67	11400	22600	38	2320	22500	29	1760
14	59700	64	10300	26700	40	2880	23000	30	1860
15	57200	62	9580	35100	62	5880	25900	30	2100
16	56000	57	8620	40500	85	9290	31600	40	3410
17	55000	55	8170	42600	98	11300	36100	62	6040
18	54200	54	7900	44500	94	11300	39600	90	9620
19	53200	54	7760	42400	73	8360	40300	94	10200
20	51100	55	7590	39400	56	5960	38900	80	8400
21	47800	56	7230	37500	48	4860	38500	78	8110
22	45300	60	7340	39800	45	4840	38000	74	7590
23	43600	65	7650	41100	46	5100	37500	58	5870
24	42100	75	8530	40300	48	5220	36600	55	5440
25	40700	76	8350	37700	50	5090	35900	53	5140
26	39500	90	9600	35900	48	4650	35000	47	4440
27	38300	102	10500	35300	40	3810	34700	42	3930
28	36700	73	7230	34700	30	2810	34100	38	3500
29	35400	63	6020	33300	26	2340	33400	40	3610
30	34900	80	7540	---	---	---	32200	43	3740
31	34000	62	5690	---	---	---	32500	40	3510
TOTAL	1760900	---	284900	938800	---	132930	974200	---	125890

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

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

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	30300	31	2540	11300	20	610	14600	14	552
2	29000	34	2660	11200	18	544	14300	16	618
3	27600	35	2610	12000	21	680	14100	18	685
4	25100	33	2240	13800	25	932	14200	20	767
5	22500	37	2250	15700	26	1100	13800	22	820
6	21300	48	2760	16400	27	1200	13900	24	901
7	19800	53	2830	16700	28	1260	15000	25	1010
8	18900	52	2650	16300	25	1100	15500	24	1000
9	19600	40	2120	15800	23	981	16400	22	974
10	20300	35	1920	15300	24	991	17100	20	923
11	20800	32	1800	15400	20	832	16200	18	787
12	20800	32	1800	15400	20	832	15100	20	815
13	20600	31	1720	15800	22	939	13900	24	901
14	19600	32	1690	16500	24	1070	12900	17	592
15	18300	27	1330	17500	34	1610	13200	10	356
16	17700	28	1340	17400	38	1790	14200	8	307
17	16500	38	1690	17800	44	2110	14800	10	400
18	15400	38	1580	16900	50	2280	15300	18	744
19	14500	32	1250	16400	45	1990	14700	20	794
20	15000	30	1220	16300	40	1760	14500	17	666
21	15700	30	1270	16200	38	1660	14700	18	714
22	15600	32	1350	16200	37	1620	14200	17	652
23	14500	34	1330	15500	35	1460	14800	18	724
24	13500	37	1350	15400	30	1250	15500	16	670
25	12000	35	1130	15000	27	1090	15600	16	674
26	10800	20	583	15100	26	1060	15200	15	616
27	10200	17	468	15200	25	1030	15300	12	496
28	10400	23	646	14900	24	966	15600	13	548
29	10600	21	601	15000	17	689	16900	18	821
30	11100	23	689	14600	11	434	18100	22	1080
31	---	---	---	14600	12	473	---	---	---
TOTAL	538000	---	49417	477600	---	36343	449700	---	21607

		MEAN			MEAN			MEAN	
	MEAN	CONCEN-	SEDIMENT	MEAN	CONCEN-	SEDIMENT	MEAN	CONCEN-	SEDIMENT
DAY	DISCHARGE (CFS)	TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	TRATION (MG/L)	DISCHARGE (TONS/DAY)
1	19200	30	1560	22000	34	2020	18000	28	1360
2	19400	36	1890	21300	36	2070	18300	30	1480
3	20400	38	2090	21000	36	2040	18700	34	1720
4	21100	42	2390	20700	36	2010	18600	32	1610
5	20800	44	2470	20300	38	2080	18200	26	1280
6	20700	36	2010	20400	34	1870	17500	27	1280
7	20900	34	1920	20500	32	1770	17600	30	1430
8	21100	32	1820	20100	28	1520	18500	32	1600
9	21200	31	1770	19800	24	1280	18700	31	1570
10	21200	30	1720	19300	20	1040	17600	22	1050
11	21300	29	1670	18900	20	1020	17800	21	1010
12	21200	30	1720	18100	22	1080	18300	22	1090
13	21200	31	1770	17200	24	1110	18800	25	1270
14	21600	32	1870	16700	24	1080	18800	30	1520
15	21600	34	1980	16500	25	1110	18800	30	1520
16	21900	36	2130	16700	24	1080	18800	29	1470
17	22000	40	2380	16700	30	1350	18100	29	1420
18	22200	39	2340	16800	25	1130	18700	29	1460
19	22600	38	2320	17100	21	970	19400	30	1570
20	22500	34	2070	17600	20	950	19800	31	1660
21	22200	30	1800	17800	25	1200	19800	30	1600
22	22900	28	1730	18200	31	1520	18800	29	1470
23	23100	26	1620	18400	29	1440	18100	28	1370
24	22700	24	1470	18400	28	1390	17300	22	1030
25	22800	28	1720	18700	29	1460	15700	16	678
26	21500	32	1860	18800	32	1620	14700	17	675
27	22700	32	1960	19400	33	1730	14600	17	670
28	22100	30	1790	19500	34	1790	14300	18	695
29	22300	31	1870	19000	24	1230	14000	17	643
30	22100	32	1910	18300	30	1480	14500	16	626
31	22100	34	2030	18100	27	1320	---	---	---

59650 49760 37827

Ann Qs = 1953256

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'39", long 122°50'33", in SE 1/4 SE 1/4 sec.34, T.13 N., R.9 W., Lake County, Hydrologic Unit 18020116, on left bank 1.6 mi downstream from Widow Creek, and 3.5 mi south of Kelseyville.

DRAINAGE AREA.--36.6 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to July 16, 1955, at site 600 ft upstream at different datum.

REMARKS.--Records good except those for periods of no gage height record, May 2 to September 6 which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--38 years, 77.1 ft^3/s, 55,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,200 ft^3/s Jan. 26, 1983, gage height, 13.31 ft; maximum gage height, 13.48 ft Jan. 5, 1965; minimum daily, 0.18 ft^3/s Aug. 15-23, 25, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	1745	*4,850	10.86
Dec. 25	1145	3,960	10.45

Minimum daily discharge, 3.5 ft^3/s Sept. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	29	70	253	47	54	51	28	13	7.4	5.4	4.8
2	9.7	22	62	209	45	53	49	27	13	7.2	5.4	4.7
3	8.9	14	371	180	44	51	47	27	13	7.0	5.3	4.6
4	8.4	12	184	155	44	48	46	26	13	6.9	5.2	4.4
5	8.0	12	127	139	43	46	46	26	13	6.8	5.2	4.3
6	7.8	12	147	127	42	45	46	24	13	6.6	5.1	4.2
7	8.0	16	169	116	41	44	42	23	15	6.5	5.0	4.1
8	8.1	13	405	107	41	43	49	23	16	6.4	4.9	3.9
9	8.4	56	1320	100	48	42	43	22	15	6.3	4.9	3.7
10	8.7	1190	878	94	50	41	56	22	14	6.2	4.8	3.7
11	8.3	258	1230	89	45	40	46	21	13	6.0	4.8	3.7
12	8.0	351	501	85	55	39	42	21	12	6.0	4.8	3.8
13	7.9	506	321	81	355	231	40	20	12	5.9	4.7	3.8
14	7.9	185	242	78	171	216	38	20	12	5.8	4.7	3.8
15	7.9	103	195	80	155	346	37	19	12	5.7	4.6	3.7
16	7.8	110	167	87	178	266	36	19	11	5.6	4.6	3.6
17	7.8	751	149	75	132	236	35	19	11	5.6	4.5	3.7
18	7.7	207	130	70	109	162	42	18	11	5.6	4.5	3.5
19	7.7	184	118	67	95	132	48	18	10	5.5	4.4	3.8
20	7.7	196	107	65	85	113	39	17	10	5.4	4.4	4.1
21	7.6	138	98	65	93	98	36	17	9.8	5.4	4.3	4.2
22	7.3	104	91	62	79	87	35	17	9.4	5.4	4.3	4.1
23	7.4	107	167	60	73	80	33	16	9.2	5.6	4.3	3.8
24	8.1	797	1110	58	72	74	32	16	9.0	6.4	4.2	4.1
25	7.9	301	2070	57	68	69	31	15	8.8	7.0	4.2	4.2
26	7.7	166	712	55	63	66	31	15	8.6	6.8	4.2	4.2
27	7.5	120	441	52	60	62	31	15	8.4	6.4	4.1	4.0
28	7.6	96	311	51	57	59	30	14	8.1	5.8	4.1	4.2
29	7.9	82	266	50	56	56	29	14	7.9	5.6	4.0	4.1
30	9.8	76	577	49	---	53	28	14	7.6	5.6	4.5	4.1
31	11	---	329	48	---	53	---	13	---	5.5	4.9	---
TOTAL	257.5	6214	13065	2864	2446	3005	1194	606	338.8	189.9	144.3	120.9
MEAN	8.31	207	421	92.4	84.3	96.9	39.8	19.5	11.3	6.13	4.65	4.03
MAX	13	1190	2070	253	355	346	56	28	16	7.4	5.4	4.8
MIN	7.3	12	62	48	41	39	28	13	7.6	5.4	4.0	3.5
AC-FT	511	12330	25910	5680	4850	5960	2370	1200	672	377	286	240

CAL YR 1983 TOTAL 83155.4 MEAN 228 MAX 3920 MIN 6.1 AC-FT 164900
WTR YR 1984 TOTAL 30445.4 MEAN 83.2 MAX 2070 MIN 3.5 AC-FT 60390

11450150 CLEAR LAKE AT CLEARLAKE, CA

LOCATION.--Lat 38°57'24", long 122°38'30", in NE 1/4 SE 1/4 NW 1/4 sec.28, T.13 N., R.7 W., Lake County, Hydrologic Unit 18020116, on private pier 300 ft southwest of intersection of Mullen and Lakeshore Drives in Clearlake.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--April 20, 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,318.21 National Geodetic Vertical Datum of 1929.

REMARKS.--This natural lake is regulated by gates on a dam at outlet, completed in 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily mean gage height, 11.18 Mar. 4, 1983; minimum daily mean gage height, 1.86 ft Sept. 28-29, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum mean daily gage height, 7.83 ft Dec. 31; minimum daily mean gage height, 1.86 ft Sept. 28-29.

EXTREMES FOR WATER YEAR 1983 (Not Previously Published).--Maximum daily mean gage height, 11.18 ft Mar. 4; minimum, 2.18 ft Oct. 21.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.42	2.48	3.88	5.84	8.52	9.89	10.29	7.78	7.17	6.34	5.18	4.20
2	2.42	2.47	3.93	5.77	8.42	10.10	10.23	7.72	7.13	6.32	5.16	4.18
3	2.42	2.45	4.06	5.72	8.36	10.99	10.06	7.64	7.13	6.27	5.13	4.15
4	2.32	2.47	4.17	5.64	8.26	11.18	9.89	7.56	7.12	6.24	5.09	4.13
5	2.31	2.47	4.22	5.57	8.15	11.17	9.72	7.50	7.10	6.22	5.04	4.10
6	2.33	2.48	4.25	5.50	8.18	11.08	9.57	7.44	7.09	6.22	5.00	4.08
7	2.32	2.48	4.26	5.44	8.31	11.08	9.44	7.39	7.09	6.18	4.97	4.06
8	2.29	2.45	4.20	5.40	8.49	10.95	9.30	7.32	7.08	6.11	4.95	4.05
9	2.24	2.43	4.20	5.36	8.57	10.84	9.20	7.20	7.08	6.04	4.90	3.99
10	2.24	2.43	4.22	5.32	8.60	10.72	9.04	7.15	7.04	6.00	4.85	3.95
11	2.25	2.43	4.25	5.28	8.55	10.57	8.84	7.14	7.02	5.98	4.81	3.93
12	2.23	2.42	4.28	5.27	8.66	10.46	8.63	7.16	6.98	5.95	4.78	3.91
13	2.25	2.42	4.30	5.27	8.77	10.76	8.55	7.19	6.97	5.91	4.75	3.89
14	2.24	2.42	4.29	5.27	8.79	10.86	8.46	7.21	6.95	5.93	4.70	3.88
15	2.23	2.42	4.28	5.26	8.77	10.75	8.27	7.23	6.95	5.87	4.68	3.86
16	2.25	2.42	4.32	5.29	8.77	10.64	8.14	7.19	6.88	5.83	4.64	3.84
17	2.23	2.42	4.60	5.30	8.71	10.59	8.01	7.20	6.88	5.76	4.61	3.83
18	2.21	2.60	4.71	5.37	8.80	10.51	7.91	7.22	6.83	5.69	4.56	3.82
19	2.21	2.66	4.75	5.56	8.81	10.39	7.85	7.21	6.78	5.66	4.51	3.77
20	2.21	2.74	4.82	5.57	8.78	10.27	7.71	7.23	6.75	5.61	4.51	3.75
21	2.18	2.77	5.15	5.55	8.72	10.24	7.62	7.25	6.70	5.57	4.47	3.75
22	2.20	2.76	5.63	5.71	8.65	10.22	7.47	7.25	6.68	5.53	4.46	3.75
23	2.27	2.75	6.12	5.89	8.56	10.21	7.48	7.25	6.67	5.50	4.45	3.74
24	2.27	2.90	6.22	6.45	8.55	10.44	7.57	7.26	6.58	5.49	4.41	3.73
25	2.33	2.97	6.27	6.64	8.49	10.56	7.63	7.26	6.57	5.46	4.38	3.71
26	2.44	2.94	6.25	7.09	8.60	10.51	7.57	7.26	6.57	5.40	4.35	3.72
27	2.40	2.97	6.19	8.07	8.76	10.57	7.55	7.24	6.50	5.37	4.33	3.70
28	2.39	3.07	6.15	8.32	9.04	10.57	7.67	7.24	6.47	5.34	4.30	3.67
29	2.39	3.29	6.08	8.56	---	10.49	7.72	7.25	6.46	5.29	4.26	3.67
30	2.48	3.66	6.01	8.61	---	10.41	7.76	7.26	6.41	5.25	4.19	3.64
31	2.50	---	5.93	8.60	---	10.38	---	7.23	---	5.22	4.19	---
MEAN	2.31	2.65	4.90	6.08	8.59	10.59	8.51	7.30	6.85	5.79	4.66	3.88
MAX	2.50	3.66	6.27	8.61	9.04	11.18	10.29	7.78	7.17	6.34	5.18	4.20
MIN	2.18	2.42	3.88	5.26	8.15	9.89	7.47	7.14	6.41	5.22	4.19	3.64

WTR YR 1983 MEAN 6.00 MAX 11.18 MIN 2.18

11450150 CLEAR LAKE AT CLEARLAKE, CA

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.68	3.54	5.28	7.81	5.76	7.23	7.66	7.16	6.14	4.89	3.55	2.50
2	3.70	3.56	5.23	7.76	5.73	7.25	7.65	7.14	6.12	4.87	3.50	2.47
3	3.68	3.55	5.31	7.69	5.77	7.26	7.65	7.13	6.07	4.83	3.45	2.44
4	3.67	3.56	5.30	7.61	5.78	7.25	7.65	7.14	6.02	4.79	3.41	2.42
5	3.67	3.54	5.24	7.52	5.80	7.27	7.65	7.08	5.95	4.75	3.37	2.43
6	3.66	3.55	5.20	7.41	5.80	7.29	7.67	7.01	5.93	4.72	3.31	2.39
7	3.65	3.56	5.18	7.32	5.81	7.30	7.64	6.98	5.91	4.68	3.27	2.33
8	3.64	3.49	5.21	7.22	5.82	7.32	7.68	6.98	5.84	4.64	3.24	2.31
9	3.64	3.49	5.53	7.11	5.87	7.34	7.59	6.98	5.86	4.57	3.21	2.29
10	3.62	3.75	5.86	7.03	5.89	7.36	7.65	6.94	5.76	4.51	3.19	2.28
11	3.62	4.11	6.25	6.92	5.88	7.36	7.61	6.89	5.75	4.46	3.14	2.26
12	3.62	4.19	6.47	6.82	5.92	7.37	7.58	6.87	5.67	4.42	3.10	2.21
13	3.65	4.34	6.58	6.70	6.10	7.41	7.56	6.88	5.62	4.38	3.05	2.18
14	3.58	4.43	6.64	6.59	6.24	7.48	7.54	6.92	5.59	4.35	3.00	2.16
15	3.58	4.43	6.60	6.48	6.38	7.60	7.55	6.78	5.57	4.31	2.98	2.15
16	3.57	4.51	6.56	6.45	6.64	7.66	7.55	6.71	5.54	4.25	2.95	2.11
17	3.56	4.83	6.53	6.36	6.73	7.75	7.51	6.69	5.51	4.21	2.91	2.09
18	3.54	4.98	6.47	6.26	6.81	7.74	7.45	6.65	5.48	4.17	2.88	2.08
19	3.53	5.11	6.42	6.17	6.87	7.75	7.52	6.63	5.45	4.12	2.84	2.07
20	3.52	5.31	6.36	6.07	6.92	7.80	7.45	6.62	5.43	4.10	2.80	2.08
21	3.52	5.30	6.24	6.01	7.03	7.81	7.43	6.59	5.31	4.03	2.77	2.03
22	3.51	5.22	6.13	5.93	7.02	7.77	7.42	6.54	5.26	3.91	2.75	2.02
23	3.51	5.16	6.04	5.85	7.05	7.78	7.41	6.54	5.22	3.89	2.72	1.99
24	3.49	5.37	6.25	5.76	7.14	7.77	7.43	6.50	5.19	3.88	2.69	1.93
25	3.48	5.53	6.97	5.69	7.12	7.78	7.38	6.45	5.16	3.84	2.61	1.91
26	3.47	5.54	7.41	5.66	7.13	7.78	7.30	6.37	5.15	3.78	2.61	1.89
27	3.47	5.51	7.62	5.67	7.14	7.69	7.25	6.33	5.09	3.73	2.59	1.87
28	3.47	5.46	7.65	5.69	7.18	7.72	7.24	6.30	5.06	3.69	2.57	1.86
29	3.44	5.38	7.64	5.71	7.21	7.67	7.23	6.27	5.01	3.63	2.57	1.86
30	3.48	5.29	7.76	5.71	---	7.67	7.19	6.25	4.93	3.61	2.57	1.88
31	3.50	---	7.83	5.74	---	7.71	---	6.19	---	3.57	2.53	---
MEAN	3.57	4.52	6.31	6.54	6.43	7.55	7.50	6.73	5.55	4.24	2.97	2.15
MAX	3.70	5.54	7.83	7.81	7.21	7.81	7.68	7.16	6.14	4.89	3.55	2.50
MIN	3.44	3.49	5.18	5.66	5.73	7.23	7.19	6.19	4.93	3.57	2.53	1.86

WTR YR 1984 MEAN 5.34 MAX 7.83 MIN 1.86

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 downstream from Clear Lake Dam, 1.9 mi downstream from Copsey Creek, and 2.5 mi northeast of Lower Lake.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder and rain gage. Datum of gage is 1,280.34 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow completely regulated by Clear Lake (station 11450000) 500 ft upstream.

AVERAGE DISCHARGE (unadjusted).--40 years, 388 ft^3/s, 281,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s Feb. 24, 1958, gage height, 9.40 ft; no flow Nov. 8-20, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,390 ft^3/s Jan. 4, gage height, 8.15 ft; minimum daily, 6.2 ft^3/s Nov. 19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	8.1	1770	3330	14	16	150	564	692	548	455	221
2	8.3	7.9	1760	3280	14	16	150	564	696	547	450	247
3	8.3	7.8	2160	3200	14	16	162	552	695	538	393	222
4	8.3	7.7	1810	3010	13	16	171	571	675	514	381	204
5	8.2	7.6	1760	3110	13	16	258	600	595	535	381	197
6	8.1	7.6	1750	3040	12	16	441	612	511	573	379	197
7	8.2	7.6	1760	2990	12	16	450	602	464	554	379	196
8	8.3	7.5	1880	2910	12	16	450	590	394	522	389	196
9	8.3	7.4	2690	2850	12	16	449	609	351	512	406	194
10	8.3	41	2550	2810	12	16	450	598	560	510	415	194
11	8.2	98	3020	2750	12	16	483	506	420	510	401	183
12	8.4	97	2620	2690	13	94	439	469	461	523	389	186
13	8.5	102	2620	2630	13	149	435	455	474	541	388	177
14	8.2	103	2610	2570	14	149	553	482	461	534	357	168
15	8.2	103	2580	2510	14	150	594	495	472	515	323	160
16	8.1	99	2530	2510	15	150	593	502	500	514	287	148
17	8.1	46	2520	2390	15	916	586	497	532	515	261	136
18	8.0	6.3	2490	2370	15	946	572	483	554	515	246	127
19	7.7	6.2	2460	2340	15	511	557	482	554	523	261	112
20	7.6	650	2420	2280	15	539	511	483	542	514	278	105
21	7.5	1860	2340	2250	15	513	462	455	530	490	222	107
22	7.6	1790	2290	2220	15	512	462	426	521	462	149	108
23	7.5	1760	2290	2140	16	512	480	497	488	436	150	108
24	7.4	2250	3630	2100	16	617	476	596	463	412	142	108
25	8.2	2030	4100	911	16	771	463	614	471	412	117	108
26	8.5	1950	3280	16	16	772	483	576	488	413	91	108
27	8.3	1910	3290	16	16	514	481	564	523	431	73	97
28	8.2	1870	3200	15	16	361	473	573	561	460	57	90
29	8.1	1860	3180	14	16	360	484	608	562	442	65	89
30	8.1	1780	3420	14	---	297	522	663	549	411	71	88
31	8.1	---	3330	14	---	204	---	698	---	404	119	---
TOTAL	251.1	20480.7	80110	65280	411	9213	13240	16986	15759	15330	8475	4581
MEAN	8.10	683	2584	2106	14.2	297	441	548	525	495	273	153
MAX	8.5	2250	4100	3330	16	946	594	698	696	573	455	247
MIN	7.4	6.2	1750	14	12	16	150	426	351	404	57	88
AC-FT	498	40620	158900	129500	815	18270	26260	33690	31260	30410	16810	9090
a	1.05	11.93	12.93	0.59	2.27	2.05	0.58	0	0.03	0	0.19	0

CAL YR 1983 TOTAL 568681.9 MEAN 1558 MAX 5230 MIN 5.4 AC-FT 1128000
WTR YR 1984 TOTAL 250116.8 MEAN 683 MAX 4100 MIN 6.2 AC-FT 496100

a Precipitation in inches.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°09'56", long 122°37'08", in SE 1/4 NW 1/4 sec.10, T.15 N., R.7 W., Lake County, Hydrologic Unit 18020116, on right bank 0.5 mi upstream from Spanish Creek, 0.9 mi upstream from Hough Springs, and 10 mi northeast of Clearlake Oaks.

DRAINAGE AREA.--60.2 mi^2.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,840 ft from topographic map. Prior to Jan. 13, 1980 at datum 2.0 ft higher. Recording rain gage 4.7 mi northwest of gage. Altitude of gage is 2,050 ft from topographic map.

REMARKS.--Records fair, including those for periods of no gage height record, Oct. 1 to Nov. 9. No regulation or diversion above station.

AVERAGE DISCHARGE.--13 years, 114 ft^3/s, 82,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,980 ft^3/s Jan. 16, 1974, gage height, 11.23 ft present datum from floodmarks, from rating curve extended above 2,700 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	1730	2,710	7.11	Dec. 9	0800	2,000	6.36
Nov. 17	0630	1,650	5.94	Dec. 25	1100	*3,480	7.89
Nov. 24	1215	1,720	6.02				

Minimum daily, 0.57 ft^3/s several days during September.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	17	101	560	59	110	88	50	15	5.1	1.5	1.0
2	5.4	12	86	460	58	107	83	47	14	4.6	1.4	.94
3	4.7	8.3	362	372	58	103	76	43	14	4.3	1.5	.87
4	4.2	6.7	242	324	58	97	78	42	14	4.0	1.4	.78
5	3.8	5.6	180	278	57	93	86	39	15	3.8	1.3	.67
6	3.8	6.2	409	239	54	87	84	38	16	3.6	1.3	.63
7	3.8	8.6	725	209	52	83	81	37	18	3.3	1.2	.63
8	4.0	7.4	681	185	51	79	88	35	17	3.1	1.1	.63
9	4.1	60	1680	169	58	77	83	33	15	2.9	1.1	.63
10	3.8	815	1500	154	60	74	144	33	14	3.0	.97	.60
11	3.5	192	1660	139	56	72	112	32	13	2.8	.94	.57
12	3.2	217	1060	126	87	73	94	32	13	2.7	.93	.57
13	3.0	392	713	126	508	229	87	31	13	2.5	.94	.57
14	3.0	171	536	117	365	295	82	29	13	2.4	.94	.57
15	3.0	84	417	118	531	530	78	29	12	2.3	.94	.57
16	2.9	86	337	120	577	445	75	29	11	2.1	.94	.57
17	2.9	804	276	106	417	426	72	29	10	2.1	.87	.57
18	2.9	271	222	99	327	317	84	28	9.5	2.2	.92	.57
19	2.9	305	191	93	269	259	91	26	8.9	2.0	.85	.57
20	2.8	357	165	90	229	223	84	25	8.6	1.9	.80	.57
21	2.8	223	145	90	220	191	74	24	8.4	1.8	.77	.57
22	2.8	157	125	88	193	171	72	23	8.3	1.9	.77	.57
23	2.9	164	192	83	175	148	68	22	7.9	2.0	.70	.57
24	3.1	886	1740	79	170	136	67	21	7.2	2.3	.70	.57
25	3.1	588	2600	77	157	131	65	21	6.9	2.3	.70	.57
26	3.0	346	1440	72	141	127	66	20	6.6	2.1	.74	.57
27	2.9	236	967	67	136	116	62	19	6.3	2.0	.77	.63
28	2.8	180	696	66	122	109	61	18	5.9	1.8	.77	.70
29	3.0	143	581	65	119	96	58	17	5.4	1.8	.77	.70
30	3.4	119	908	65	---	91	52	16	5.4	1.7	.81	.69
31	7.4	---	700	61	---	92	---	15	---	1.6	1.0	---
TOTAL	111.1	6867.8	21637	4897	5364	5187	2395	903	332.3	82.0	30.34	19.22
MEAN	3.58	229	698	158	185	167	79.8	29.1	11.1	2.65	.98	.64
MAX	7.4	886	2600	560	577	530	144	50	18	5.1	1.5	1.0
MIN	2.8	5.6	86	61	51	72	52	15	5.4	1.6	.70	.57
AC-FT	220	13620	42920	9710	10640	10290	4750	1790	659	163	60	38
a	1.06	18.33	26.51	0.90	4.95	3.68	1.63	0.09	0.08	0	.07	0

CAL YR 1983 TOTAL 116930.6 MEAN 320 MAX 3180 MIN 2.8 AC-FT 231900
WTR YR 1984 TOTAL 47825.76 MEAN 131 MAX 2600 MIN .57 AC-FT 94860

a Precipitation, in inches.

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°04'50", long 122°32'07", in SE 1/4 SW 1/4 sec.4, T.14 N., R.6 W., Lake County, Hydrologic Unit 18020116 on right bank 2,500 ft downstream from Indian Valley Dam and 8 mi northeast of Clearlake Oaks.

DRAINAGE AREA.--121 mi^2.

PERIOD OF RECORD.--October 1983 to September 1984 (low flow only).

GAGE.--Water-stage recorder. Altitude of gage is 1,320 ft from topographic map.

REMARKS.--Records good. No records computed above 250 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	250	---	---	11	240	12	12	100	---	156	58
2	177	250	---	---	25	240	12	12	113	---	122	8.2
3	174	219	---	---	30	240	12	12	113	---	121	8.0
4	174	237	---	---	29	240	14	12	115	---	121	7.9
5	178	242	---	---	29	240	12	12	188	250	121	7.9
6	190	171	---	240	27	120	13	12	233	---	121	7.9
7	191	250	---	240	27	120	12	12	232	---	121	9.3
8	188	249	---	240	29	120	12	13	232	249	121	22
9	188	187	250	240	28	120	12	12	232	249	121	22
10	189	250	---	240	27	120	12	96	122	250	121	21
11	187	---	231	240	26	120	12	142	245	246	121	13
12	186	---	---	240	25	12	12	135	235	240	121	13
13	185	---	---	240	24	12	12	136	231	250	121	15
14	184	---	---	240	23	12	12	137	231	241	120	17
15	184	---	---	240	22	12	12	137	229	241	121	16
16	190	---	---	240	21	12	12	137	232	242	121	16
17	176	---	---	240	---	12	12	136	234	246	121	14
18	190	---	---	240	---	12	13	136	234	231	121	14
19	237	---	---	240	---	12	13	136	232	234	120	14
20	241	---	250	240	240	12	13	137	242	---	121	13
21	241	---	246	240	136	12	13	138	239	---	204	9.5
22	236	---	250	240	21	12	12	136	243	---	---	15
23	236	---	250	240	21	12	12	105	243	---	---	19
24	241	---	20	19	21	12	12	84	245	---	---	19
25	234	---	225	120	21	12	12	82	246	239	---	19
26	234	---	---	120	21	12	12	83	246	218	---	19
27	220	---	---	120	21	12	12	83	246	215	---	19
28	202	---	---	120	101	22	12	83	246	216	---	19
29	206	---	---	120	240	12	12	81	246	215	---	19
30	202	---	---	11	---	12	12	84	---	215	249	30
31	225	---	---	11	---	12	---	85	---	217	177	---
TOTAL	6236	---	---	---	---	2170	367	2618	---	---	---	504.7
MEAN	201	---	---	---	---	70.0	12.2	84.5	---	---	---	16.8
MAX	241	---	---	---	---	240	14	142	---	---	---	58
MIN	150	---	---	---	---	12	12	12	---	---	---	7.9
AC-FT	12370	---	---	---	---	4300	728	5190	---	---	---	1000

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 upstream from highway bridge, 0.5 mi south of Yolo, and 7.3 mi downstream from Moore Dam.

DRAINAGE AREA.--1,139 mi^2.

PERIOD OF RECORD.--January 1903 to current year. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1914(M). WSP 1345: 1906. WSP 1445: 1955. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 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 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. Diversions for irrigation of about 30,000 acres between Capay and Yolo, from data furnished by Clear Lake Water Co.

AVERAGE DISCHARGE.--82 years, 550 ft^3/s, 398,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft^3/s Feb. 25, 1958, gage height, 85.35 ft present datum; maximum stage observed, 88.44 ft present datum, Mar. 10, 1904; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,300 ft^3/s Dec. 25, gage height, 76.13 ft; minimum daily, 9.1 ft^3/s Aug. 8.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	164	2480	5640	354	437	157	59	38	32	33	25
2	81	263	2310	5360	319	449	86	58	38	33	31	25
3	73	314	3120	5120	295	445	71	60	40	35	32	25
4	70	301	4060	4780	242	437	61	50	41	37	29	26
5	68	228	2630	4400	228	424	63	47	48	36	30	27
6	68	247	2000	4310	216	421	69	47	55	36	26	30
7	71	254	2900	3980	181	375	197	51	64	37	9.2	27
8	71	248	2900	3870	163	291	215	52	59	36	9.1	21
9	69	248	5000	3750	152	267	217	49	54	34	11	19
10	67	398	6800	3680	145	254	192	47	49	32	16	17
11	72	2230	6000	3620	143	232	197	50	52	32	23	17
12	80	918	8100	3500	147	215	182	53	59	37	25	17
13	80	1190	5900	3400	157	275	132	54	55	37	28	19
14	78	1550	6300	3300	768	447	83	50	50	38	29	20
15	80	942	5800	3200	629	468	166	52	42	34	29	19
16	81	886	5450	3200	1590	626	199	57	36	34	28	18
17	80	2060	4300	3150	1080	604	180	63	34	32	26	14
18	80	1720	3550	3000	1040	1510	157	50	33	29	28	13
19	79	893	3390	2900	1230	1090	198	50	35	28	28	13
20	79	1130	3310	2800	1180	794	190	49	36	28	27	12
21	79	2050	2900	2750	818	774	167	56	34	27	23	16
22	76	2530	2780	2700	514	698	133	49	30	26	18	15
23	65	2770	2770	2650	349	643	130	40	30	33	18	15
24	50	4120	6620	2600	308	593	119	37	31	38	17	14
25	40	4930	19000	2550	283	734	102	38	33	41	16	13
26	31	3210	11000	1230	265	864	64	43	36	38	19	13
27	29	3110	8170	662	252	820	61	46	37	36	21	16
28	38	3020	9640	504	244	524	65	46	41	39	21	19
29	32	2930	9370	463	299	389	58	43	35	41	21	19
30	32	2930	9390	450	---	266	55	41	34	40	23	17
31	30	---	7010	418	---	225	---	41	---	36	25	---
TOTAL	2011	47784	174950	93937	13591	16591	3966	1528	1259	1072	719.3	561
MEAN	64.9	1593	5644	3030	469	535	132	49.3	42.0	34.6	23.2	18.7
MAX	82	4930	19000	5640	1590	1510	217	63	64	41	33	30
MIN	29	164	2000	418	143	215	55	37	30	26	9.1	12
AC-FT	3990	94780	347000	186300	26960	32910	7870	3030	2500	2130	1430	1110

CAL YR 1983 TOTAL 1057851 MEAN 2898 MAX 24700 MIN 21 AC-FT 2098000
WTR YR 1984 TOTAL 357969.3 MEAN 978 MAX 19000 MIN 9.1 AC-FT 710000

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 upstream from Sacramento and Woodland railroad bridge, 6 mi upstream from Sacramento Bypass, 6 mi downstream from Fremont weir, and 7 mi east of Woodland.

PERIOD OF RECORD.--October 1939 to September 1977, October 1977 to current year (high flows only). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3.41 ft 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 higher. Prior to Sept. 30, 1977, a supplementary water-stage recorder 6 mi 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 ft^3/s are computed.

AVERAGE DISCHARGE.--38 years (water years 1939-77), 3,765 ft^3/s, 2,728,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 272,000 ft^3/s Feb. 8, 1942, gage height, 32.00 ft; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 192,000 ft^3/s Dec. 28, gage height, 30.09 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	6690	90900	---	---						
2		---	4640	65700	---	---						
3		---	4320	47100	---	---						
4		---	5420	34700	---	---						
5		---	5220	27700	---	---						
6		---	5210	23300	---	---						
7		---	5590	19800	---	---						
8		---	5770	16100	---	---						
9		---	6520	12200	---	---						
10		---	11200	9080	---	---						
11		---	21100	7450	---	---						
12		2990	44100	6500	---	---						
13		3420	54700	6030	---	---						
14		3990	59800	5640	---	---						
15		4070	52000	5360	---	---						
16		3950	43900	5160	1590	---						
17		4000	37500	4960	2550	---						
18		4810	31600	4740	2160	1130						
19		4210	27500	4520	2070	1900						
20		4650	24300	4360	2010	1340						
21		6240	21000	4240	1900	1200						
22		8590	18600	4120	1460	1090						
23		7180	16800	4050	1120	----						
24		5620	18600	3970	----	----						
25		9060	46500	3930	----	----						
26		20500	86900	3400	----	1060						
27		25200	149000	2220	----	1130						
28		23300	183000	1720	----	1020						
29		18100	170000	1360	----	----						
30		12000	138000	1160	----	----						
31		-----	111000	1050	----	----						
TOTAL		----	1416480	432520	----	----						
MEAN		----	45690	13950	----	----						
MAX		----	183000	90900	----	----						
MIN		----	4320	1050	----	----						
AC-FT		----	2810000	857900	----	----						

11453900 LAKE BERRYESSA NEAR WINTERS, CA

LOCATION.--Lat 38°30'48", long 122°06'13", in SE 1/4 NW 1/4 sec.29, T.8 N., R.2 W., Napa County, Hydrologic Unit 18020117, near center of Monticello Dam on Putah Creek, 7.4 mi west of Winters.

DRAINAGE AREA.--566 mi^2.

PERIOD OF RECORD.--January 1957 to current year.

REVISED RECORDS.--WSP 1735: 1958-60. WSP 1931: Drainage area.

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

REMARKS.--Reservoir is formed by concrete arch-gravity dam completed November 1956. Usable capacity, 1,592,000 acre-ft between elevations 253.25 ft invert of outlet valves, and 440 ft crest of glory-hole spillway. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South diversion canal for irrigation of about 46,000 acres in the lower Sacramento Valley. Total diverted during current year was 258,900 acre-ft. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,733,500 acre-ft Mar. 2, 1983, elevation, 446.67 ft; minimum since irrigation pool first filled, 738,600 acre-ft Nov. 20, 1977, elevation, 388.04 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,669,600 acre-ft Dec. 26, elevation, 443.46 ft; minimum, 1,342,600 acre-ft Sept. 30, elevation, 426.05 ft.

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

380	632,400
390	765,700
400	911,200
410	1,068,100
420	1,236,000
430	1,414,200
450	1,799,900

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1448200	1429200	1505100	1648900	1606000	1604400	1598400	1577700	1535500	1485300	1426100	1377000
2	1447700	1429200	1505700	1645200	1606000	1604000	1598000	1576700	1533800	1483600	1424100	1375500
3	1447300	1429100	1513200	1641200	1606000	1603400	1597900	1575400	1532100	1481700	1422100	1374300
4	1447000	1428900	1515900	1637700	1605800	1602700	1597500	1574000	1530600	1479800	1420200	1372800
5	1446200	1428500	1516600	1635200	1605600	1601900	1596700	1572700	1528900	1478000	1418600	1371400
6	1445500	1428100	1517400	1632300	1605400	1601900	1596100	1571400	1527600	1476100	1417100	1370100
7	1444900	1427800	1518300	1629000	1605000	1601900	1595700	1570000	1525500	1474100	1415500	1368700
8	1444200	1427600	1524000	1626500	1604800	1601900	1595200	1568900	1524000	1472200	1413800	1367400
9	1443600	1428700	1542900	1624000	1604200	1601900	1594400	1566900	1522500	1470100	1412200	1366200
10	1442900	1444000	1556100	1622400	1604000	1601900	1593800	1566200	1520400	1468100	1410500	1365100
11	1442100	1447000	1574800	1620500	1604000	1601900	1593400	1565000	1519100	1466100	1408900	1363800
12	1441400	1449200	1580500	1618900	1604000	1602700	1593000	1563700	1517600	1464000	1407200	1362700
13	1440700	1455500	1584200	1618300	1606500	1604400	1592500	1562400	1516100	1462200	1405400	1361500
14	1439900	1456600	1586300	1615200	1607500	1605400	1591900	1560600	1514200	1460100	1403800	1360200
15	1439200	1457000	1587800	1614100	1610400	1607700	1591300	1558700	1512700	1458300	1402100	1359100
16	1438500	1458800	1588600	1613100	1611000	1608700	1590700	1557400	1511400	1456600	1400500	1358000
17	1437700	1473300	1588800	1611900	1611000	1609600	1589800	1556300	1509800	1454400	1398800	1356900
18	1436800	1475700	1589200	1610600	1610400	1609200	1589400	1554900	1508100	1452300	1396800	1355500
19	1436100	1477400	1589000	1610200	1609600	1608700	1589200	1553600	1506300	1450300	1395200	1354600
20	1435100	1478900	1588800	1609600	1609000	1607900	1588800	1552500	1504200	1448200	1393700	1353900
21	1434400	1479500	1588400	1609000	1608500	1607300	1588200	1551100	1502700	1446200	1392100	1352500
22	1433700	1479500	1587800	1608700	1607700	1606100	1587500	1550000	1501000	1444200	1390400	1351400
23	1433100	1481200	1589800	1608100	1606900	1605200	1586700	1548500	1499100	1442500	1388800	1350300
24	1432500	1498200	1627300	1607500	1606900	1604400	1585900	1546700	1497600	1440900	1387200	1348900
25	1432000	1502300	1666900	1607100	1606700	1603400	1584400	1545000	1495800	1439000	1385700	1347800
26	1431400	1503400	1669600	1607100	1606500	1602300	1583000	1543700	1494100	1437000	1384400	1346700
27	1430900	1503800	1665700	1607100	1606100	1601500	1582100	1542600	1492200	1435100	1383200	1345800
28	1430200	1504000	1660600	1607100	1605800	1601500	1580900	1541200	1490500	1433100	1381900	1344700
29	1429600	1504400	1654700	1606900	1605400	1599400	1579800	1539900	1488800	1431400	1380600	1343800
30	1429200	1504600	1655700	1606700	---	1598800	1578800	1538400	1486900	1429800	1379500	1342600
31	1429200	---	1652200	1606300	---	1598600	---	1537200	---	1427900	1378300	---
MAX	1448200	1504600	1669600	1648900	1611000	1609600	1598400	1577700	1535500	1485300	1426100	1377000
MIN	1429200	1427600	1505100	1606300	1604000	1598600	1578800	1537200	1486900	1427900	1378300	1342600
a	430.82	434.87	442.57	440.21	440.16	439.81	438.78	436.60	433.93	430.75	428.03	426.05
b	-19200	+75400	+147600	-45900	-900	-6800	-19800	-41600	-50300	-59000	-49600	-35700
c	4299	1456	764	1910	1791	5320	6010	11296	11885	13095	10749	8616

CAL YR 1983 b +96300
WTR YR 1984 b -105800

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

11454000 PUTAH CREEK NEAR WINTERS, CA

LOCATION.--Lat 38°30'55", long 122°04'51", in NE 1/4 NE 1/4 sec.28, T.8 N., R.2 W., Yolo County, Hydrologic Unit 18020109, on left bank 1 mi downstream from Cold Canyon, 1.3 mi downstream from Monticello Dam, and 6 mi west of Winters.

DRAINAGE AREA.--574 mi^2.

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 National Geodetic Vertical Datum of 1929 (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft 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).--54 years, 551 ft^3/s, 399,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft^3/s Feb. 27, 1940, gage height, 30.5 ft present datum, from rating curve extended above 30,000 ft^3/s; no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955. Maximum discharge since construction of Monticello Dam in 1957, 18,700 ft^3/s Mar. 2, 1983, gage height, 19.55 ft; minimum daily, 6.1 ft^3/s Dec. 19, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,580 ft^3/s Dec. 26, gage height, 14.93 ft; minimum daily, 45 ft^3/s Dec. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	174	97	392	4280	411	831	344	667	716	761	806	575
2	158	108	392	3860	353	701	354	623	716	750	795	559
3	154	150	418	3460	321	478	354	618	694	775	765	539
4	184	131	401	3060	316	381	367	646	671	833	723	526
5	235	86	397	2790	361	367	376	650	704	860	689	548
6	279	86	397	2540	457	273	427	661	711	860	687	511
7	277	92	396	2330	470	141	463	686	664	831	696	528
8	254	106	397	2060	403	125	452	727	660	814	683	510
9	235	100	225	1840	365	133	431	774	621	836	719	480
10	252	121	45	1710	362	150	424	766	629	846	700	479
11	276	94	114	1600	354	171	423	743	692	828	676	491
12	274	92	315	1470	416	190	422	702	732	828	670	479
13	240	94	374	1470	422	350	452	668	740	850	685	442
14	265	94	584	1420	784	668	467	704	703	849	696	450
15	283	209	735	1360	956	906	460	684	723	833	721	461
16	276	311	724	1330	1050	948	445	666	734	816	736	431
17	276	406	747	1270	1050	1000	478	679	723	807	727	439
18	313	381	747	1150	1030	1010	442	655	762	868	686	463
19	311	385	745	938	979	995	330	655	728	835	649	456
20	270	387	743	735	952	977	365	612	776	813	648	433
21	265	390	743	666	905	953	414	600	755	771	673	406
22	239	370	743	599	799	914	429	620	735	751	666	375
23	261	395	745	556	653	882	474	659	748	714	647	367
24	260	237	1190	494	483	852	468	684	761	701	614	358
25	260	254	4480	401	357	837	488	663	777	778	566	378
26	261	396	6500	360	425	816	582	637	783	796	516	399
27	309	394	6350	285	518	794	614	620	781	812	509	388
28	270	396	5760	234	475	678	636	612	802	789	553	377
29	187	394	5110	313	486	461	650	629	786	747	560	371
30	182	397	4790	394	---	351	654	647	774	745	600	348
31	136	---	4680	410	---	344	---	686	---	779	610	---
TOTAL	7616	7153	50379	45385	16913	18677	13685	20643	21801	24876	20671	13567
MEAN	246	238	1625	1464	583	602	456	666	727	802	667	452
MAX	313	406	6500	4280	1050	1010	654	774	802	868	806	575
MIN	136	86	45	234	316	125	330	600	621	701	509	348
AC-FT	15110	14190	99930	90020	33550	37050	27140	40950	43240	49340	41000	26910

CAL YR 1983 TOTAL 631818.9 MEAN 1731 MAX 17700 MIN 8.5 AC-FT 1253000 MEAN a 1954 AC-FT a 1414600
WTR YR 1984 TOTAL 261366 MEAN 714 MAX 6500 MIN 45 AC-FT 518400 MEAN a 675 AC-FT a 489800

a Adjusted for change in contents and evaporation from Lake Berryessa.

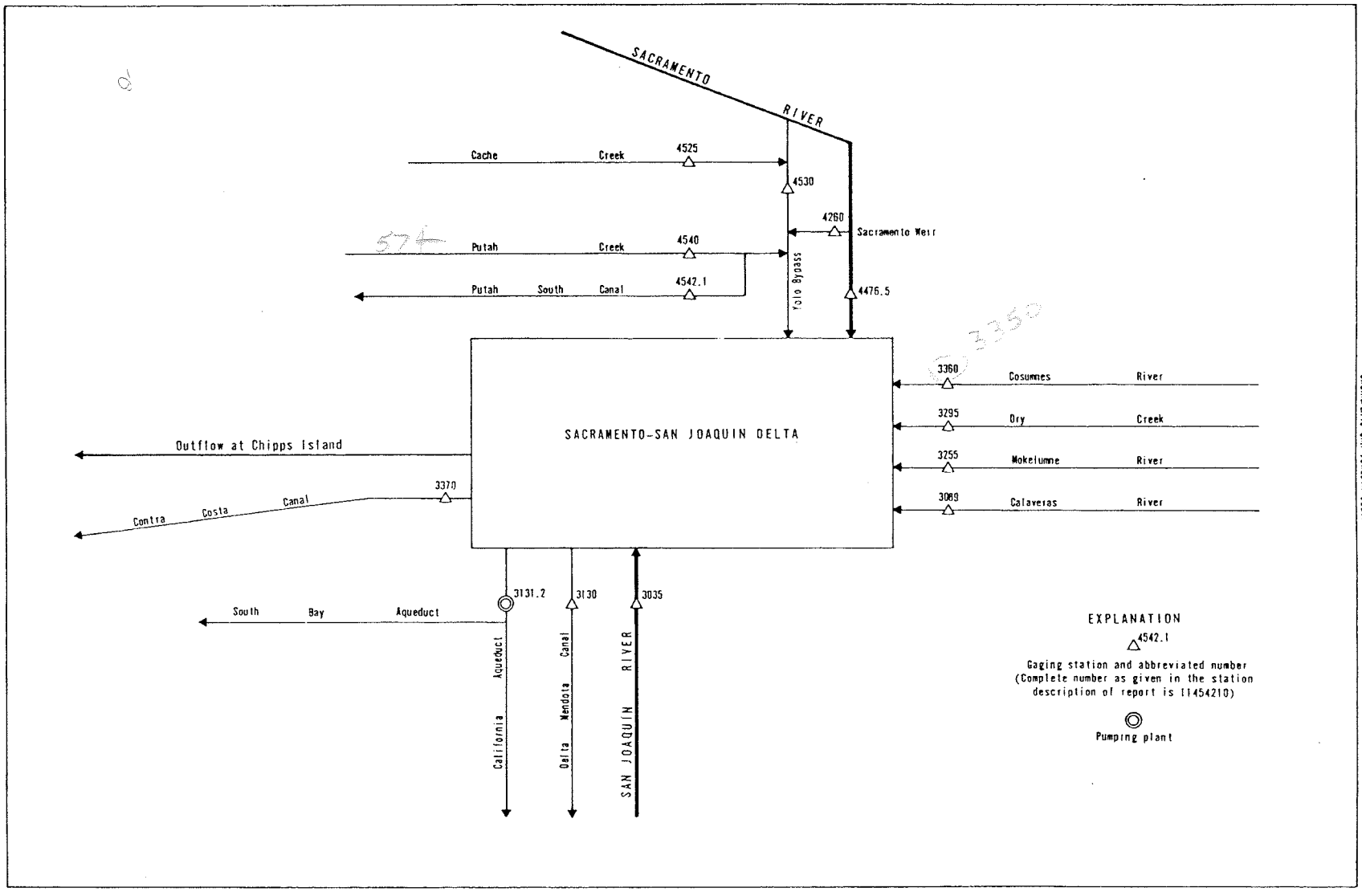

FIGURE 13. — Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.

LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.
DRAINAGE AREA.--Total drainage area of inflow streams tabulated below is 39,511 mi^2.
PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971, can be obtained from published records for stations tabulated below.
COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals furnished by Bureau of Reclamation, California Aqueduct by California Department of Water Resources.
REVISIONS.--The figures pubished for Yolo Bypass near Woodland (station 11453000) for the 1983 water year are revised in the following table, and supersede those figures published in the report for 1983.

11453000 YOLO BYPASS NEAR WOODLAND, CA

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water Year
0	24.30	741.7	1226	3075	6564	885.4	177.9	61.59	0	0	0	12760
TOTAL												
1780	2534	5769	5848	10050	16290	7255	6345	4775	3310	2216	2245	68420

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Inflows, in thousands of acre-feet

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water Year
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
818.8	635.2	1176	1576	623.1	461.3	255.0	199.2	136.7	117.1	134.0	173.6	6306
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM												
7.51	92.76	95.87	19.09	2.22	2.94	8.59	13.23	14.50	16.66	16.27	11.73	301.4
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
79.08	117.8	173.7	150.5	52.82	54.80	23.84	16.68	21.00	20.88	25.35	32.90	769.2
11329500 DRY CREEK NEAR GALT												
1.08	33.54	75.07	21.24	21.91	16.94	5.24	2.51	.84	.22	.31	.23	179.1
11335000 COSUMNES RIVER AT MICHIGAN BAR												
4.90	93.45	202.7	71.44	60.76	71.48	44.00	30.03	10.48	4.29	2.45	1.82	597.8
11426000 SACRAMENTO WEIR SPILL												
0	7.12	298.4	98.03	0	0	0	0	0	0	0	0	403.6
11447650 SACRAMENTO RIVER AT FREEPORT												
1300	2905	4582	3493	1862	1932	1067	947.3	892.0	1330	1155	1053	22520
11453000 YOLO BYPASS NEAR WOODLAND[1]												
0	340.9	2810	857.9	29.47	19.58	0	0	0	0	0	0	4058
11454000 PUTAH CREEK NEAR WINTERS												
15.11	14.19	99.93	90.02	33.55	37.05	27.14	40.95	43.24	49.34	41.00	26.91	518.4
TOTAL												
2226	4240	9514	6377	2686	2596	1431	1250	1119	1538	1374	1300	35654

Diversions, in thousands of acre-feet

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water Year
11313000 DELTA-MENDOTA CANAL												
127.9	56.8	98.6	84.4	219.2	263.4	235.7	183.8	177.7	287.5	269.2	185.6	2190
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
20.75	44.72	25.95	20.37	113.2	157.5	214.7	164.8	178.2	279.4	298.6	131.2	1649
11337000 COSTRA COSTA CANAL												
5.01	4.01	3.34	2.82	3.87	3.71	8.53	11.64	12.80	15.59	15.36	11.04	97.73
11454210 PUTAH SOUTH CANAL												
13.38	11.52	19.04	6.26	3.45	7.81	22.92	35.78	36.71	42.58	35.62	23.80	258.9
TOTAL												
167.0	117.1	146.9	113.9	339.7	432.4	481.9	396.0	405.4	625.1	618.8	351.6	4196

1. Flow not computed below 1,000 ft^3/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 1984

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 upstream from mouth, 0.5 mi southwest of Delta, and 25 mi north of Redding.	17.3	1975-84	12-7-83	225
					12-12-83	474
					9-5-84	4.1

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SACRAMENTO RIVER BASIN

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	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)
402249122121501 - COTTONWOOD CR ABV MOUTH (LAT 40 22 49 LONG 122 12 15)											
OCT , 1983											
25...	1215	226	140	8.3	16.5	10.4	79	2	17	8.8	7.3
MAY , 1984											
03...	1135	501	236	8.1	17.0	10.7	100	2	23	11	8.7
402259122130201 - PATTERSON CR ON J.B. RANCH (LAT 40 22 59 LONG 122 13 02)											
MAY , 1984											
03...	--	6.9	111	7.1	16.5	8.2	43	0	9.0	5.0	6.0
11376000 - COTTONWOOD CR NR COTTONWOOD CALIF (LAT 40 23 14 LONG 122 14 15)											
OCT , 1983											
25...	1400	203	160	7.9	18.0	10.3	79	2	17	8.9	7.3
MAY , 1984											
03...	0815	484	237	7.8	15.0	9.3	100	0	23	11	8.6
402241122155101 - COTTONWOOD CR ABV POWERLINES (LAT 40 22 41 LONG 122 15 51)											
OCT , 1983											
25...	1530	167	177	7.9	18.0	9.7	83	3	18	9.3	7.6
MAY , 1984											
03...	1000	437	247	8.0	16.0	10.3	110	5	25	12	8.8
402240122170401 - TRIB ABV I-5, LB (LAT 40 22 40 LONG 122 17 04)											
OCT , 1983											
25...	1615	23	68	7.5	15.0	9.8	30	0	7.6	4.6	3.7
402226122170501 - TRIB AT HOLIDAY RANCH (LAT 40 22 26 LONG 122 17 05)											
OCT , 1983											
25...	1040	.06	96	7.4	15.5	11.9	40	0	7.7	5.0	5.0
MAY , 1984											
01...	1345	--	122	7.5	14.5	--	46	0	9.7	5.3	6.4
402249122174301 - DITCH #2 AT CLARKS RANCH (LAT 40 22 49 LONG 122 17 43)											
OCT , 1983											
26...	0800	1.6	110	7.3	13.5	8.8	47	0	9.9	5.5	6.4
402206122184901 - HOOKER CR AT DRAPER RD (LAT 40 22 06 LONG 122 18 49)											
OCT , 1983											
25...	0930	54	80	7.7	13.0	10.2	38	0	7.7	4.5	3.5
MAY , 1984											
02...	1320	43	111	7.3	13.5	11.1	44	0	9.9	4.8	6.1
402229122191801 - COTTONWOOD CR BLW SF (LAT 40 22 29 LONG 122 19 18)											
OCT , 1983											
26...	0915	81	268	8.0	15.0	8.6	120	7	27	13	11
MAY , 1984											
01...	1140	391	229	7.9	15.0	10.0	110	14	25	12	8.4
402225122193901 - TRIB BLW SF CONFLUENCE, LB (LAT 40 22 25 LONG 122 19 39)											
MAY , 1984											
01...	1115	.54	102	7.0	14.0	9.2	42	0	8.9	4.8	5.2

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SACRAMENTO RIVER BASIN

DATE	PERCENT SODIUM	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
402249122121501 - COTTONWOOD CR ABV MOUTH (LAT 40 22 49 LONG 122 12 15)										
OCT , 1983										
25...	17	1.3	77	7.8	6.7	<.10	19	116	<.02	<.10
MAY , 1984										
03...	15	1.0	101	17	6.1	<.10	17	140	<.01	<.10
402259122130201 - PATTERSON CR ON J.B. RANCH (LAT 40 22 59 LONG 122 13 02)										
MAY , 1984										
03...	23	1.5	48	11	1.5	.20	19	94	.01	.10
11376000 - COTTONWOOD CR NR COTTONWOOD CALIF (LAT 40 23 14 LONG 122 14 15)										
OCT , 1983										
25...	16	1.3	77	8.0	6.9	<.10	18	115	<.02	<.10
MAY , 1984										
03...	15	1.0	102	16	6.3	<.10	17	152	<.01	<.10
402241122155101 - COTTONWOOD CR ABV POWERLINES (LAT 40 22 41 LONG 122 15 51)										
OCT , 1983										
25...	16	1.1	80	8.1	8.0	<.10	17	120	<.02	<.10
MAY , 1984										
03...	14	1.0	107	17	6.7	<.10	17	150	<.01	<.10
402240122170401 - TRIB ABV I-5, LB (LAT 40 22 40 LONG 122 17 04)										
OCT , 1983										
25...	17	.90	42	4.0	1.4	<.10	16	65	<.02	<.10
402226122170501 - TRIB AT HOLIDAY RANCH (LAT 40 22 26 LONG 122 17 05)										
OCT , 1983										
25...	20	2.2	46	6.4	2.7	<.10	13	76	<.02	<.10
MAY , 1984										
01...	22	3.5	55	9.7	2.2	<.10	18	98	<.01	<.10
402249122174301 - DITCH #2 AT CLARKS RANCH (LAT 40 22 49 LONG 122 17 43)										
OCT , 1983										
26...	22	2.5	112	10	2.0	<.10	19	89	<.02	.20
402206122184901 - HOOKER CR AT DRAPER RD (LAT 40 22 06 LONG 122 18 49)										
OCT , 1983										
25...	16	.80	41	4.5	1.2	<.10	16	62	<.02	<.10
MAY , 1984										
02...	22	1.2	52	5.5	1.8	<.10	20	88	.01	<.10
402229122191801 - COTTONWOOD CR BLW SF (LAT 40 22 29 LONG 122 19 18)										
OCT , 1983										
26...	16	1.6	114	13	16	<.10	17	156	<.02	<.10
MAY , 1984										
01...	14	.90	98	17	6.2	<.10	17	138	<.01	<.10
402225122193901 - TRIB BLW SF CONFLUENCE, LB (LAT 40 22 25 LONG 122 19 39)										
MAY , 1984										
01...	21	.90	47	6.7	1.6	<.10	18	78	<.01	<.10

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SACRAMENTO RIVER BASIN

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, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
402249122121501 - COTTONWOOD CR ABV MOUTH (LAT 40 22 49 LONG 122 12 15)										
OCT , 1983										
25...	<.10	.05	.03	.70	.02	.02	.02	30	29	--
MAY , 1984										
03...	<.10	.02	.01	.30	.03	.02	.02	40	14	1.4
402259122130201 - PATTERSON CR ON J.B. RANCH (LAT 40 22 59 LONG 122 13 02)										
MAY , 1984										
03...	<.10	.08	.11	.40	.13	.05	.05	30	16	6.3
11376000 - COTTONWOOD CR NR COTTONWOOD CALIF (LAT 40 23 14 LONG 122 14 15)										
OCT , 1983										
25...	<.10	.04	.04	.90	.01	.02	.03	30	25	1.3
MAY , 1984										
03...	<.10	.03	.03	.20	.04	.02	.02	40	15	1.0
402241122155101 - COTTONWOOD CR ABV POWERLINES (LAT 40 22 41 LONG 122 15 51)										
OCT , 1983										
25...	<.10	.04	.03	.70	.01	.01	.01	30	9	1.3
MAY , 1984										
03...	<.10	.04	.04	.20	.02	.02	.02	50	8	.80
402240122170401 - TRIB ABV I-5, LB (LAT 40 22 40 LONG 122 17 04)										
OCT , 1983										
25...	<.10	.05	.06	.70	.01	.01	.01	20	50	1.0
402226122170501 - TRIB AT HOLIDAY RANCH (LAT 40 22 26 LONG 122 17 05)										
OCT , 1983										
25...	<.10	.05	.05	.80	.07	.06	.06	30	14	2.6
MAY , 1984										
01...	<.10	<.03	<.03	.50	.22	.13	.10	40	99	4.1
402249122174301 - DITCH #2 AT CLARKS RANCH (LAT 40 22 49 LONG 122 17 43)										
OCT , 1983										
26...	.24	.04	.03	.80	.04	.03	.02	40	15	4.5
402206122184901 - HOOKER CR AT DRAPER RD (LAT 40 22 06 LONG 122 18 49)										
OCT , 1983										
25...	<.10	.05	.02	.40	<.01	.01	.01	20	31	2.2
MAY , 1984										
02...	.13	.04	.07	.80	.04	.02	.03	40	27	1.1
402229122191801 - COTTONWOOD CR BLW SF (LAT 40 22 29 LONG 122 19 18)										
OCT , 1983										
26...	<.10	.04	.03	.50	.01	<.01	<.01	50	35	--
MAY , 1984										
01...	<.10	.03	.02	<.20	.02	.02	.02	30	8	.70
402225122193901 - TRIB BLW SF CONFLUENCE, LB (LAT 40 22 25 LONG 122 19 39)										
MAY , 1984										
01...	<.10	.05	.04	.50	.03	.02	.02	20	25	1.4

See footnote at end of table.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SACRAMENTO RIVER BASIN

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	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)
11375815 - COTTONWOOD CR ABV SF NR COTTONWOOD (LAT 40 22 19 LONG 122 20 17)											
OCT , 1983											
24...	1200	59	255	8.4	20.5	10.0	110	6	24	13	9.1
MAY , 1984											
02...	1200	289	224	8.0	15.5	10.3	100	4	22	12	7.1
402227122230901 - COTTONWOOD CR AT JOANNE RD (LAT 40 22 27 LONG 122 23 09)											
OCT , 1983											
26...	1030	--	250	8.1	15.0	10.0	110	0	24	13	9.2
MAY , 1984											
01...	0930	262	222	7.8	15.0	9.4	100	0	22	12	6.5
402249122251601 - DRY CR BLW STEELE RANCH (LAT 40 22 49 LONG 122 25 16)											
MAY , 1984											
01...	0800	.91	72	7.1	16.0	7.2	29	0	6.0	3.3	4.6
402232122254401 - COTTONWOOD CR AT STEELE RANCH (LAT 40 22 32 LONG 122 25 44)											
OCT , 1983											
26...	1200	52	230	8.1	16.0	10.0	110	0	24	13	9.3
APR , 1984											
30...	1345	252	221	8.2	16.5	10.2	100	0	22	12	6.3
11375810 - COTTONWOOD CR NR OLINDA CALIF (LAT 40 23 06 LONG 122 28 31)											
OCT , 1983											
26...	1300	52	230	8.1	17.0	10.2	110	0	24	13	9.4
APR , 1984											
30...	--	241	220	8.2	15.5	10.3	100	0	22	12	6.3
402306122292201 - DUTCH GULCH AT GAS POINT RD (LAT 40 23 06 LONG 122 29 22)											
APR , 1984											
30...	1000	.35	132	7.5	14.0	9.2	54	0	9.6	7.3	7.7
11375900 - SF COTTONWOOD CR AT EVERGREEN RD NR COTTONWOOD (LAT 40 21 45 LONG 122 20 18)											
OCT , 1983											
25...	0830	20	340	7.9	15.0	9.2	150	24	37	13	17
MAY , 1984											
02...	1015	134	310	8.2	16.0	9.8	130	7	34	12	13
11375870 - SF COTTONWOOD CR NR OLINDA (LAT 40 19 34 LONG 122 26 40)											
OCT , 1983											
24...	1430	20	365	8.2	17.5	10.2	150	27	38	14	19
MAY , 1984											
02...	0815	130	310	7.8	14.0	10.0	130	9	34	12	13

DATE	PERCENT SODIUM	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
11375815 - COTTONWOOD CR ABV SF NR COTTONWOOD (LAT 40 22 19 LONG 122 20 17)										
OCT , 1983										
24...	15	1.4	108	8.8	12	<.10	18	151	<.02	<.10
MAY , 1984										
02...	13	.90	100	15	4.7	<.10	19	140	<.01	<.10
402227122230901 - COTTONWOOD CR AT JOANNE RD (LAT 40 22 27 LONG 122 23 09)										
OCT , 1983										
26...	15	1.3	117	8.5	10	<.10	18	150	<.02	<.10
MAY , 1984										
01...	12	.80	104	14	4.0	<.10	19	109	<.01	<.10
402249122251601 - DRY CR BLW STEELE RANCH (LAT 40 22 49 LONG 122 25 16)										
MAY , 1984										
01...	25	.60	35	1.8	1.5	<.10	17	66	<.01	<.10
402232122254401 - COTTONWOOD CR AT STEELE RANCH (LAT 40 22 32 LONG 122 25 44)										
OCT , 1983										
26...	15	1.1	117	8.4	11	<.10	17	156	<.02	<.10
APR , 1984										
30...	12	.90	105	13	3.7	<.10	19	141	.01	<.10
11375810 - COTTONWOOD CR NR OLINDA CALIF (LAT 40 23 06 LONG 122 28 31)										
OCT , 1983										
26...	15	1.2	115	8.3	11	<.10	18	154	<.02	<.10
APR , 1984										
30...	12	.80	105	14	3.8	<.10	19	148	<.01	<.10
402306122292201 - DUTCH GULCH AT GAS POINT RD (LAT 40 23 06 LONG 122 29 22)										
APR , 1984										
30...	23	.80	65	2.8	2.7	<.10	29	98	<.01	<.10
11375900 - SF COTTONWOOD CR AT EVERGREEN RD NR COTTONWOOD (LAT 40 21 45 LONG 122 20 18)										
OCT , 1983										
25...	20	1.3	122	22	32	.10	12	216	<.02	<.10
MAY , 1984										
02...	17	.90	127	23	11	<.10	12	200	<.01	<.10
11375870 - SF COTTONWOOD CR NR OLINDA (LAT 40 19 34 LONG 122 26 40)										
OCT , 1983										
24...	21	1.2	126	24	38	<.10	12	223	<.02	<.10
MAY , 1984										
02...	17	.90	125	23	11	<.10	12	184	<.01	<.10

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SACRAMENTO RIVER BASIN

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, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
11375815 - COTTONWOOD CR ABV SF NR COTTONWOOD (LAT 40 22 19 LONG 122 20 17)										
OCT , 1983										
24...	<.10	.06	.09	.50	.04	.03	.03	20	33	--
MAY , 1984										
02...	.13	.04	.02	<.20	.02	.02	.03	20	11	.90
402227122230901 - COTTONWOOD CR AT JOANNE RD (LAT 40 22 27 LONG 122 23 09)										
OCT , 1983										
26...	<.10	.04	.07	.40	.01	.02	.02	20	13	1.1
MAY , 1984										
01...	<.10	.05	.03	.20	.04	.03	.03	20	8	.70
402249122251601 - DRY CR BLW STEELE RANCH (LAT 40 22 49 LONG 122 25 16)										
MAY , 1984										
01...	<.10	.04	.04	.40	.02	.02	.02	10	37	1.0
402232122254401 - COTTONWOOD CR AT STEELE RANCH (LAT 40 22 32 LONG 122 25 44)										
OCT , 1983										
26...	<.10	.03	.05	.60	.01	.02	.02	20	9	1.2
APR , 1984										
30...	.13	.03	.06	<.20	.03	.03	.04	20	7	.70
11375810 - COTTONWOOD CR NR OLINDA CALIF (LAT 40 23 06 LONG 122 28 31)										
OCT , 1983										
26...	<.10	.02	.04	.40	.01	.02	.02	20	10	1.5
APR , 1984										
30...	<.10	.02	.03	.50	.03	.03	.03	20	9	.60
402306122292201 - DUTCH GULCH AT GAS POINT RD (LAT 40 23 06 LONG 122 29 22)										
APR , 1984										
30...	<.10	.05	.05	.60	.03	.03	.03	20	30	1.0
11375900 - SF COTTONWOOD CR AT EVERGREEN RD NR COTTONWOOD (LAT 40 21 45 LONG 122 20 18)										
OCT , 1983										
25...	<.10	.02	.01	.60	<.01	.01	.01	110	12	.70
MAY , 1984										
02...	<.10	.01	<.01	.20	.01	.02	.02	70	8	.70
11375870 - SF COTTONWOOD CR NR OLINDA (LAT 40 19 34 LONG 122 26 40)										
OCT , 1983										
24...	<.10	.02	.04	.40	<.01	<.01	<.01	120	17	--
MAY , 1984										
02...	<.10	.04	.04	.50	.03	.02	.01	60	6	.70

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

GLENN COUNTY

Sacramento valley (5-21)

WELL 019N001W32G01M SITE NUMBER 392730121593001

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 1333 FT, SCREENED 1328-1333 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 1.03 FEET ABOVE LAND SURFACE DATUM DEC 12, 1983.

LOWEST WATER LEVEL 5.31 FEET BELOW LAND SURFACE DATUM NOV 26, 1979.

WATER LEVELS IN FEET ABOVE OR BELOW(-) LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	-0.32	NOV 10, 1983	-0.35	DEC 20, 1983	0.16	FEB 01, 1984	0.17
02	-0.35	11	-0.06	21	0.11	02	0.06
03	-0.44	12	-0.18	22	0.07	03	0.09
04	-0.40	13	-0.24	23	0.07	04	0.10
05	-0.41	14	-0.28	24	0.40	05	0.06
06	-0.43	15	-0.32	25	0.90	06	0.05
07	-0.41	16	-0.30	29	0.76	07	0.09
08	-0.42	17	-0.18	30	0.34	08	0.13
09	-0.46	18	-0.18	31	0.34	09	0.16
10	-0.50	19	-0.19	JAN 01, 1984	0.20	10	0.11
11	-0.50	20	-0.05	02	0.08	11	0.10
12	-0.48	21	-0.09	03	0.04	12	0.13
13	-0.45	22	-0.24	04	0.05	13	0.24
14	-0.45	23	-0.27	05	0.07	14	0.28
15	-0.47	24	-0.04	06	0.04	15	0.31
16	-0.51	25	0.22	07	0.03	16	0.37
17	-0.51	26	0.06	08	0.01	17	0.33
18	-0.52	27	-0.14	09	-0.01	18	0.29
19	-0.51	28	-0.16	10	-0.02	19	0.29
20	-0.52	29	-0.18	11	-0.00	20	0.30
21	-0.56	30	-0.15	12	0.06	21	0.36
22	-0.56	DEC 01	-0.19	13	0.14	22	0.36
23	-0.56	02	-0.22	14	0.07	23	0.36
24	-0.58	03	-0.00	15	0.01	24	0.37
25	-0.59	04	0.06	16	0.08	25	0.33
26	-0.58	05	-0.10	17	0.07	26	0.33
27	-0.55	06	-0.18	18	0.01	27	0.35
28	-0.57	07	-0.12	19	0.02	28	0.39
29	-0.58	08	-0.00	20	0.02	29	0.39
30	-0.57	09	0.21	21	0.06	MAR 01	0.38
31	-0.55	10	0.59	22	0.07	02	0.37
NOV 01	-0.56	11	0.99	23	0.02	03	0.43
02	-0.62	12	1.03	24	0.03	04	0.43
03	-0.61	13	0.94	25	0.06	05	0.42
04	-0.59	14	0.68	26	0.04	06	0.42
05	-0.60	15	0.52	27	0.05	07	0.43
06	-0.60	16	0.39	28	0.10	08	0.43
07	-0.63	17	0.26	29	0.15	09	0.41
08	-0.62	18	0.18	30	0.16	10	0.42
09	-0.56	19	0.16	31	0.17	11	0.46

WELL 019N001W32G01M SITE NUMBER 392730121593001

CONTINUED

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 12, 1984	0.49	APR 30, 1984	0.53	JUN 18, 1984	0.22	AUG 06, 1984	-0.39
13	0.59	MAY 01	0.58	19	0.20	07	-0.41
14	0.59	02	0.59	20	0.14	08	-0.41
15	0.63	03	0.59	21	0.08	09	-0.41
16	0.63	04	0.61	22	0.08	10	-0.45
17	0.61	05	0.59	23	0.08	11	-0.50
18	0.61	06	0.57	24	0.04	12	-0.51
19	0.65	07	0.57	25	0.03	13	-0.52
20	0.73	08	0.55	26	0.03	14	-0.54
21	0.70	09	0.58	27	0.06	15	-0.55
22	0.66	10	0.61	28	0.03	16	-0.59
23	0.67	11	0.59	29	0.04	17	-0.61
24	0.68	12	0.59	30	0.07	18	-0.59
25	0.70	13	0.60	JUL 01	0.08	19	-0.59
26	0.74	14	0.59	02	0.09	20	-0.61
27	0.66	15	0.56	03	0.07	21	-0.64
28	0.65	16	0.55	04	0.07	22	-0.68
29	0.67	17	0.53	05	0.10	23	-0.68
30	0.68	18	0.49	06	0.12	24	-0.67
31	0.71	19	0.49	07	0.08	25	-0.69
APR 01	0.65	20	0.54	08	0.04	26	-0.71
02	0.60	21	0.55	09	-0.00	27	-0.74
03	0.54	22	0.50	10	-0.02	28	-0.84
04	0.63	23	0.48	11	-0.03	29	-0.83
05	0.65	24	0.47	12	-0.00	30	-0.84
06	0.64	25	0.46	13	0.02	31	-0.84
07	0.56	26	0.45	14	-0.02	SEP 01	-0.81
08	0.56	27	0.45	15	-0.06	02	-0.80
09	0.54	28	0.43	16	-0.09	03	-0.83
10	0.60	29	0.41	17	-0.09	04	-0.83
11	0.57	30	0.35	18	-0.09	05	-0.84
12	0.57	31	0.37	19	-0.14	06	-0.85
13	0.58	JUN 01	0.32	20	-0.16	07	-0.85
14	0.61	02	0.33	21	-0.12	08	-0.86
15	0.61	03	0.34	22	-0.14	09	-0.87
16	0.59	04	0.37	23	-0.19	10	-0.82
17	0.60	05	0.34	24	-0.23	11	-0.84
18	0.60	06	0.31	25	-0.26	12	-0.88
19	0.61	07	0.22	26	-0.23	13	-0.93
20	0.54	08	0.19	27	-0.31	14	-0.93
21	0.52	09	0.22	28	-0.30	15	-0.93
22	0.56	10	0.21	29	-0.34	16	-0.95
23	0.58	11	0.23	30	-0.30	17	-0.97
24	0.59	12	0.22	31	-0.27	18	-0.99
25	0.53	13	0.20	AUG 01	-0.28	19	-1.03
26	0.56	14	0.20	02	-0.32	20	-1.03
27	0.57	15	0.19	03	-0.36	21	-1.00
28	0.56	16	0.19	04	-0.32	22	-0.99
29	0.54	17	0.21	05	-0.33	23	-1.02

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 24, 1984	-1.07	SEP 26, 1984	-1.09	SEP 28, 1984	-1.22	SEP 30, 1984	-1.18
25	-1.09	27	-1.13	29	-1.19		

GLENN COUNTY--Continued

Sacramento Valley (5-21)

WELL 019N001W32G02M SITE NUMBER 392730121593002

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 968 FT, SCREENED 963-968 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 2.30 FEET BELOW LAND SURFACE DATUM MAR 02, 04, 1983.

LOWEST WATER LEVEL 12.02 FEET BELOW LAND SURFACE DATUM SEP 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	7.14	NOV 10, 1983	6.94	DEC 20, 1983	5.79	JAN 29, 1984	5.44
02	7.15	11	6.40	21	5.85	30	5.43
03	7.19	12	6.56	22	5.93	31	5.42
04	7.17	13	6.73	23	5.88	FEB 01	5.41
05	7.16	14	6.70	24	5.42	02	5.45
06	7.18	15	6.84	25	4.00	03	5.43
07	7.14	16	6.84	26	2.36	04	5.43
08	7.14	17	6.69	27	2.80	05	5.46
09	7.17	18	6.60	28	3.84	06	5.47
10	7.20	19	6.68	29	4.76	07	5.44
11	7.19	20	6.55	30	5.26	08	5.40
12	7.16	21	6.56	31	5.30	09	5.37
13	7.12	22	6.74	JAN 01, 1984	5.54	10	5.40
14	7.12	23	6.79	02	5.74	11	5.40
15	7.14	24	6.48	03	5.82	12	5.38
16	7.18	25	5.92	04	5.93	13	5.26
17	7.19	26	6.22	05	5.93	14	5.12
18	7.19	27	6.56	06	5.94	15	5.11
19	7.18	28	6.61	07	5.94	16	5.04
20	7.17	29	6.67	08	5.94	17	5.04
21	7.19	30	6.66	09	5.93	18	5.18
22	7.19	DEC 01	6.68	10	5.91	19	5.21
23	7.18	02	6.69	11	5.86	20	5.22
24	7.19	03	6.42	12	5.75	21	5.19
25	7.19	04	6.08	13	5.65	22	5.14
26	7.19	05	6.36	14	5.69	23	5.16
27	7.16	06	6.56	15	5.73	24	5.18
28	7.17	07	6.42	16	5.64	25	5.21
29	7.18	08	6.22	17	5.62	26	5.24
30	7.17	09	5.92	18	5.66	27	5.22
31	7.16	10	5.34	19	5.66	28	5.20
NOV 01	7.16	11	4.92	20	5.63	29	5.21
02	7.21	12	4.60	21	5.56	MAR 01	5.22
03	7.21	13	4.60	22	5.56	02	5.27
04	7.20	14	5.02	23	5.59	03	5.23
05	7.19	15	5.22	24	5.57	04	5.25
06	7.19	16	5.43	25	5.54	05	5.27
07	7.22	17	5.60	26	5.56	06	5.28
08	7.22	18	5.69	27	5.54	07	5.29
09	7.15	19	5.76	28	5.48	08	5.28

GLENN COUNTY--Continued

Sacramento Valley (5-21)

WELL 019N001W32G02M SITE NUMBER 392730121593002

-- CONTINUED

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 09, 1984	5.31	APR 27, 1984	5.79	JUN 15, 1984	7.20	AUG 03, 1984	8.01
10	5.31	28	5.82	16	7.20	04	7.97
11	5.28	29	5.87	17	7.19	05	7.98
12	5.28	30	5.89	18	7.18	06	8.04
13	5.20	MAY 01	5.87	19	7.20	07	8.07
14	5.13	02	5.87	20	7.24	08	8.06
15	5.06	03	5.86	21	7.30	09	8.07
16	5.01	04	5.87	22	7.32	10	8.13
17	5.00	05	5.91	23	7.33	11	8.19
18	5.01	06	5.98	24	7.38	12	8.19
19	5.03	07	6.00	25	7.40	13	8.18
20	5.01	08	6.05	26	7.41	14	8.20
21	5.08	09	6.04	27	7.36	15	8.21
22	5.11	10	6.03	28	7.39	16	8.24
23	5.13	11	6.05	29	7.37	17	8.25
24	5.14	12	6.07	30	7.35	18	8.25
25	5.15	13	6.08	JUL 01	7.35	19	8.25
26	5.14	14	6.09	02	7.35	20	8.25
27	5.21	15	6.15	03	7.36	21	8.26
28	5.23	16	6.20	04	7.36	22	8.29
29	5.23	17	6.24	05	7.34	23	8.28
30	5.23	18	6.31	06	7.31	24	8.27
31	5.24	19	6.36	07	7.40	25	8.27
APR 01	5.32	20	6.37	08	7.44	26	8.26
02	5.40	21	6.37	09	7.47	27	8.29
03	5.48	22	6.41	10	7.50	28	8.43
04	5.43	23	6.47	11	7.52	29	8.41
05	5.42	24	6.50	12	7.51	30	8.41
06	5.43	25	6.55	13	7.51	31	8.38
07	5.51	26	6.57	14	7.56	SEP 01	8.34
08	5.51	27	6.58	15	7.60	02	8.28
09	5.51	28	6.61	16	7.63	03	8.30
10	5.47	29	6.66	17	7.65	04	8.31
11	5.50	30	6.77	18	7.66	05	8.32
12	5.52	31	6.77	19	7.73	06	8.30
13	5.54	JUN 01	6.81	20	7.76	07	8.28
14	5.53	02	6.82	21	7.74	09	8.28
15	5.56	03	6.82	22	7.77	10	8.18
16	5.62	04	6.81	23	7.81	11	8.18
17	5.63	05	6.81	24	7.85	12	8.22
18	5.62	06	6.84	25	7.90	13	8.20
19	5.63	07	6.94	26	7.87	14	8.27
20	5.66	08	6.99	27	7.95	15	8.24
21	5.70	09	7.01	28	7.92	16	8.25
22	5.69	10	7.05	29	7.98	17	8.27
23	5.69	11	7.06	30	7.91	18	8.27
24	5.71	12	7.10	31	7.92	19	8.27
25	5.78	13	7.16	AUG 01	7.94	20	8.25
26	5.78	14	7.19	02	7.98	21	8.20

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 22, 1984	8.19	SEP 25, 1984	8.27	SEP 27, 1984	8.29	SEP 29, 1984	8.27
23	8.21	26	8.26	28	8.30	30	8.25
24	8.27						

WELL 019N001W32G03M SITE NUMBER 392730121593003

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 595 FT, SCREENED 590-595 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 5.55 FEET BELOW LAND SURFACE DATUM MAR 03, 1983.

LOWEST WATER LEVEL 22.49 FEET BELOW LAND SURFACE DATUM AUG 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	15.10	NOV 10, 1983	14.92	DEC 20, 1983	10.80	JAN 29, 1984	9.94
02	15.07	11	14.64	21	10.70	30	9.98
03	15.01	12	14.74	22	10.64	31	10.02
04	14.93	13	14.80	23	10.53	FEB 01	10.07
05	14.88	14	14.80	24	10.12	02	10.16
06	14.85	15	14.84	25	9.12	03	10.21
07	14.78	16	14.78	26	8.18	04	10.26
08	14.74	17	14.63	27	8.29	05	10.34
09	14.74	18	14.54	28	8.82	06	10.42
10	14.75	19	14.48	29	9.30	07	10.46
11	14.72	20	14.29	30	9.46	08	10.48
12	14.67	21	14.19	31	9.26	09	10.50
13	14.62	22	14.24	JAN 01, 1984	9.18	10	10.60
14	14.61	23	14.18	02	9.20	11	10.66
15	14.61	24	13.92	03	9.15	12	10.70
16	14.62	25	13.54	04	9.14	13	10.69
17	14.62	26	13.57	05	9.09	14	10.70
18	14.61	27	13.77	06	9.07	15	10.73
19	14.60	28	13.73	07	9.06	16	10.72
20	14.60	29	13.65	08	9.07	17	10.78
21	14.64	30	13.55	09	9.09	18	10.87
22	14.69	DEC 01	13.47	10	9.11	19	10.91
23	14.71	02	13.40	11	9.12	20	10.95
24	14.76	03	13.18	12	9.12	21	10.94
25	14.81	04	12.94	13	9.11	22	10.94
26	14.83	05	13.02	14	9.19	23	10.96
27	14.82	06	13.06	15	9.28	24	10.98
28	14.84	07	12.92	16	9.31	25	11.02
29	14.87	08	12.71	17	9.37	26	11.06
30	14.89	09	12.40	18	9.48	27	11.08
31	14.90	10	11.88	19	9.52	28	11.08
NOV 01	14.97	11	11.51	20	9.56	29	11.10
02	15.04	12	11.22	21	9.57	MAR 01	11.13
03	15.07	13	11.22	22	9.63	02	11.15
04	15.08	14	11.45	23	9.70	03	11.16
05	15.09	15	11.39	24	9.74	04	11.19
06	15.10	16	11.29	25	9.78	05	11.24
07	15.12	17	11.18	26	9.84	06	11.29
08	15.13	18	11.06	27	9.89	07	11.39
09	15.09	19	10.93	28	9.92	08	11.50

WELL 019N001W32G03M SITE NUMBER 392730121593003

- CONTINUED

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 09, 1984	11.60	APR 28, 1984	14.08	JUN 17, 1984	17.80	AUG 07, 1984	18.79
10	11.68	29	14.26	18	17.76	08	18.66
11	11.76	30	14.37	19	17.63	09	18.54
12	11.84	MAY 01	14.42	20	17.52	10	18.50
13	11.85	02	14.51	21	17.44	11	18.52
14	11.85	03	14.58	22	17.30	12	18.53
15	11.83	04	14.62	23	17.20	13	18.48
16	11.81	05	14.71	24	17.17	14	18.40
17	11.79	06	14.79	25	17.22	15	18.37
18	11.79	07	14.88	26	17.34	16	18.39
19	11.78	08	14.98	27	17.60	17	18.39
20	11.74	09	15.20	29	18.32	18	18.37
21	11.75	10	15.50	30	18.44	19	18.35
22	11.76	11	15.72	JUL 01	18.46	20	18.28
23	11.78	12	15.86	02	18.47	21	18.19
24	11.85	13	15.97	03	18.47	22	18.09
25	11.95	14	15.99	04	18.48	23	17.99
26	12.07	15	16.00	05	18.53	24	17.90
27	12.22	16	15.99	06	18.66	25	17.78
28	12.33	17	15.97	07	18.82	26	17.71
29	12.40	18	15.94	08	18.84	27	17.65
30	12.47	19	15.87	09	18.80	28	17.60 S
31	12.54	20	15.82	10	18.74	29	17.52
APR 01	12.62	21	15.85	11	18.73	30	17.47
02	12.71	22	15.97	12	18.73	31	17.40
03	12.77	23	16.15	13	18.73	SEP 01	17.35
04	12.72	24	16.29	14	18.75	02	17.33
05	12.66	25	16.30	15	18.82	03	17.33
06	12.61	26	16.33	16	18.92	04	17.31
07	12.62	27	16.41	17	19.02	05	17.28
08	12.62	28	16.51	18	19.15	06	17.26
09	12.70	29	16.61	19	19.30	07	17.21
10	12.78	31	17.16	20	19.37	08	17.19
11	12.89	JUN 01	17.52	21	19.29	09	17.14
12	12.94	02	17.73	22	19.25	10	17.04
13	13.01	03	17.79	23	19.25	11	17.00
14	13.11	04	17.77	24	19.19	12	17.02
15	13.21	05	17.77	25	19.08	13	17.03
16	13.37	06	17.74	26	18.96	14	16.99
17	13.58	07	17.77	28	18.89	15	16.97
18	13.72	08	17.74	29	19.02	16	16.96
19	13.73	09	17.66	30	19.15	17	16.94
20	13.69	10	17.57	31	19.20	18	16.90
21	13.69	11	17.46	AUG 01	19.29	19	16.86
22	13.69	12	17.36	02	19.31	20	16.77
23	13.67	13	17.33	03	19.29	21	16.66
24	13.65	14	17.40	04	19.17	22	16.55
25	13.70	15	17.56	05	19.05	23	16.48
26	13.68	16	17.72	06	18.94	24	16.44

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 25, 1984	16.36	SEP 27, 1984	16.24	SEP 29, 1984	16.10	30, 1984	16.04
26	16.27	28	16.16				

SHASTA COUNTY

Redding Basin (5-6)

WELL 029N005H09B01M SITE NUMBER 402317122254701

8.1 MI WEST OF COTTONWOOD. UNUSED WELL. ALTITUDE OF LSD 533 FT. RECORDS AVAILABLE NOVEMBER 1982 TO CURRENT YEAR. RECORDER INSTALLED JULY 1983.

HIGHEST WATER LEVEL 61.03 FEET BELOW LAND SURFACE DATUM MAR 13, 1984.

LOWEST WATER LEVEL 68.31 FEET BELOW LAND SURFACE DATUM NOV 16, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	64.06	NOV 11, 1983	63.48	DEC 27, 1983	61.86	FEB 10, 1984	61.80
02	64.09	12	63.50	28	61.97	11	61.86
03	64.10	13	63.48	29	62.03	12	61.84
04	64.09	14	63.53	30	62.00	13	61.74
05	64.09	15	63.53	31	62.03	14	61.76
06	64.11	16	63.49	JAN 01, 1984	62.04	15	61.74
07	64.03	17	63.45	02	62.03	16	61.74
08	64.01	18	63.52	03	62.00	17	61.85
09	64.02	19	63.44	04	61.98	18	61.73
10	64.06	20	63.28	05	61.94	19	61.70
11	64.05	21	63.33	06	61.89	20	61.63
12	64.00	22	63.40	07	61.88	21	61.51
13	63.98	23	63.36	08	61.87	22	61.59
14	63.95	24	63.18	09	61.88	23	61.50
15	63.95	25	63.24	10	61.85	24	61.35
16	63.97	26	63.33	11	61.80	25	61.43
17	63.96	27	63.33	12	61.72	26	61.43
18	63.96	28	63.29	13	61.66	27	61.39
19	63.96	29	63.23	14	61.63	28	61.35
20	63.98	30	63.18	15	61.70	29	61.36
21	63.99	DEC 01	63.20	16	61.60	MAR 01	61.37
22	63.99	02	63.20	17	61.62	02	61.40
23	64.00	03	63.04	18	61.65	03	61.34
24	64.02	04	63.10	19	61.70	04	61.37
25	64.02	05	63.20	20	61.70	05	61.34
26	64.00	06	63.13	21	61.70	06	61.33
27	63.96	07	63.10	26	61.58	07	61.35
28	63.97	08	63.06	27	61.56	08	61.31
29	63.96	09	62.80	28	61.61	09	61.32
30	63.93	11	62.66	29	61.72	10	61.31
31	63.88	12	62.80	30	61.72	11	61.24
NOV 01	63.82	13	62.84	31	61.74	12	61.21
02	63.86	14	62.80	FEB 01	61.77	13	61.03
03	63.85	15	62.74	02	61.80	14	61.13
04	63.82	16	62.69	03	61.81	15	61.12
05	63.83	21	62.53	04	61.78	16	61.17
06	63.83	22	62.54	05	61.81	17	61.27
07	63.82	23	62.48	06	61.85	18	61.27
08	63.81	24	62.22	07	61.83	19	61.19
09	63.78	25	61.94	08	61.79	20	61.11
10	63.58	26	61.92	09	61.73	21	61.31

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 22, 1984	61.31	APR 13, 1984	61.88	MAY 05, 1984	62.36	MAY 27, 1984	62.48
23	61.31	14	61.75	06	62.51	28	62.49
24	61.30	15	61.71	07	62.53	29	62.50
25	61.30	16	61.68	08	62.59	30	62.87
26	61.26	17	61.66	09	62.63	31	62.90
27	61.39	18	61.72	10	62.53	JUN 01	62.87
28	61.42	19	61.69	11	62.50	02	63.21
29	61.42	20	61.78	12	62.45	03	63.18
30	61.39	21	61.77	13	62.41	04	63.09
31	61.36	22	61.73	14	62.37	05	63.36
APR 01	61.41	23	61.68	15	62.38	06	63.17
02	61.46	24	61.71	16	62.38	07	63.17
03	61.47	25	61.75	17	62.39	08	63.12
04	61.40	26	61.71	18	62.40	09	63.04
05	61.39	27	61.76	19	62.42	10	63.03
06	61.41	28	61.92	20	62.44	11	62.95
07	61.48	29	62.03	21	62.42	12	62.91
08	61.49	30	62.03	22	62.43	13	62.91
09	61.51	MAY 01	61.91	23	62.44	14	62.90
10	61.44	02	61.96	24	62.44	JUL 24	64.31
11	61.51	03	62.10	25	62.46	AUG 24	64.69
12	61.52	04	62.21	26	62.47	SEP 18	64.31

SHASTA COUNTY--Continued

Redding Basin (5-6)

WELL 029N006W12B02M SITE NUMBER 402316122291501

11.0 MI WEST OF COTTONWOOD. OBSERVATION WELL. ALTITUDE OF LSD 569 FT. RECORDS AVAILABLE DECEMBER 1982 TO CURRENT YEAR. RECORDER INSTALLED JULY 1983.

HIGHEST WATER LEVEL 37.31 FEET BELOW LAND SURFACE DATUM MAR 22, 1983.

LOWEST WATER LEVEL 49.99 FEET BELOW LAND SURFACE DATUM APR 15, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	38.69	NOV 10, 1983	38.80	DEC 21, 1983	38.35	FEB 04, 1984	38.50
02	38.73	11	38.72	22	38.37	24	38.34
03	38.74	12	38.71	23	38.37	25	38.39
04	38.75	13	38.71	24	38.31	26	38.40
05	38.76	14	38.72	25	38.23	27	38.40
06	38.77	15	38.72	26	38.21	28	38.40
07	38.77	16	38.71	27	38.21	29	38.38
08	38.77	17	38.59	28	38.24	MAR 01	38.38
09	38.78	18	38.61	29	38.29	02	38.39
10	38.81	19	38.60	30	38.29	03	38.39
11	38.82	20	38.56	31	38.30	04	38.40
12	38.82	21	38.57	JAN 01, 1984	38.32	05	38.40
13	38.82	22	38.58	02	38.34	06	38.40
14	38.82	23	38.58	03	38.33	07	38.40
15	38.82	24	38.55	04	38.33	08	38.40
16	38.83	25	38.54	05	38.32	09	38.42
17	38.84	26	38.56	06	38.32	10	38.42
18	38.84	27	38.56	07	38.33	11	38.42
19	38.84	28	38.56	08	38.34	12	38.42
20	38.89	29	38.55	09	38.35	13	38.32
21	38.90	30	38.54	10	38.36	14	38.32
22	38.90	DEC 01	38.55	11	38.36	15	38.32
23	38.90	02	38.55	12	38.36	16	38.36
24	38.90	03	38.52	13	38.34	17	38.39
25	38.91	04	38.53	14	38.35	18	38.39
26	38.91	05	38.56	15	38.37	19	38.39
27	38.91	06	38.54	16	38.36	20	38.35
28	38.91	07	38.53	17	38.36	21	38.34
29	38.91	08	38.53	18	38.37	22	38.36
30	38.91	09	38.46	19	38.37	23	38.36
31	38.90	10	38.42	20	38.38	24	38.36
NOV 01	38.88	11	38.35	26	38.54	25	38.36
02	38.89	12	38.30	27	38.54	26	38.34
03	38.89	13	38.32	28	38.53	27	38.39
04	38.89	14	38.32	29	38.50	28	38.39
05	38.89	15	38.32	30	38.48	29	38.06
06	38.89	16	38.32	31	38.48	30	38.00
07	38.89	17	38.33	FEB 01	38.48	31	37.93
08	38.89	18	38.35	02	38.50	APR 01	37.93
09	38.89	20	38.36	03	38.50	02	37.93

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 03, 1984	37.93	APR 08, 1984	37.96	APR 13, 1984	48.47	MAY 17, 1984	40.43
04	37.93	09	37.96	14	49.93	JUN 14	42.29
05	37.92	10	37.86	15	49.99	JUL 24	39.93
06	39.57	11	37.86	16	49.99	AUG 28	39.66
07	38.12	12	39.76	17	41.90	SEP 20	39.57

WELL 012N003E02G01M SITE NUMBER 385501121361901

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 1081 FT, CASED TO 1081 FT, SCREENED 1066-1071 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 11.57 FEET BELOW LAND SURFACE DATUM APR 28, 1984.

LOWEST WATER LEVEL 33.88 FEET BELOW LAND SURFACE DATUM SEP 09, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	18.93	NOV 10, 1983	16.75	DEC 20, 1983	13.88	MAY 23, 1984	14.23
02	18.92	11	16.62	21	13.86	24	14.36
03	18.92	12	16.51	22	13.86	25	14.47
04	18.91	13	16.42	23	13.85	26	14.56
05	18.88	14	16.36	24	13.79	27	14.64
06	18.81	15	16.32	25	13.58	28	14.72
07	18.74	16	16.25	26	13.26	29	14.80
08	18.66	17	16.15	27	12.88	30	14.87
09	18.60	18	15.84	28	12.59	31	14.94
10	18.57	19	15.67	29	12.43	JUN 01	15.02
11	18.53	20	15.47	30	12.38	02	15.09
12	18.45	21	15.28	31	12.41	03	15.15
13	18.35	22	15.18	JAN 01, 1984	12.48	04	15.22
14	18.25	23	15.12	02	12.60	05	15.29
15	18.16	24	15.07	03	12.82	06	15.39
16	18.10	25	15.00	APR 28	11.57	07	15.43
17	18.05	26	14.88	29	11.60	08	15.52
18	17.98	27	14.75	30	11.64	09	15.58
19	17.90	28	14.66	MAY 01	11.68	10	15.64
20	17.83	29	14.60	02	11.71	11	15.68
21	17.77	30	14.57	03	11.75	12	15.73
22	17.73	DEC 01	14.55	04	11.79	13	15.78
23	17.67	02	14.81	05	11.84	14	15.83
24	17.62	03	14.80	06	11.91	15	15.89
25	17.58	04	14.83	07	12.00	16	15.95
26	17.54	05	14.86	08	12.09	17	16.00
27	17.47	06	14.81	09	12.19	18	16.05
28	17.41	07	14.73	10	12.29	19	16.10
29	17.35	08	14.63	11	12.40	20	16.17
30	17.30	09	14.51	12	12.53	21	16.26
31	17.23	10	14.42	13	12.67	22	16.35
NOV 01	17.16	11	14.33	14	12.82	23	16.42
02	17.13	12	14.19	15	12.98	24	16.50
03	17.10	13	14.05	16	13.14	25	16.59
04	17.05	14	13.91	17	13.33	26	16.69
05	17.01	15	13.83	18	13.51	27	16.78
06	16.97	16	13.80	19	13.68	28	16.87
07	16.94	17	13.82	20	13.83	29	16.97
08	16.90	18	13.86	21	13.96	30	17.07
09	16.84	19	13.88	22	14.10	JUL 01	17.16

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 02, 1984	17.24	AUG 04, 1984	20.17	AUG 24, 1984	20.83	SEP 13, 1984	20.81
03	17.32	05	20.20	25	20.84	14	20.78
04	17.41	06	20.25	26	20.87	15	20.73
05	17.50	07	20.32	27	20.90	16	20.68
06	17.57	08	20.36	28	20.94	17	20.65
07	17.65	09	20.39	29	20.99	18	20.61
08	17.76	10	20.41	30	21.03	19	20.57
09	17.88	11	20.46	31	21.07	20	20.52
10	18.00	12	20.50	SEP 01	21.07	21	20.44
11	18.11	13	20.54	02	21.07	22	20.35
12	18.21	14	20.57	03	21.09	23	20.29
13	18.29	15	20.60	04	21.09	24	20.27
27	19.55	16	20.66	05	21.08	25	20.25
28	19.67	17	20.72	06	21.07	26	20.22
29	19.79	18	20.74	07	21.04	27	20.17
30	19.87	19	20.75	08	21.00	28	20.13
31	19.93	20	20.76	09	20.96	29	20.06
AUG 01	19.98	21	20.77	10	20.90	30	19.99
02	20.04	22	20.79	11	20.84		
03	20.12	23	20.81	12	20.82		

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

WELL 012N003E02G02M SITE NUMBER 385501121361902

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 721 FT, CASED TO 711 FT,SCREENED 706-711 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 10.31 FEET BELOW LAND SURFACE DATUM APR 06, 1984.

LOWEST WATER LEVEL 26.94 FEET BELOW LAND SURFACE DATUM SEP 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	16.61	NOV 10, 1983	15.03	DEC 20, 1983	12.35	JAN 29, 1984	11.20
02	16.63	11	14.93	21	12.34	30	11.15
03	16.64	12	14.91	22	12.37	31	11.12
04	16.59	13	14.86	23	12.33	FEB 01	11.11
05	16.57	14	14.83	24	12.16	02	11.08
06	16.54	15	14.80	25	11.97	03	11.08
07	16.49	16	14.73	26	11.74	04	11.06
08	16.46	17	14.63	27	11.41	05	11.06
09	16.44	18	14.56	28	11.14	06	11.06
10	16.42	19	14.42	29	10.97	07	11.06
11	16.38	20	14.19	30	10.88	08	11.05
12	16.30	21	14.05	31	10.91	09	11.02
13	16.21	22	14.02	JAN 01, 1984	10.98	10	11.01
14	16.15	23	13.98	02	11.06	11	11.02
15	16.11	24	13.86	03	11.17	12	11.02
16	16.07	25	13.83	04	11.34	13	10.94
17	16.02	26	13.79	05	11.44	14	10.94
18	15.96	27	13.66	06	11.54	15	10.90
19	15.91	28	13.55	07	11.60	16	10.84
20	15.86	29	13.48	08	11.65	18	10.84
21	15.83	30	13.43	09	11.68	20	10.80
22	15.80	DEC 01	13.44	10	11.68	21	10.74
23	15.76	02	13.49	11	11.66	22	10.74
24	15.73	03	13.38	12	11.60	23	10.73
25	15.70	04	13.55	13	11.52	24	10.71
26	15.66	05	13.56	14	11.52	25	10.72
27	15.62	06	13.47	15	11.53	26	10.72
28	15.58	07	13.36	16	11.48	27	10.70
29	15.55	08	13.22	17	11.46	28	10.66
30	15.50	09	13.06	18	11.45	29	10.65
31	15.45	10	13.06	19	11.44	MAR 01	10.65
NOV 01	15.40	11	12.88	20	11.42	02	10.65
02	15.40	12	12.82	21	11.39	03	10.62
03	15.38	13	12.64	22	11.36	04	10.60
04	15.33	14	12.46	23	11.36	05	10.60
05	15.31	15	12.36	24	11.36	06	10.60
06	15.30	16	12.31	25	11.34	07	10.60
07	15.28	17	12.33	26	11.31	08	10.60
08	15.26	18	12.38	27	11.29	09	10.61
09	15.20	19	12.36	28	11.26	10	10.61

WELL 012N003E02G02M SITE NUMBER 385501121361902

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DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 11, 1984	10.58	MAY 03, 1984	10.88	JUN 21, 1984	14.52	AUG 09, 1984	17.64
12	10.55	04	10.88	22	14.58	10	17.66
13	10.47	05	10.90	23	14.64	11	17.70
14	10.47	06	10.96	24	14.72	12	17.74
15	10.46	07	11.01	25	14.80	13	17.77
16	10.46	08	11.07	26	14.88	14	17.79
17	10.47	09	11.11	27	14.95	15	17.81
18	10.47	10	11.16	28	14.98	16	17.85
19	10.43	11	11.26	29	15.06	17	17.86
20	10.38	12	11.36	30	15.12	18	17.86
21	10.39	13	11.45	JUL 01	15.15	19	17.88
22	10.40	14	11.56	02	15.22	20	17.91
23	10.40	15	11.67	03	15.30	21	17.94
24	10.38	16	11.80	04	15.36	22	17.98
25	10.36	17	11.93	05	15.40	23	18.00
26	10.33	18	12.06	06	15.44	24	18.01
31	10.33	19	12.17	07	15.52	25	18.02
APR 01	10.34	20	12.28	08	15.63	26	18.06
02	10.36	21	12.40	09	15.73	27	18.08
03	10.37	22	12.52	10	15.83	28	18.11
04	10.33	23	12.63	11	15.90	29	18.13
05	10.32	24	12.76	12	15.97	30	18.16
06	10.31	25	12.88	13	16.02	31	18.17
07	10.36	26	12.97	14	16.11	SEP 01	18.16
08	10.40	27	13.03	15	16.22	02	18.17
09	10.42	28	13.12	16	16.33	03	18.19
10	10.41	29	13.19	17	16.39	04	18.19
11	10.42	30	13.31	18	16.48	05	18.19
12	10.43	31	13.38	19	16.59	06	18.18
13	10.44	JUN 01	13.46	20	16.66	07	18.15
14	10.43	02	13.49	21	16.69	08	18.15
15	10.45	03	13.51	22	16.78	09	18.12
16	10.46	04	13.55	23	16.87	10	18.04
17	10.47	05	13.62	24	16.96	11	18.01
18	10.48	06	13.68	25	17.03	12	18.03
19	10.50	07	13.78	26	17.07	13	18.03
20	10.56	08	13.89	27	17.18	14	17.99
21	10.59	09	13.94	28	17.20	15	17.96
22	10.60	10	13.98	29	17.26	16	17.94
23	10.60	11	14.01	30	17.30	17	17.92
24	10.62	12	14.06	31	17.31	18	17.91
25	10.67	13	14.10	AUG 01	17.35	19	17.88
26	10.68	14	14.14	02	17.42	20	17.82
27	10.74	15	14.20	03	17.50	21	17.74
28	10.77	16	14.27	04	17.51	22	17.68
29	10.81	17	14.30	05	17.53	23	17.67
30	10.84	18	14.31	06	17.58	24	17.67
MAY 01	10.84	19	14.37	07	17.63	25	17.66
02	10.86	20	14.45	08	17.64	26	17.64

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 27, 1984	17.63	SEP 28, 1984	17.62	SEP 29, 1984	17.59	SEP 30, 1984	17.56

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

WELL 012N003E02G03M SITE NUMBER 385501121361903

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 321 FT, CASED TO 311 FT, SCREENED 306-311 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 0.62 FEET BELOW LAND SURFACE DATUM MAY 11, 1983.

LOWEST WATER LEVEL 11.31 FEET BELOW LAND SURFACE DATUM DEC 24, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	8.62	NOV 11, 1983	8.95	DEC 21, 1983	4.15	JAN 31, 1984	4.63
02	8.65	12	8.92	22	4.22	FEB 01	4.73
03	8.67	13	8.89	23	4.17	02	4.85
04	8.59	14	8.90	24	3.97	03	4.90
05	8.59	15	8.78	25	3.73	04	4.94
06	8.60	16	8.62	26	3.34	05	5.06
07	8.54	17	8.46	27	2.93	06	5.16
09	8.67	18	8.40	29	2.42	07	5.18
10	8.72	19	8.00	30	2.22	08	5.20
11	8.70	20	7.54	31	2.16	09	5.24
12	8.64	21	7.36	JAN 01, 1984	2.12	10	5.41
13	8.59	22	7.28	02	2.09	11	5.50
14	8.61	23	7.10	03	2.17	12	5.53
15	8.66	24	6.76	04	2.22	13	5.44
16	8.71	25	6.73	05	2.32	14	5.60
17	8.72	26	6.52	06	2.49	15	5.52
18	8.75	27	6.22	07	2.62	16	5.50
19	8.74	28	5.94	08	2.77	17	5.52
20	8.80	29	5.74	09	2.92	18	5.46
21	8.89	30	5.54	10	3.03	19	5.42
22	8.90	DEC 01	5.56	11	3.08	20	5.41
23	8.92	02	5.62	12	3.12	21	5.32
24	8.97	03	5.32	13	3.12	22	5.34
25	9.00	04	5.78	14	3.38	23	5.34
26	8.88	05	5.72	15	3.54	24	5.32
27	8.86	06	5.58	16	3.55	25	5.40
28	9.02	07	5.43	17	3.67	26	5.42
29	9.03	08	5.27	18	3.81	27	5.40
30	9.04	09	5.10	19	3.86	28	5.38
31	9.03	10	5.24	20	3.94	29	5.44
NOV 01	9.06	11	4.98	21	3.96	MAR 01	5.49
02	9.16	12	4.99	22	4.06	02	5.61
03	9.12	13	4.71	23	4.19	03	5.56
04	9.07	14	4.43	24	4.28	04	5.59
05	9.12	15	4.25	25	4.30	05	5.68
06	9.11	16	4.14	26	4.38	06	5.72
07	9.13	17	4.18	27	4.45	07	5.78
08	9.11	18	4.22	28	4.48	08	5.86
09	9.09	19	4.13	29	4.48	09	5.94
10	8.92	20	4.09	30	4.53	10	5.98

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

WELL 012N003E02G03M SITE NUMBER 385501121361903

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DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 11, 1984	5.95	APR 30, 1984	7.59	JUN 20, 1984	7.97	AUG 08, 1984	8.52
12	5.96	MAY 01	7.55	21	7.97	09	8.51
13	5.92	02	7.57	22	7.92	10	8.50
14	6.06	03	7.54	23	7.94	11	8.53
15	6.12	04	7.51	24	7.98	14	8.47
16	6.14	05	7.54	25	7.99	15	8.51
17	6.26	06	7.56	26	8.00	16	8.67
18	6.22	07	7.58	27	8.03	17	8.68
19	6.08	08	7.53	28	8.17	18	8.65
20	6.01	09	7.43	29	8.27	19	8.65
21	6.12	10	7.37	30	8.24	20	8.63
22	6.11	11	7.37	JUL 01	8.18	21	8.60
23	6.13	12	7.32	02	8.12	22	8.62
24	6.12	13	7.33	03	8.24	23	8.63
25	6.12	14	7.32	04	8.33	24	8.64
27	6.24	15	7.43	05	8.34	25	8.69
28	6.29	16	7.54	06	8.45	26	8.73
29	6.28	17	7.67	07	8.48	27	8.73
30	6.31	18	7.73	08	8.46	28	8.76
31	6.33	19	7.69	09	8.40	29	8.68
APR 01	6.43	20	7.68	10	8.37	30	8.68
02	6.50	21	7.76	11	8.39	31	8.58
03	6.60	22	7.86	12	8.38	SEP 01	8.47
04	6.51	24	7.90	13	8.40	02	8.48
05	6.52	25	7.88	14	8.49	03	8.48
06	6.60	27	7.85	15	8.53	04	8.42
07	6.76	28	7.86	16	8.49	05	8.42
08	6.84	29	7.86	17	8.41	06	8.40
09	6.91	30	7.80	18	8.42	07	8.35
10	6.89	31	7.76	19	8.51	08	8.42
11	6.97	JUN 01	7.90	20	8.50	09	8.40
12	7.01	02	8.03	21	8.44	10	8.30
13	7.02	03	8.05	22	8.50	11	8.34
14	7.04	04	8.04	23	8.56	12	8.48
15	7.14	05	8.00	24	8.54	13	8.53
16	7.22	06	7.97	25	8.53	14	8.48
17	7.28	07	8.06	26	8.43	15	8.50
18	7.35	08	8.00	27	8.45	16	8.56
19	7.44	09	7.94	28	8.44	17	8.62
20	7.58	10	7.97	29	8.49	18	8.69
21	7.59	11	7.91	30	8.46	19	8.75
22	7.56	12	7.88	31	8.43	20	8.74
23	7.49	13	7.85	AUG 01	8.44	21	8.70
24	7.48	14	7.82	02	8.49	22	8.73
25	7.56	15	7.84	03	8.50	23	8.82
26	7.49	16	7.88	04	8.38	24	8.95
27	7.55	17	7.87	05	8.38	25	8.98
28	7.54	18	7.87	06	8.43	26	8.99
29	7.59	19	7.92	07	8.46	27	9.06

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 28, 1984	9.17	SEP 29, 1984	9.15	SEP 30, 1984	9.14

WELL 011N001E03E01M SITE NUMBER 384951121512401

2.7 MI NORTHEAST OF ZAMORA. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DEPTH UNKNOWN. ALTITUDE OF LSD 33.13 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.52 FEET BELOW LAND SURFACE DATUM FEB 02, 1984.

LOWEST WATER LEVEL 12.29 FEET BELOW LAND SURFACE DATUM SEP 28, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1983	11.39	FEB 02, 1984	4.52	APR 27, 1984	7.65	JUL 27, 1984	11.29
NOV 01	11.51	MAR 02	4.98	MAY 30	8.60	SEP 28	12.29
DEC 02	9.78	APR 03	6.16	JUN 28	9.91		

WELL 012N001E34Q01M SITE NUMBER 385020121503601

4 MI 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 CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 2.73 FEET ABOVE LAND SURFACE DATUM JUL 27, 1984.

LOWEST WATER LEVEL 0.57 FEET BELOW LAND SURFACE DATUM APR 05, 1982.

WATER LEVELS IN FEET ABOVE LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	0.78	NOV 09, 1983	0.65	DEC 19, 1983	1.03	JAN 27, 1984	1.40
02	0.77	10	0.65	20	1.04	28	1.36
03	0.76	11	0.66	21	1.05	29	1.34
04	0.75	12	0.67	22	1.05	30	1.32
05	0.75	13	0.68	23	1.06	31	1.30
06	0.74	14	0.69	24	1.06	FEB 01	1.28
07	0.73	16	0.71	25	1.16	02	1.27
08	0.73	17	0.73	26	1.35	03	1.26
09	0.72	18	0.74	27	1.47	04	1.24
10	0.71	19	0.75	28	1.57	05	1.23
11	0.70	20	0.77	29	1.71	06	1.22
12	0.70	21	0.78	30	1.90	07	1.20
13	0.69	22	0.79	31	2.09	08	1.20
14	0.69	23	0.80	JAN 01, 1984	2.22	09	1.19
15	0.69	24	0.81	02	2.33	10	1.18
16	0.68	25	0.81	03	2.42	11	1.17
17	0.68	26	0.82	04	2.52	12	1.16
18	0.68	27	0.82	05	2.43	13	1.16
19	0.68	28	0.83	06	2.42	14	1.16
20	0.68	29	0.84	07	2.41	15	1.16
21	0.68	30	0.85	08	2.40	16	1.16
22	0.67	DEC 01	0.86	09	2.37	17	1.16
23	0.67	02	0.88	10	2.33	18	1.16
24	0.66	03	0.89	11	2.26	19	1.16
25	0.66	04	0.89	12	2.19	20	1.16
26	0.65	05	0.89	13	2.14	21	1.16
27	0.65	06	0.90	14	2.09	22	1.17
28	0.65	07	0.90	15	2.02	23	1.17
29	0.65	08	0.91	16	1.96	24	1.17
30	0.65	09	0.92	17	1.90	25	1.18
31	0.65	10	0.93	18	1.84	26	1.18
NOV 01	0.67	11	0.94	19	1.78	27	1.18
02	0.67	12	0.95	20	1.72	28	1.19
03	0.66	13	0.96	21	1.67	29	1.19
04	0.66	14	0.97	22	1.62	MAR 01	1.20
05	0.66	15	0.98	23	1.57	02	1.21
06	0.66	16	0.99	24	1.52	03	1.21
07	0.66	17	1.01	25	1.47	04	1.22
08	0.65	18	1.02	26	1.43	05	1.22

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WELL 012N001E34Q01M SITE NUMBER 385020121503601

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 06, 1984	1.22	APR 14, 1984	1.48	MAY 26, 1984	1.98	AUG 24, 1984	2.57
07	1.22	15	1.49	27	1.99	25	2.56
08	1.22	16	1.50	28	2.00	26	2.56
09	1.22	17	1.50	29	2.01	27	2.56
10	1.22	18	1.51	30	2.01	28	2.54
11	1.23	19	1.52	31	2.02	29	2.53
12	1.23	20	1.52	JUN 01	2.03	30	2.53
13	1.25	21	1.52	02	2.03	31	2.52
14	1.27	22	1.53	03	2.04	SEP 01	2.52
15	1.27	23	1.54	04	2.05	02	2.51
16	1.28	24	1.55	05	2.06	03	2.51
17	1.29	25	1.56	JUL 27	2.73	04	2.50
18	1.29	26	1.57	28	2.72	05	2.50
19	1.31	27	1.57	29	2.71	06	2.49
20	1.32	28	1.58	30	2.71	07	2.49
21	1.33	29	1.59	31	2.70	08	2.49
22	1.35	30	1.59	AUG 01	2.69	09	2.48
23	1.36	MAY 01	1.61	02	2.68	10	2.47
24	1.37	02	1.62	03	2.67	11	2.47
25	1.39	03	1.63	04	2.67	12	2.46
26	1.41	04	1.65	05	2.66	13	2.45
27	1.43	05	1.66	06	2.66	14	2.45
28	1.44	06	1.67	07	2.65	15	2.43
29	1.45	07	1.69	08	2.65	16	2.43
30	1.46	09	1.71	09	2.64	17	2.42
31	1.48	10	1.73	10	2.64	18	2.41
APR 01	1.49	11	1.75	11	2.63	19	2.38
02	1.50	12	1.77	12	2.63	20	2.36
03	1.52	13	1.79	13	2.62	21	2.37
04	1.49	16	1.84	14	2.62	22	2.36
05	1.49	17	1.85	15	2.61	23	2.36
06	1.49	18	1.86	16	2.61	24	2.35
07	1.49	19	1.87	17	2.60	25	2.34
08	1.49	20	1.89	18	2.60	26	2.33
09	1.49	21	1.90	19	2.59	27	2.32
10	1.49	22	1.92	20	2.59	28	2.34
11	1.48	23	1.94	21	2.58	29	2.33
12	1.48	24	1.95	22	2.58	30	2.32
13	1.48	25	1.97	23	2.57		

WELL 012N001E34Q02M SITE NUMBER 385020121503602

4 MI NORTHEAST OF ZAMORA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 1401 FT, CASED TO 1401 FT, SCREENED 1396-1401 FT. ALTITUDE OF LSD 24.27 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 5.76 FEET ABOVE LAND SURFACE DATUM MAY 30, 1984.

LOWEST WATER LEVEL 6.31 FEET BELOW LAND SURFACE DATUM APR 18, 1979.

WATER LEVELS IN FEET ABOVE LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1983	3.09	OCT 26, 1983	3.12	NOV 17, 1983	3.55	DEC 09, 1983	3.88
05	3.12	27	3.16	18	3.48	10	3.78
06	3.12	28	3.14	19	3.54	11	3.90
07	3.15	29	3.13	20	3.66	12	3.77
08	3.13	30	3.15	21	3.61	13	3.77
09	3.09	31	3.17	22	3.54	14	3.81
10	3.06	NOV 01	3.21	23	3.53	15	3.87
11	3.08	02	3.14	24	3.66	16	3.91
12	3.12	03	3.17	25	3.59	17	3.90
13	3.15	04	3.19	26	3.54	18	3.87
14	3.16	05	3.17	27	3.54	19	3.92
15	3.14	06	3.17	28	3.60	20	3.96
16	3.12	07	3.15	29	3.64	21	3.94
17	3.13	08	3.17	30	3.71	22	3.90
18	3.14	09	3.20	DEC 01	3.68	23	3.91
19	3.16	10	3.38	02	3.62	24	4.06
20	3.17	11	3.45	03	3.80	JAN 11, 1984	4.51
21	3.13	12	3.46	04	3.62	FEB 02	4.28
22	3.12	13	3.46	05	3.59	MAR 02	4.68
23	3.13	14	3.40	06	3.63	APR 03	5.35
24	3.10	15	3.45	07	3.67	MAY 30	5.76
25	3.09	16	3.49	08	3.72		

WELL 012N001E34Q003M SITE NUMBER 385020121503603

4 MI NORTHEAST OF ZAMORA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 947 FT, CASED TO 947 FT, SCREENED 942-947 FT. ALTITUDE OF LSD 24.27 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 2.16 FEET ABOVE LAND SURFACE DATUM MAY 03, 1984; MAY 04, 1984; MAY 05, 1984.

LOWEST WATER LEVEL 19.30 FEET BELOW LAND SURFACE DATUM NOV 09, 1979.

WATER LEVELS IN FEET ABOVE OR BELOW(-) LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	-4.59	NOV 09, 1983	-4.43	DEC 20, 1983	-2.50	FEB 11, 1984	-0.63
02	-4.62	10	-4.23	21	-2.50	12	-0.56
03	-4.66	11	-4.11	22	-2.52	13	-0.42
04	-4.76	12	-4.06	23	-2.49	14	-0.40
05	-4.74	13	-4.04	24	-2.28	15	-0.32
06	-4.76	14	-4.04	25	-1.90	16	-0.24
07	-4.74	15	-3.98	26	-1.64	17	-0.24
08	-4.75	16	-3.92	27	-1.48	18	-0.22
09	-4.79	17	-3.85	28	-1.26	19	-0.20
10	-4.82	18	-3.88	29	-0.64	20	-0.14
11	-4.81	19	-3.80	30	-0.13	21	-0.07
12	-4.78	20	-3.69	31	-0.15	22	-0.05
13	-4.75	21	-3.71	JAN 01, 1984	-0.22	23	-0.00
14	-4.75	22	-3.75	02	-0.33	24	0.06
15	-4.76	23	-3.73	03	-0.42	25	0.07
16	-4.77	24	-3.60	04	-0.61	26	0.09
17	-4.78	25	-3.61	11	-1.49	27	0.14
18	-4.77	26	-3.62	12	-1.49	28	0.22
19	-4.75	27	-3.59	13	-1.50	29	0.27
20	-4.73	28	-3.53	14	-1.56	MAR 01	0.30
21	-4.77	29	-3.47	15	-1.63	02	0.36
22	-4.77	30	-3.42	16	-1.63	03	0.51
23	-4.76	DEC 01	-3.43	17	-1.63	04	0.58
24	-4.77	02	-3.45	18	-1.64	APR 10	1.84
25	-4.77	03	-3.24	19	-1.64	11	1.85
26	-4.73	04	-3.34	20	-1.63	12	1.87
27	-4.67	05	-3.33	21	-1.60	13	1.92
28	-4.68	06	-3.27	22	-1.57	14	1.98
29	-4.67	07	-3.20	23	-1.57	15	1.98
30	-4.65	08	-3.14	24	-1.55	17	1.99
31	-4.61	09	-2.96	FEB 02	-0.96	18	2.04
NOV 01	-4.56	10	-3.00	03	-0.94	19	2.03
02	-4.61	11	-2.82	04	-0.89	20	1.99
03	-4.58	14	-2.80	05	-0.86	21	2.00
04	-4.53	15	-2.71	06	-0.84	22	2.04
05	-4.54	16	-2.64	07	-0.78	23	2.08
06	-4.51	17	-2.61	08	-0.72	24	2.08
07	-4.51	18	-2.61	09	-0.66	25	2.07
08	-4.49	19	-2.56	10	-0.64	26	2.10

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 27, 1984	2.09	MAY 16, 1984	2.01	JUN 04, 1984	1.14	JUN 23, 1984	0.23
28	2.11	17	1.98	05	1.08	24	0.15
29	2.12	18	1.92	06	1.06	25	0.09
30	2.13	19	1.90	07	0.98	26	0.04
MAY 01	2.15	20	1.90	08	0.92	27	-0.20
02	2.15	21	1.90	09	0.87	28	-0.32
03	2.16	22	1.87	10	0.84	29	-0.50
04	2.16	23	1.81	11	0.86	30	-0.58
05	2.16	24	1.74	12	0.87	JUL 01	-0.64
06	2.15	25	1.68	13	0.84	04	-0.90
07	2.13	26	1.62	14	0.81	05	-0.94
08	2.11	27	1.60	15	0.73	06	-1.00
09	2.12	28	1.57	16	0.67	27	-2.88
10	2.13	29	1.51	17	0.63	AUG 28	-5.50
11	2.14	30	1.32	18	0.60	SEP 28	-6.96
12	2.14	31	1.32	19	0.52	29	-6.95
13	2.13	JUN 01	1.26	20	0.41	30	-6.95
14	2.10	02	1.20	21	0.32		
15	2.05	03	1.18	22	0.30		

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SHASTA COUNTY

STATION NUMBER	LOCAL IDENTIFIER	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
401805122191901	028N004W09C01M	83-10-19	240	221	7.8	19.0	80	0	16
		84-05-15	240	238	7.4	19.5	79	0	16
401817122224201	028N005W01P01M	83-10-19	343	299	7.6	19.0	130	0	23
		84-05-16	343	313	7.2	16.0	140	0	24
401846122270501	028N005W05G01M	83-10-18	220	358	7.5	19.0	150	0	29
		84-05-15	220	377	7.5	19.0	150	3	30
401754122261401	028N005W09F01M	83-10-19	268	327	7.9	18.5	140	0	28
		84-05-15	268	341	7.8	19.5	140	3	30
		84-05-16	380	276	8.1	16.5	110	0	23
401803122240401	028N005W11D01M	83-10-19	454	309	8.2	20.0	130	0	27
		84-05-16	454	320	8.0	20.0	130	0	28
401716122221201	028N005W13A01M	83-10-19	299	275	8.2	19.5	120	0	25
		84-05-15	299	307	8.0	20.5	130	0	26
401659122235501	028N005W14F01M	83-10-19	340	295	8.2	19.0	140	0	28
		84-05-05	340	315	8.0	19.0	140	0	27
402335122125401	029N003W04N01M	83-10-17	100	380	7.2	19.0	160	16	27
		84-05-14	100	407	7.4	18.0	160	5	28
402348122144301	029N003W06L01M	83-10-17	89	158	7.4	18.0	60	0	10
402321122150301	029N003W07D01M	83-10-17	112	248	7.1	18.0	100	0	16
		84-05-14	112	253	7.4	18.5	100	0	16
402335122164801	029N004W02K01M	83-10-17	151	157	7.3	18.0	52	0	8.5
		84-05-14	151	160	7.1	18.0	54	0	9.0
402331122191201	029N004W04Q01M	83-10-18	140	180	7.0	17.0	62	0	11
		84-05-15	140	161	6.8	20.5	53	0	9.6
402303122212201	029N004W07G02M	83-10-18	103	272	7.1	17.0	120	0	18
		84-05-16	103	282	7.1	19.0	130	0	19
402321122203101	029N004W08C01M	83-10-18	200	251	6.8	17.5	110	0	21
		84-05-15	200	259	6.9	19.0	100	0	21
402305122173201	029N004W10H01M	83-10-18	144	230	7.2	17.0	92	0	17
		84-05-15	144	236	7.2	17.0	92	0	17
402245122165201	029N004W11K01M	83-10-17	200	180	7.4	19.0	70	0	13
		84-05-14	200	182	7.4	19.0	71	0	13
402201122163301	029N004W14J01M	83-10-18	498	150	7.6	17.0	63	0	14
		84-05-14	498	157	7.3	17.0	59	0	12
402201122210201	029N004W18J01M	83-10-19	150	157	7.0	19.5	60	0	11

STATION NUMBER	DATE OF SAMPLE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
401805122191901	83-10-19	9.7	17	31	.8	1.2	111	2.9	3.5	.2	42
	84-05-15	9.6	16	30	.8	1.1	107	3.2	5.3	.2	42
401817122224201	83-10-19	18	15	20	.6	.7	148	2.9	9.1	.2	45
	84-05-16	19	14	18	.5	.6	142	4.0	16	.3	47
401846122270501	83-10-18	18	18	21	.7	.8	150	13	18	.2	36
	84-05-15	19	17	19	.6	.7	150	14	16	.2	37
401754122261401	83-10-19	16	17	21	.7	.8	142	12	17	.1	29
	84-05-15	16	16	20	.6	.9	138	15	19	.1	29
401803122244601	83-10-19	16	17	22	.7	.7	153	4.6	10	.1	30
	84-05-16	12	17	26	.7	.6	140	1.0	6.2	<.1	19
401803122240401	83-10-19	14	18	24	.7	1.1	154	5.8	11	.1	35
	84-05-16	14	17	22	.7	.9	152	5.7	10	.1	35
401716122221201	83-10-19	15	15	21	.6	.8	156	.7	3.9	.1	28
	84-05-15	15	15	20	.6	.7	154	.8	3.8	.1	31
401659122235501	83-10-19	17	12	16	.5	.7	160	1.2	3.9	.2	32
	84-05-05	18	11	14	.4	.7	158	.6	3.4	.2	35
402335122125401	83-10-17	23	18	19	.6	3.0	146	18	21	.1	70
	84-05-14	23	18	19	.6	2.9	160	20	14	.2	73
	84-05-14	23	18	19	.6	2.9	160	20	14	.2	73
402348122144301	83-10-17	8.4	12	30	.7	1.1	77	3.6	1.9	.1	42
402321122150301	83-10-17	15	16	25	.7	.7	117	7.6	4.0	.2	43
	84-05-14	15	16	25	.7	.5	120	8.0	3.9	.2	42
402335122164801	83-10-17	7.4	14	37	.9	.6	93	2.3	2.8	.2	41
	84-05-14	7.7	13	34	.8	.5	87	2.2	2.6	.2	43
402331122191201	83-10-18	8.4	14	33	.8	.6	77	3.5	9.1	.2	53
	84-05-15	7.1	13	34	.8	.5	69	2.8	5.3	.2	56
402303122212201	83-10-18	18	13	19	.5	.9	134	10	4.3	<.1	50

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SHASTA COUNTY--Continued

STATION NUMBER	DATE OF SAMPLE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
402303122212201	84-05-16	19	13	18	.5	.8	135	8.8	4.2	<.1	53
402321122203101	83-10-18	13	13	21	.6	.7	108	5.8	5.9	.2	47
	84-05-15	12	13	22	.6	.5	109	6.3	5.4	.2	48
402305122173201	84-10-18	12	14	25	.7	.7	110	6.1	4.0	.2	44
	84-05-15	12	14	25	.7	.6	111	6.9	3.9	.2	45
402245122165201	84-10-18	12	14	25	.7	.7	110	6.1	4.0	.2	44
	84-05-14	9.4	11	25	.6	.6	84	4.2	5.6	.2	41
402201122163301	83-10-18	6.8	9.5	24	.5	2.0	72	3.9	3.5	.1	33
	84-05-14	7.0	9.3	25	.5	.5	67	3.7	3.1	.1	34
402201122210201	83-10-19	8.0	13	32	.7	.7	72	2.3	2.8	.1	51

STATION NUMBER	DATE OF SAMPLE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
401805122191901	83-10-19	151	160	1.5	20	13	2
	84-05-15	162	160	1.4	20	13	3
401817122224201	83-10-19	207	200	1.4	10	6	1
	84-05-16	206	210	1.7	10	14	3
401846122270501	83-10-18	211	220	.87	40	3	1
	84-05-15	231	220	.84	40	6	<1
401754122261401	83-10-19	201	210	.21	50	8	5
	84-05-15	213	210	.23	60	5	5
401803122244601	83-10-19	177	200	.27	50	5	<1
	84-05-16	146	160	<.10	50	--	--
401803122240401	83-10-19	185	200	.38	50	6	4
	84-05-16	203	200	.33	50	14	2
401716122221201	83-10-19	171	180	.65	30	6	30
	84-05-15	168	180	.73	40	12	10
401659122235501	83-10-19	178	190	.69	20	7	9
	84-05-05	186	190	.69	20	6	3
402335122125401	83-10-17	280	270	--	10	13	4
	84-05-14	269	280	4.0	<10	--	9
402348122144301	83-10-17	120	130	.59	<10	18	4
402321122150301	83-10-17	170	170	1.5	<10	4	2
	84-05-14	164	170	1.8	<10	.25	2
402335122164801	83-10-17	120	130	.77	<10	4	2
	84-05-14	119	130	.92	<10	38	3
402331122191201	83-10-18	150	150	1.1	<10	24	6
	84-05-15	127	140	1.2	<10	--	27
402303122212201	83-10-18	190	190	1.3	<10	5	3
	84-05-16	180	200	1.4	<10	--	2
402321122203101	83-10-18	170	170	3.1	<10	6	2
	84-05-15	170	170	2.8	<10	--	18
402305122173201	83-10-18	150	160	1.5	<10	4	2
	84-05-15	153	170	1.5	<10	--	3
402245122165201	83-10-17	130	130	.90	30	<3	1
	84-05-14	129	140	.89	30	3	<1
402201122163301	83-10-18	110	120	.41	<10	9	5
	84-05-14	121	110	.51	20	4	3
402201122210201	83-10-19	130	130	1.1	<10	5	2

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SHASTA COUNTY--Continued

STATION NUMBER	LOCAL IDENTIFIER	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
402201122210201	029N004W18J01M	84-05-17	150	164	7.0	19.0	57	0	9.8
402131122210501	029N004W19A01M	83-10-19	46	285	6.8	18.5	110	7	24
		84-05-16	46	295	6.8	18.5	120	9	25
402057122210801	029N004W19R02M	83-10-18	175	316	7.2	4.0	130	7	29
		84-05-14	175	328	7.2	18.0	130	12	30
402135122201701	029N004W20B01M	83-10-19	94	220	7.2	18.0	93	4	23
		84-05-16	94	233	7.4	18.5	93	0	23
402050122194201	029N004W21N03M	83-10-19	135	64	7.4	17.5	16	0	3.2
		84-05-15	135	59	7.2	18.0	13	0	2.5
402127122180001	029N004W22B03M	83-10-18	100	181	7.6	15.5	74	0	14
		84-05-14	100	191	7.2	18.5	74	0	14
402016122215801	029N004W30M01M	83-10-18	104	178	6.9	16.0	68	5	15
		84-05-15	104	176	6.7	18.0	68	8	15
401920122204301	029N004W32M01M	83-10-18	140	176	7.4	19.5	69	0	15
		84-05-14	140	180	7.1	20.0	65	0	14
402401122230201	029N005W01D01M	83-10-18	220	156	6.8	18.0	51	0	10
		84-05-16	220	172	7.0	18.0	51	0	10
402249122271901	029N005W08L02M	83-10-18	140	274	7.4	18.0	130	0	23
		84-05-16	140	257	6.9	18.5	110	0	19
402240122260901	029N005W09L01M	83-10-18	140	247	7.0	17.5	110	0	19
		84-05-16	140	275	7.0	18.0	120	0	19
402204122235501	029N005W14F01M	83-10-19	120	166	6.6	18.0	76	0	14
		84-05-16	120	170	6.7	20.0	74	0	13
402147122232201	029N005W14R01M	83-10-19	170	209	6.4	17.5	77	7	15
		84-05-16	170	216	7.0	19.0	92	0	17
402137122261501	029N005W16P01M	83-10-19	96	281	7.0	15.5	130	7	21
		84-05-17	96	276	6.9	17.5	110	0	20
402124122262301	029N005W21D01M	83-10-19	130	295	6.8	15.0	130	0	22
		84-05-17	130	303	6.8	17.5	130	0	22
402050122251701	029N005W22N01M	83-10-19	290	198	7.7	17.5	81	0	16
		84-05-16	290	198	7.8	20.5	79	0	15
402010122225101	029N005W25L01M	83-10-18	60	348	7.0	18.0	150	12	36
		84-05-15	60	380	6.9	17.0	160	9	39
401959122221701	029N005W25R01M	83-10-19	73	166	7.3	17.5	65	0	13

STATION NUMBER	DATE OF SAMPLE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
402201122210201	84-05-17	8.0	13	33	.8	.6	78	2.2	2.8	.1	52
402131122210501	83-10-19	13	14	21	.6	1.1	107	12	11	<.1	37
	84-05-16	14	14	20	.6	1.0	111	13	12	<.1	38
402057122210801	83-10-18	14	13	18	.5	.9	123	13	18	.1	37
	84-05-14	14	13	17	.5	.8	121	14	25	<.1	38
402135122201701	83-10-19	8.6	11	20	.5	.8	89	10	8.6	<.1	28
	84-05-16	8.7	11	20	.5	.7	94	9.3	10	<.1	29
402050122194201	83-10-19	1.9	7.3	49	.8	.4	25	.9	1.6	.1	36
	84-05-15	1.6	7.0	52	.9	1.1	19	<.2	1.1	.2	40
402127122180001	83-10-18	9.4	11	24	.6	.7	89	4.9	3.1	.1	33
	84-05-14	9.6	11	24	.6	.6	84	4.6	2.9	.1	37
402016122215801	83-10-18	7.4	8.7	22	.5	.7	63	6.2	4.0	<.1	51
	84-05-15	7.4	8.5	21	.5	.6	60	6.4	3.7	<.1	54
401920122204301	83-10-18	7.6	12	27	.6	.7	89	1.3	2.5	.2	45
	84-05-14	7.4	11	27	.6	.6	84	1.5	2.1	.2	47
402401122230201	83-10-18	6.2	17	42	1	.6	84	.5	3.6	<.1	58
	84-05-16	6.3	17	42	1	.5	87	.8	3.4	.2	60
402249122271901	83-10-18	18	11	15	.4	.8	143	11	9.1	<.1	45
	84-05-16	16	11	17	.5	.7	127	4.1	3.4	<.1	46
402240122260901	83-10-18	16	11	17	.5	.9	115	7.7	4.6	<.1	45
	84-05-16	17	11	17	.5	.8	119	8.2	4.8	<.1	47
402204122235501	83-10-19	10	6.7	16	.3	.6	76	3.9	3.2	<.1	42
	84-05-16	10	6.3	16	.3	.6	78	4.6	3.1	<.1	42
402147122232201	83-10-19	9.7	13	27	.7	.7	70	5.9	4.0	<.1	54
	84-05-16	12	11	21	.5	.6	97	6.1	3.1	<.1	50
402137122261501	83-10-19	18	11	16	.4	.6	120	9.5	7.7	<.1	51
	84-05-17	14	11	18	.5	.6	117	8.9	7.7	<.1	53
402124122262301	83-10-19	19	13	17	.5	.9	141	5.7	10	<.1	51
	84-05-17	19	13	17	.5	.7	144	5.6	8.6	>.1	52
402050122251701	83-10-19	10	13	26	.6	.7	105	.5	2.7	.1	45
	84-05-16	10	13	26	.7	.6	107	.7	2.4	.2	46

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SHASTA COUNTY--Continued

STATION NUMBER	DATE OF SAMPLE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
402010122225101	83-10-18	15	13	16	.5	.9	140	13	16	<.1
	84-05-15	16	13	15	.5	.9	154	12	16	<.1
401959122221701	83-10-19	7.9	9.6	24	.5	.6	80	4.0	2.9	.1
	84-05-16	7.9	9.3	24	.5	.5	78	3.6	2.2	.1

STATION NUMBER	DATE OF SAMPLE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
402201122210201	84-05-17	143	140	1.0	10	6	<1
402131122210501	83-10-19	180	180	2.9	30	5	2
	84-05-16	190	180	3.0	30	8	2
402057122210801	83-10-18	210	200	1.3	40	11	4
	84-05-14	201	210	1.2	40	15	4
402135122201701	83-10-19	152	140	1.5	30	7	2
	84-05-16	152	150	1.6	30	--	2
402050122194201	83-10-19	71	67	1.7	<10	5	1
	84-05-15	77	--	1.9	20	9	1
402127122180001	83-10-18	126	130	.44	<10	12	93
	84-05-14	128	130	.60	<10	12	4
402016122215801	83-10-18	141	130	4.6	10	5	2
	84-05-15	145	130	4.9	20	21	1
401920122204301	83-10-18	118	140	.72	10	4	<1
	84-05-14	127	130	.70	20	<3	<1
402401122230201	83-10-18	140	150	.58	<10	8	3
	84-05-16	138	150	.58	<10	36	<1
402249122271901	83-10-18	--	200	1.0	20	6	1
	84-05-16	165	180	.95	<10	--	3
402240122260901	83-10-18	170	170	2.4	<10	8	4
	84-05-16	168	180	2.9	<10	--	3
402204122235501	83-10-19	121	130	1.2	<10	8	2
	84-05-16	126	130	1.2	<10	4	3
402147122232201	83-10-19	170	140	6.0	<10	16	5
	84-05-16	153	160	2.2	<10	6	2
402137122261501	83-10-19	200	190	2.9	<10	5	3
	84-05-17	189	190	2.6	10	6	<1
402124122262301	83-10-19	201	210	.84	<10	16	13
	84-05-17	200	210	.76	<10	15	15
402050122251701	83-10-19	139	150	.66	<10	13	2
	84-05-16	145	150	.58	20	--	3
402010122225101	83-10-18	224	220	1.6	10	5	<1
	84-05-15	246	230	1.8	20	4	<1
401959122221701	83-10-19	122	130	.62	<10	11	2
	84-05-16	121	130	.52	10	11	<1

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SHASTA COUNTY--Continued

STATION NUMBER	LOCAL IDENTIFIER	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
401957122251501	029N005W27N01M	83-10-19	95	316	7.3	15.5	120	4	25
		84-05-16	95	321	7.3	19.5	130	12	27
401939122261101	029N005W33C01M	83-10-18	140	312	7.5	17.5	130	0	27
		84-05-15	140	326	7.5	17.0	130	0	27
401919122251601	029N005W34M01M	83-10-18	204	208	7.5	18.5	80	0	17
401928122241801	029N005W35E01M	83-10-18	240	237	7.7	18.5	94	0	21
		84-05-15	240	254	7.6	18.5	96	0	22
402320122282001	029N006W02K01M	83-10-18	100	451	7.1	18.5	200	69	35
		84-05-16	100	402	6.9	17.5	190	56	33
402418122134301	030N003W32P01M	83-10-17	100	130	6.6	18.0	55	0	12
		84-05-14	100	144	7.0	15.5	58	4	12
402457122194501	030N004W33D01M	83-10-18	336	203	7.2	21.5	70	0	13
		84-05-15	336	189	7.0	19.5	70	0	13
402505122170401	030N004W35C01M	83-10-19	300	184	7.6	18.5	59	0	11
		84-05-15	300	191	7.3	19.0	59	0	11
402610122260001	030N005W21K01M	83-10-18	398	125	7.1	19.5	39	0	7.7
		84-05-17	398	126	7.1	18.5	38	0	7.5
402414122242501	030N005W34R01M	83-10-18	271	142	7.0	20.5	47	0	8.9
		84-05-17	271	144	7.0	20.0	49	0	9.3
402753122313802	030N006W10K02M	83-10-18	100	190	7.9	18.0	51	0	11
		84-05-16	100	194	7.9	17.5	51	0	11

STATION NUMBER	DATE OF SAMPLE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
401957122251501	83-10-19	15	14	20	.6	.7	120	15	19	.1	29
	84-05-16	16	14	19	.5	.7	121	16	10	.1	32
401939122261101	83-10-18	15	16	21	.6	.8	139	11	13	.1	34
	84-05-15	14	15	21	.6	.7	138	8.2	10	.1	33
401919122251601	83-10-18	9.1	13	26	.7	.6	106	3.5	2.9	.2	9.5
401928122241801	83-10-18	10	15	26	.7	.7	118	3.0	4.1	.2	35
	84-05-15	10	14	24	.6	.6	117	2.8	4.1	.2	35
402320122282001	83-10-18	28	13	12	.4	1.4	134	21	18	<.1	42
	84-05-16	26	12	12	.4	.9	134	22	13	<.1	43
402418122134301	83-10-17	6.1	6.5	20	.4	.7	58	4.6	2.0	<.1	22
	84-05-14	6.9	6.3	19	.4	.5	54	4.9	2.4	<.1	24
402457122194501	83-10-18	9.1	18	36	1	.9	110	3.7	3.5	.1	49
	84-05-15	9.2	17	34	.9	.8	101	3.7	3.3	.2	51
402505122170401	83-10-19	7.6	18	40	1	.8	90	5.0	2.8	.2	45
	84-05-15	7.6	17	38	1	.7	89	4.8	2.5	.2	46
402610122260001	83-10-18	4.7	13	42	.9	.3	64	.9	2.2	.1	50
	84-05-17	4.7	12	40	.9	.3	66	.7	2.6	.11	51
402414122242501	83-10-18	5.9	12	36	.8	.51	61	2.8	4.1	.1	59
	84-05-17	6.3	12	34	.8	.5	72	1.1	3.0	.1	59
402753122313802	83-10-18	5.8	25	51	2	.5	105	.7	2.9	.2	40
	84-05-16	5.8	24	50	1	.4	109	.4	2.6	.2	41

See footnote at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SHASTA COUNTY--Continued

STATION NUMBER	DATE OF SAMPLE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
401957122251501	83-10-19	200	190	1.2	40	15	4
401939122261101	83-10-18	195	200	1.0	30	10	1
	84-05-15	196	190	1.1	40	9	3
401919122251601	83-10-18	118	120	.82	20	5	1
401928122241801	83-10-18	151	160	1.4	10	<3	<1
	84-05-15	164	160	1.4	20	5	<1
402320122282001	83-10-18	288	240	14	20	48	9
	84-05-16	256	230	2.5	20	16	2
402418122134301	83-10-17	90	89	.69	30	--	9
	84-05-14	96	90	.94	20	--	8
402457122194501	83-10-18	142	160	.45	<10	5	2
	84-05-15	143	160	.44	<10	--	--
402505122170401	83-10-19	139	140	.48	10	5	1
	84-05-15	130	140	.47	10	--	6
402610122260001	83-10-18	96	120	.32	<10	7	4
	84-05-17	116	120	.32	<10	--	<1
402414122242501	83-10-18	140	130	.65	<10	4	2
	84-05-17	135	130	.69	<10	29	<1
402753122313802	83-10-18	--	150	.17	50	--	64
	84-05-16	138	150	<.10	50	--	64

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

☆ GPO: 1986—687-260

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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