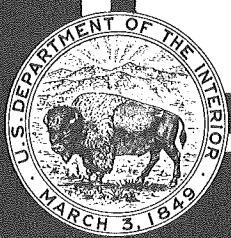


*J. Koller*

1965

# Water Resources Data for California

Part 2. Water Quality Records  
*(Part 1 is Surface Water Records in 2 volumes)*



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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



United States Department of the Interior  
Geological Survey-Water Resources Division

WATER RESOURCES DATA  
FOR  
CALIFORNIA

1965

Part 2. Water Quality Records

Prepared in cooperation with  
California Department of Water Resources  
California Water Quality Control Board  
Monterey County Flood Control and Water  
Conservation District  
Bureau of Reclamation, U.S. Department  
of the Interior  
Corps of Engineers, U.S Army

Copies of this report may be obtained from  
District Chief, Water Resources Division  
U.S. Geological Survey  
345 Middlefield Road  
Menlo Park, California 94025

Streamflow records for most of the water quality stations in this report are contained in:

Water Resources Data for California, 1965

Part 1. Surface Water Records

Volume 1: Colorado River Basin, Southern Great Basin, and Pacific Slope Basins excluding Central Valley

Volume 2: Northern Great Basin and Central Valley



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*[Symbols after station name designate type of data: c, chemical;  
t, water temperature; s, sediment]*

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# WATER RESOURCES DATA FOR CALIFORNIA, 1965

## Part 2. Water Quality Records

### INTRODUCTION

Water-resources investigations of the U.S. Geological Survey include the collection of water quality data on the chemical and physical characteristics of surface- and ground-water supplies of the Nation. These data for the 1965 water year for the quality of surface waters in California are presented in this report. Data for a few water quality stations in bordering States are also included. The data were collected by the Water Resources Division of the U.S. Geological Survey under the direction of Walter Hofmann, district chief.

Water quality information is presented for chemical quality, fluvial sediment, and water temperatures. The chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, sodium-adsorption-ratio, specific conductance, and pH. Fluvial sediment information is given for suspended-sediment discharges and concentrations and for particle-size distribution of suspended sediment and bed material. Water temperature data represent once-daily observations except for stations where a continuous temperature recorder furnishes information from which daily minimums and maximums are obtained.

The Geological Survey has published the annual series of water-supply papers, "Quality of Surface Waters of the United States," from 1941 through 1963 which contained the chemical quality, temperature, and suspended sediment data of the water. Each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records for California are contained in Parts 9-11 of the water-supply paper series. (See table, p. 11.) These publications are available in most public libraries. Beginning with the 1964 water year, water quality records for surface water, obtained by the Geological

Survey were published in a new series of annual releases on a state boundary basis. This report is primarily for local and immediate use, and its distribution is limited. The data for the 1964 and 1965 water years will be combined and published in Geological Survey Water-Supply Papers Nos. 1962 and 1963.

## COOPERATION

The work was done under cooperative agreements between the U.S. Geological Survey and the following organizations:

California Department of Water Resources  
William Warne, director.  
California Water Quality Control Board,  
Paul R. Bonderson, executive officer.  
Monterey County Flood Control and Water  
Conservation District, Loran Bunte, Jr.,  
district engineer.

Assistance in the form of funds was given by the Bureau of Reclamation, U.S. Department of the Interior, and Corps of Engineers, U.S. Army. Several stations were operated from funds appropriated directly to the Geological Survey.

Municipal agencies furnishing assistance were:

Alameda County Water District;  
M. P. Whitfield, general manager.  
Metropolitan Water District of Southern  
California; Lee Streicher, water purification engineer.  
Kings River Water Association.  
Public Utilities Commission, City and  
County of San Francisco.

## DEFINITION OF TERMS AND ABBREVIATIONS

The terms and abbreviations of water-quality and hydrologic data, as used in the text and tabular data of this report, are as follows:

Acre-foot (ac-ft) is a quantity of water required to cover 1 acre to a depth of 1 foot and is equal to

43,560 cubic feet or 325,851 gallons. The term is commonly used in measuring volumes of water used or stored.

Cfs-days is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It equals 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons.

Cubic feet per second (cfs) is a unit expressing rates of discharge. One cubic foot per second is equal to the discharge of a stream of rectangular cross section, 1 foot wide and 1 foot deep, flowing water at an average velocity of 1 foot per second.

Discharge, in its simplest concept, means outflow; therefore, the use of this term is not restricted as to course or location. In this report it represents the total fluids measured in the stream.

Daily mean discharge is the mean discharge for one day.

Mean daily discharge is the arithmetic mean discharge for the same day during a specific period of years.

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

Instantaneous discharge (at time of sampling). If the discharge at the time of sampling is reported instead of the daily mean, the heading of the discharge column is "Discharge (cfs)."

Drainage area is that area, in a specified location, measured in a horizontal plane, which is enclosed by a drainage divide.

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.

Equivalents per million (epm) is a unit for expressing the concentration of chemical constituents in solu-

tion in terms of the interreacting values of the electrically charged particles, or ions. One equivalent per million of a positively charged ion will react with one equivalent per million of a negatively charged ion. Parts per million is converted to equivalents per million by multiplying by the reciprocal of the combining weight of the ion.

Conversion factors: Parts per million  
to equivalents per million

Ion	Multiply by
Aluminum ( $\text{Al}^{+3}$ )	0.11119
Barium ( $\text{Ba}^{+2}$ )	.01456
Bicarbonate ( $\text{HCO}_3^{-1}$ )	.01639
Bromide ( $\text{Br}^{-1}$ )	.01251
Calcium ( $\text{Ca}^{+2}$ )	.04990
Carbonate ( $\text{CO}_3^{-2}$ )	.03333
Chloride ( $\text{Cl}^{-1}$ )	.02821
Chromium ( $\text{Cr}^{+6}$ )	.11539
Cobalt ( $\text{Co}^{+2}$ )	.03394
Copper ( $\text{Cu}^{+2}$ )	.03148
Fluoride ( $\text{F}^{-1}$ )	.05264
Hydrogen ( $\text{H}^{+1}$ )	.99209
Hydroxide ( $\text{OH}^{-1}$ )	.05880
Iodide ( $\text{I}^{-1}$ )	.00788
Iron ( $\text{Fe}^{+3}$ )	.05372
Lead ( $\text{Pb}^{+2}$ )	.00965
Lithium ( $\text{Li}^{+1}$ )	.14411
Magnesium ( $\text{Mg}^{+2}$ )	.08226
Manganese ( $\text{Mn}^{+2}$ )	.03640
Nickel ( $\text{Ni}^{+2}$ )	.03406
Nitrate ( $\text{NO}_3^{-1}$ )	.01613
Nitrite ( $\text{NO}_2^{-1}$ )	.02174
Phosphate ( $\text{PO}_4^{-3}$ )	.03159
Potassium ( $\text{K}^{+1}$ )	.02557
Sodium ( $\text{Na}^{+1}$ )	.04350
Strontium ( $\text{Sr}^{+2}$ )	.02283
Sulfate ( $\text{SO}_4^{-2}$ )	.02083
Zinc ( $\text{Zn}^{+2}$ )	.03060

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

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hardness of water is the property of water attributable to the presence of alkaline earths and is expressed as equivalent calcium carbonate ( $\text{CaCO}_3$ ). Hardness is a physical-chemical characteristic, not a substance.

Partial-record station is a particular site where limited 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 sieve and sedimentation methods.

Particle-size classification agrees closely with recommendations made by the American Geophysical Union Subcommittee on sediment terminology (Lane and others, 1947, p. 937). The classification is as follows:

Clay: Smaller than 0.004 mm.  
Silt: Between 0.004 and 0.062 mm.  
Sand: Between 0.062 and 2.0 mm.  
Gravel: Between 2.0 and 64.0 mm.

The particle-size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis of the silt and clay.

Parts per million (ppm) is a unit for expressing the concentration of chemical constituents by weight, usually as grams of constituents per million grams of solution. In the laboratory the results are expressed in weights of solutes in a given volume of water. To express the results in parts per million, the data must be converted. For most waters, this conversion is made by assuming that a liter of water weighs 1 kilogram; thus milligrams per liter is equivalent to parts per

million. Parts per million, for suspended sediment, is computed as 1 million times the ratio of the weight of sediment to the weight of the mixture of water and sediment.

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

Sediment discharge 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 by volume, that is discharged in a given time.

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

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. The following general relations are applicable:

Specific conductance  $\times (0.65 \pm 0.05) = \text{ppm dissolved solids}$ ;

$$\frac{\text{Specific conductance}}{100} = \frac{\text{total epm}}{2}$$

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reaction with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

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.

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

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 location of the thermograph.

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 parts per million by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Water year in Geological Survey reports dealing with surface water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1965, is called the "1965 water year."

## STATION NUMBERS

A station number has been assigned as an added means of identification for each stream location where regular measurements of streamflow and determinations of water quality have been made. The numbers have been assigned to conform with the standard downstream order of listing gaging stations. The numbering system consists of two digits followed by a hyphen and a six digit number. The notation to the left of the hyphen identifies the Part or hydrologic region used by the Geological Survey for reporting hydrologic data. The number to the right of the hyphen represents the position of the location in the standard downstream order listing the stations within each of the parts. The assigned numbers are in numerical order but are not consecutive. They are so

selected from the complete six digit number scale that intervening numbers will be available for future assignments to new locations. The identification number for each station in this report is printed to the left of the station name and contains only the essential digits. For example, the number is printed as 11-100 for a station whose complete identification number is 11-0100.00.

## COLLECTION AND EXAMINATION OF SAMPLES

Water samples for analyses usually are collected at or near points on streams where gaging stations are maintained by the U.S. Geological Survey for measurement of water discharge. Discharge records for streams in California have been released in the report "Water Resources Data for California, 1965, Part 1. Surface Water Records."

Most of these records are used in conjunction with the computations of the chemical constituents and sediment loads in this report.

Data on the quality of surface water were collected daily at some sites and less frequently at other sites. The distribution and number of stations in each river or drainage basin is shown on page 9.

### Solutes

Data for daily chemical-quality sites include the average chemical characteristics of water for "composite periods" of about one month or less. The methods of collecting and compositing water samples for determining the kinds and concentrations of solutes are described by Rainwater and Thatcher (1960). 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 at several verticals across the channel to determine accurately the solute load. The daily chemical-quality data in this report generally represents equal-volume composites for 2- to



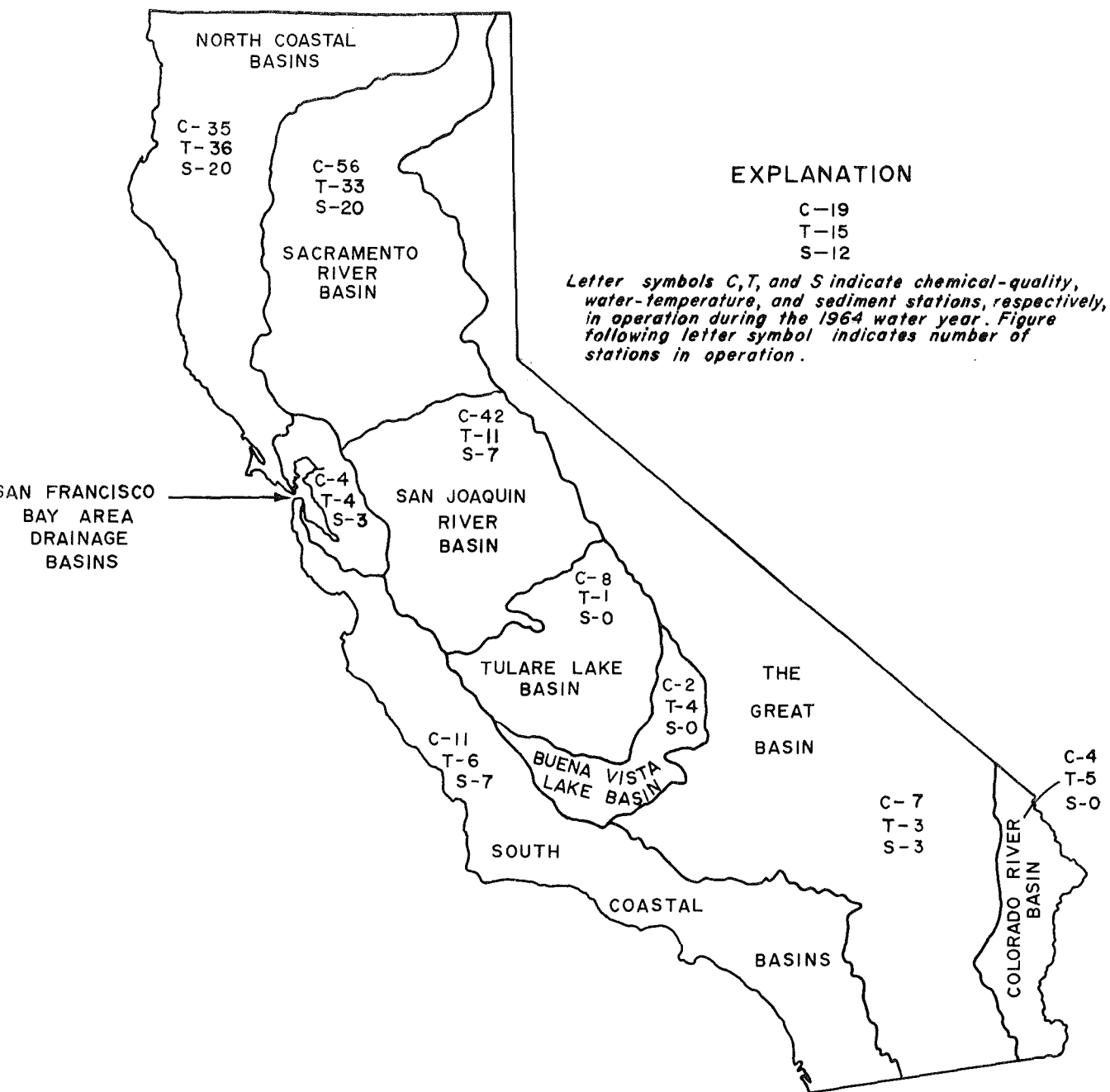


FIGURE 1.—MAP OF CALIFORNIA SHOWING NUMBER AND DISTRIBUTION OF WATER-QUALITY STATIONS.

10-day periods; the composite periods are selected on the basis of specific conductance of the daily samples and fluctuation of water discharge.

Samples collected at monthly and miscellaneous water quality stations were analyzed individually.

### Temperature

Water temperatures were measured at most of the water-quality stations. For daily stations, the water temperatures were taken at about the same time each day in order that the data would not reflect normal variations in water temperature. Most large streams have a small diurnal variation in water temperature; small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. The thermometers used for determining the water temperature were accurate to plus or minus 0.5°F.

At stations where thermographs are located, the records consist of maximum and minimum temperatures for each day and the monthly average of maximum daily and minimum daily temperatures.

### Sediment

At some stations, suspended-sediment samples were collected daily with depth-integrating cable-suspended samplers from a fixed sampling point at one vertical in the cross section. A hand sampler was used at many stations during periods of low flow. Depth-integrated samples were collected periodically at many verticals in the cross section to determine the ratio of the cross sectional distribution of the concentration of suspended sediment to the daily sampling verticals. During periods of high or rapidly changing flow, samples were taken twice or more often throughout the day at most stations. 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 with depth-integrating cable-suspended or hand samplers at many verticals in the

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

In addition to the records of the quantities of suspended sediment, records of periodic measurements of the particle-size distribution of the suspended sediment and the bed material are included.

#### WATER-SUPPLY PAPERS

The table below shows the annual series of Water-supply papers that give information on quality of surface waters in California. Data for the Colorado River basin are given in part 9 and for Pacific Slope basins in California in part 11.

Water-supply paper numbers and parts,  
water years 1941-65

Year	Parts 1-14	Year	Parts 9-14	Year	Parts 9-14
1941	942	1950	1189	1959	1645
1942	950	1951	1200	1960	B1745
1943	970	1952	1253	1961	B1885
1944	1022	1953	1293	1962	1945
1945	1030	1954	1353	1963	1951
1946	1050	1955	1403	1964-65	C1962
1947	1102	1956	1453		D1963
1948	A1133	1957	1523		
1949	A1163	1958	1574		

A Parts 7-14.

B In preparation.

C Parts 9-10 to be published.

D Part 11 to be published.

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U.S. Inter-Agency Committee on Water Resources, A study of methods used in measurement and analysis of sediment loads in streams:

Report 11, 1957, The development and calibration of visual accumulation tube: Minneapolis, Minn., St. Anthony Falls Hydraulic Lab., 109 p.

Report 12, 1957, Some fundamentals of particle-size analysis: Washington, U.S. Govt. Printing Office, 55 p.

Report AA, 1959, Federal Inter-agency sedimentation instruments and reports: Minneapolis, Minn., St. Anthony Falls Hydraulic Lab., 41 p.

Report 13, 1961, The single stage sampler for suspended sediment: Washington, U.S. Govt. Printing Office, 105 p.

Report 14, 1963, Determinations of fluvial sediment discharge: Washington, U.S. Govt. Printing Office, 151 p.

## PART 9. COLORADO RIVER BASIN

## COLORADO RIVER MAIN STEM

9-4210. LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.

LOCATION.--Midway between intake towers, 225 feet upstream from gaging station on state line between Mohave County, Arizona, and Clark County, Nevada.

DRAINAGE AREA.--167,800 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1940 to September 1965.

REMARKS.--Samples are collected by the U.S. Bureau of Reclamation and analyzed by the Metropolitan Water District of Southern California, LaVerne, California.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Depth (feet)	Elevation (feet)	Temperature (°F)	Silica (SiO <sub>2</sub> )	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Dissolved solids (sum)	Hardness as CaCO <sub>3</sub>	Non-carbonate hardness as CaCO <sub>3</sub>	Specific conductance (micromhos at 25°C)	pH
Oct. 1, 1964	Surface	1093	75	9.6	88	32	103	5	124	0	333	99	0.6	733	353	251	1140	8.0
Oct. 1.....	5	1088	75	--	--	--	--	--	123	0	--	99	--	--	--	--	1150	8.0
Oct. 1.....	25	1068	74	--	--	--	--	--	124	0	--	99	--	--	--	--	1150	7.9
Oct. 1.....	75	1018	67	10	92	30	96	4	146	0	305	91	2.0	703	353	233	1100	7.8
Oct. 1.....	125	968	58	10	92	30	95	4	154	0	300	91	2.3	702	353	227	1100	8.0
Oct. 1.....	175	918	55	10	94	30	99	4	157	0	307	94	2.5	719	358	229	1120	8.0
Oct. 1.....	225	868	54	11	92	30	98	4	157	0	300	94	2.4	710	353	224	1120	7.9
Oct. 1.....	275	818	53	--	--	--	--	--	159	0	--	94	--	--	--	--	1110	8.0
Oct. 1.....	325	768	53	--	--	--	--	--	159	0	--	95	--	--	--	--	1110	7.7
14 Oct. 27.....	Surface	1090	73	11	88	32	102	7	120	1	331	98	.4	731	351	251	1140	8.3
Oct. 27.....	5	1085	73	--	--	--	--	--	122	0	--	100	--	--	--	--	1140	8.2
Oct. 27.....	25	1065	72	--	--	--	--	--	122	0	--	100	--	--	--	--	1140	8.2
Oct. 27.....	75	1015	69	11	93	30	98	6	144	0	311	94	1.5	716	356	238	1120	7.8
Oct. 27.....	125	965	60	11	91	29	97	6	151	0	300	92	1.5	703	346	222	1090	7.8
Oct. 27.....	175	915	55	10	93	30	103	6	157	0	307	96	2.4	726	356	227	1120	7.9
Oct. 27.....	225	865	53	--	--	--	--	--	157	0	--	95	--	--	--	--	1100	8.0
Oct. 27.....	275	815	53	11	92	29	103	6	159	0	303	95	1.9	720	349	219	1100	7.9
Oct. 27.....	325	765	53	--	--	--	--	--	159	0	--	95	--	--	--	--	1100	7.8
Nov. 30.....	Surface	1089	61	9.9	92	32	103	4	134	0	331	101	1.3	742	363	253	1130	7.6
Nov. 30.....	5	1084	61	--	--	--	--	--	134	0	--	100	--	--	--	--	1130	7.7
Nov. 30.....	25	1064	60	--	--	--	--	--	134	0	--	100	--	--	--	--	1130	8.0
Nov. 30.....	75	1014	60	--	--	--	--	--	134	0	--	100	--	--	--	--	1140	7.9
Nov. 30.....	125	964	60	8.1	93	32	102	4	135	0	326	100	.3	732	362	251	1140	7.4
Nov. 30.....	175	916	57	8.8	94	30	102	5	159	0	305	97	2.8	725	360	230	1120	7.5
Nov. 30.....	225	864	54	8.5	92	30	99	5	157	0	296	96	1.4	706	351	222	1110	7.6
Nov. 30.....	275	814	54	--	--	--	--	--	156	0	--	95	--	--	--	--	1100	7.8
Nov. 30.....	325	764	53	9.1	91	30	99	5	156	0	297	94	2.0	705	348	220	1100	7.6
Dec. 30.....	Surface	1088	56	11	95	31	108	5	145	0	329	101	1.7	754	365	246	1180	8.0
Dec. 30.....	5	1082	56	--	--	--	--	--	145	0	--	103	--	--	--	--	1190	7.6
Dec. 30.....	25	1063	56	--	--	--	--	--	146	0	--	101	--	--	--	--	1180	7.7
Dec. 30.....	75	1013	56	10	95	32	110	5	144	0	335	105	1.5	766	369	251	1180	7.9
Dec. 30.....	125	963	56	--	--	--	--	--	146	0	--	102	--	--	--	--	1190	7.8
Dec. 30.....	175	913	56	10	96	30	109	5	148	0	327	101	1.7	754	365	244	1180	7.8
Dec. 30.....	225	863	55	10	95	30	109	5	154	0	323	100	2.2	752	361	235	1170	8.0
Dec. 30.....	275	813	54	--	--	--	--	--	157	0	--	99	--	--	--	--	1150	7.8
Dec. 30.....	325	763	53	11	92	30	103	5	157	0	302	97	2.2	720	351	222	1130	7.9
Dec. 30.....	369	719	53	--	--	--	--	--	60	0	--	95	--	--	--	--	1130	8.0

Jan. 29.....	Surface	1090	54	12	94	32	106	5	146	0	332	103	2.1	760	368	248	1170	7.7
Jan. 29.....	5	1085	54	--	--	--	--	--	148	0	--	102	--	--	--	--	1180	7.6
Jan. 29.....	25	1065	54	--	--	--	--	--	150	0	--	102	--	--	--	--	1180	7.5
Jan. 29.....	75	1015	54	--	--	--	--	--	148	0	--	103	--	--	--	--	1180	7.5
Jan. 29.....	125	965	54	--	--	--	--	--	149	0	--	102	--	--	--	--	1180	7.5
Jan. 29.....	175	915	54	11	94	32	106	5	149	0	327	103	2.0	754	366	244	1180	7.6
Jan. 29.....	225	865	54	10	95	32	106	5	148	0	328	102	1.5	754	367	246	1180	7.5
Jan. 29.....	275	815	54	--	--	--	--	--	150	0	--	103	--	--	--	--	1180	7.5
Jan. 29.....	325	765	54	11	95	32	106	5	150	0	328	102	2.2	756	367	244	1180	7.4
Jan. 29.....	371	719	54	--	--	--	--	--	153	0	--	103	--	--	--	--	1180	7.6
Feb. 26.....	Surface	1091	56	9.6	95	33	108	5	150	0	329	106	1.1	762	373	250	1210	7.9
Feb. 26.....	5	1086	55	--	--	--	--	--	150	0	--	106	--	--	--	--	1220	7.9
Feb. 26.....	25	1066	54	--	--	--	--	--	150	0	--	106	--	--	--	--	1220	7.7
Feb. 26.....	75	1016	54	9.6	94	32	108	5	149	0	328	106	1.4	759	366	244	1220	7.9
Feb. 26.....	125	966	54	--	--	--	--	--	150	0	--	105	--	--	--	--	1220	7.8
Feb. 26.....	175	916	54	9.9	95	32	108	5	150	0	330	105	1.2	761	369	246	1220	7.8
Feb. 26.....	225	866	54	9.7	96	32	108	5	150	0	332	107	1.7	767	373	250	1220	7.6
Feb. 26.....	275	816	54	--	--	--	--	--	150	0	--	107	--	--	--	--	1220	7.9
Feb. 26.....	325	766	53	9.7	95	32	111	5	150	0	330	109	1.4	769	371	248	1230	7.7
Mar. 31.....	Surface	1088	59	11	96	32	114	5	151	0	335	108	2.0	778	371	247	1200	7.8
Mar. 31.....	5	1083	59	--	--	--	--	--	151	0	--	108	--	--	--	--	1200	7.9
Mar. 31.....	25	1063	58	--	--	--	--	--	150	0	--	108	--	--	--	--	1200	7.7
Mar. 31.....	75	1013	56	--	--	--	--	--	150	0	--	108	--	--	--	--	1200	7.7
Mar. 31.....	125	963	54	10	96	32	114	5	150	0	336	108	2.0	778	371	248	1200	7.7
Mar. 31.....	175	913	54	10	98	32	117	5	154	0	338	112	2.2	792	377	252	1230	7.7
Mar. 31.....	225	863	53	9.6	98	32	117	5	154	0	338	114	2.2	793	378	252	1240	7.7
Mar. 31.....	275	813	53	--	--	--	--	--	154	0	--	114	--	--	--	--	1240	7.7
Mar. 31.....	325	763	53	9.6	98	32	116	5	154	0	337	113	2.2	790	378	252	1240	7.7
Mar. 31.....	369	719	53	--	--	--	--	--	--	--	--	113	--	--	--	--	1240	7.7
Apr. 30.....	Surface	1094	70	10	98	32	113	5	150	0	335	111	1.2	780	376	253	1220	8.1
Apr. 30.....	5	1089	69	--	--	--	--	--	150	0	--	111	--	--	--	--	1220	8.1
Apr. 30.....	25	1069	65	--	--	--	--	--	150	0	--	110	--	--	--	--	1210	7.8
Apr. 30.....	75	1019	56	--	--	--	--	--	150	0	--	110	--	--	--	--	1200	8.0
Apr. 30.....	125	969	54	--	--	--	--	--	150	0	--	110	--	--	--	--	1210	8.1
Apr. 30.....	175	919	54	9.6	98	32	116	5	154	0	337	112	1.2	788	376	250	1220	7.8
Apr. 30.....	225	869	54	9.6	99	32	116	5	154	0	338	113	1.8	791	379	253	1240	7.9
Apr. 30.....	275	819	53	--	--	--	--	--	156	0	--	114	--	--	--	--	1240	7.8
Apr. 30.....	325	769	53	10	99	32	118	5	156	0	337	116	2.0	797	379	251	1240	7.9
Apr. 30.....	375	719	53	--	--	--	--	--	159	0	--	116	--	--	--	--	1250	7.6
May 27.....	Surface	1106	69	10	97	32	114	6	151	0	342	110	1.1	789	376	252	1220	8.2
May 27.....	5	1101	69	--	--	--	--	--	151	0	--	110	--	--	--	--	1220	8.2
May 27.....	25	1081	68	--	--	--	--	--	151	0	--	109	--	--	--	--	1230	7.7
May 27.....	75	1031	58	--	--	--	--	--	151	0	--	108	--	--	--	--	1220	7.7
May 27.....	125	981	56	--	--	--	--	--	151	0	--	109	--	--	--	--	1220	8.0
May 27.....	175	931	55	10	97	32	114	6	151	0	337	109	1.6	783	374	250	1220	7.9
May 27.....	225	881	54	10	97	32	114	6	153	0	337	112	1.8	787	376	251	1240	8.1
May 27.....	275	831	56	--	--	--	--	--	156	0	--	111	--	--	--	--	1240	7.8
May 27.....	325	781	53	--	--	--	--	--	156	0	--	112	--	--	--	--	1240	7.7
May 27.....	375	731	53	10	98	32	115	6	157	0	340	112	1.4	794	378	249	1250	7.7

COLORADO RIVER MAIN STEM--Continued

9-4210. LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--Continued

Chemical analyses, in parts per million, water year October 1964 to September 1965--Continued

Date of collection	Depth (feet)	Elevation (feet)	Temperature (°F)	Silica (SiO <sub>2</sub> )	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Dissolved solids (sum)	Hardness as CaCO <sub>3</sub>	Non-carbonate hardness as CaCO <sub>3</sub>	Specific conductance (micromhos at 25°C)	pH
June 30, 1965	Surface	1126	75	9.2	93	33	116	6	139	0	344	113	1.2	785	368	254	1240	7.9
June 30.....	5	1121	75	--	--	--	--	--	137	0	--	112	--	--	--	--	1240	7.8
June 30.....	25	1101	73	--	--	--	--	--	138	0	--	112	--	--	--	--	1240	7.6
June 30.....	75	1051	64	9.1	97	32	111	6	154	0	334	108	2.1	776	374	248	1220	7.5
June 30.....	125	1001	59	--	--	--	--	--	156	0	--	107	--	--	--	--	1210	7.7
June 30.....	175	951	56	9.3	97	32	112	6	153	0	335	109	2.3	779	374	248	1220	7.7
June 30.....	225	901	54	9.9	98	32	113	6	153	0	337	112	1.8	786	376	251	1240	7.6
June 30.....	275	851	54	--	--	--	--	--	153	0	--	113	--	--	--	--	1250	7.6
June 30.....	325	801	54	9.6	98	32	116	6	154	0	339	113	1.9	793	378	252	1250	7.7
June 30.....	375	751	53	--	--	--	--	--	155	0	--	113	--	--	--	--	1250	7.6
June 30.....	400	726	53	--	--	--	--	--	157	0	--	114	--	--	--	--	1250	7.3
July 29.....	Surface	1124	82	9.0	90	34	116	6	131	0	347	114	.8	782	365	258	1230	8.0
July 29.....	5	1119	82	--	--	--	--	--	129	0	--	114	--	--	--	--	1220	7.9
July 29.....	25	1099	78	--	--	--	--	--	132	0	--	115	--	--	--	--	1220	7.9
July 29.....	75	1049	64	8.7	94	32	111	6	161	0	326	105	1.9	766	368	236	1210	7.2
July 29.....	125	999	60	--	--	--	--	--	163	0	--	104	--	--	--	--	1190	7.9
July 29.....	175	949	57	8.8	94	32	110	6	161	0	318	108	3.0	760	366	234	1210	7.7
July 29.....	225	899	55	9.6	97	32	116	6	155	0	332	113	2.0	785	374	247	1230	8.0
July 29.....	275	849	54	--	--	--	--	--	155	0	--	114	--	--	--	--	1240	7.8
July 29.....	325	799	54	9.7	98	32	116	6	155	0	335	115	2.0	792	378	251	1240	8.0
July 29.....	375	749	54	--	--	--	--	--	157	0	--	114	--	--	--	--	1240	7.5
Sept. 7.....	Surface	1125	--	--	--	--	--	--	122	0	--	116	--	--	--	--	1240	8.0
Sept. 7.....	5	1120	--	7.9	92	32	108	5	122	0	320	116	.3	742	359	259	1240	7.7
Sept. 7.....	25	1100	--	--	--	--	--	--	123	0	--	116	--	--	--	--	1240	7.5
Sept. 7.....	75	1050	--	8.1	93	32	108	5	157	0	317	102	2.8	746	365	235	1190	7.5
Sept. 7.....	125	1000	--	--	--	--	--	--	163	0	--	101	--	--	--	--	1180	7.6
Sept. 7.....	175	950	--	7.6	94	32	113	5	166	0	323	104	1.7	764	368	237	1200	7.4
Sept. 7.....	225	900	--	9.4	97	32	114	5	157	0	331	115	1.4	784	376	247	1240	7.8
Sept. 7.....	275	850	--	9.6	97	32	114	6	159	0	332	114	1.9	786	376	246	1250	7.4
Sept. 7.....	325	800	--	--	--	--	--	--	159	0	--	115	--	--	--	--	1250	7.6
Sept. 7.....	375	750	--	9.5	99	32	114	6	159	0	333	116	1.4	790	381	251	1250	7.6



COLORADO RIVER MAIN STEM--Continued

9-4215. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.

LOCATION.--At Hoover Dam, on state line between Mohave County, Ariz., and Clark County, Nev., just downstream from gaging station.

DRAINAGE AREA.--167,800 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1939 to September 1965.

Water temperatures: October 1941 to September 1963.

REMARKS.--Records of specific conductance of individual samples available in district office at Salt Lake City, Utah.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 15, 26, 1964.....		10	0.01	96	27	105	5.0	158	0	303	95	0.4	1.7	0.19	740	1.01		350	220	2.4	1130	7.9
Nov. 5, 16, 25...	9.8	.02	97	28	108	5.2	158	0	309	97	97	.4	2.0	.17	749	1.02		356	226	2.5	1150	8.0
Dec. 4, 15, 23...	10	.00	100	27	110	4.9	150	0	328	104	104	.4	1.0	.16	777	1.06		362	239	2.5	1170	7.5
Jan. 5, 15, 25, 1965.....		11	.00	101	28	113	4.9	148	0	333	106	.4	1.5	.16	794	1.08		368	246	2.6	1190	7.6
Feb. 5, 15, 25...	11	.00	100	29	114	5.1	148	0	338	108	108	.4	1.1	.25	802	1.09		368	246	2.6	1200	7.7
Mar. 4, 15, 25...	9.6	.02	103	29	119	5.4	152	0	337	111	111	.4	1.7	.17	845	1.15		376	252	2.7	1220	7.8
Apr. 5, 15, 26...	9.9	.00	106	28	117	5.6	156	0	346	111	111	.3	1.3	.18	837	1.14		380	252	2.6	1230	7.9
May 5, 17, 25...	9.8	.00	107	27	119	5.6	156	0	354	112	112	.3	1.3	.17	835	1.14		380	252	2.7	1240	7.7
June 4, 14, 25...	9.2	.00	104	29	116	5.6	157	0	338	112	112	.4	1.5	.14	837	1.08		380	252	2.6	1230	7.9
July 6, 15, 26...	9.4	.00	99	31	119	5.6	158	0	342	110	110	.3	1.7	.11	838	1.08		376	246	2.7	1230	7.9
Aug. 5, 13, 25...	9.2	.02	100	30	116	5.5	162	0	334	108	108	.3	2.2	.18	819	1.11		372	239	2.6	1220	8.0
Sept. 3, 15, 24...	9.0	.02	100	30	115	5.4	166	0	332	107	107	.3	2.1	.18	824	1.12		372	236	2.6	1220	8.0

COLORADO RIVER MAIN STEM--Continued

9-4280. COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.

LOCATION.--At gaging station 3.9 miles downstream from Parker Dam, 10.4 miles upstream from Headgate Rock Dam, and 11 miles northeast of Parker, Ariz.

DRAINAGE AREA.--178,000 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1963 to September 1965.

Water temperatures: February 1954 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 81°F Aug. 16; minimum, 51°F Jan. 5, 7.

EXTREMES, 1954-65.--Water temperatures: Maximum, 83°F Aug. 12, 13, 18, 1955; minimum, 47°F Jan. 12, 1964.

REMARKS.--Values reported for sodium (Na) are determined by analysis and do not include potassium (K).

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 1, 1964.....	7870	13		87	30	104		146	0	301	97		1.3		705	0.96	14980	340	220	2.5	1120	7.7
Oct. 15.....	5940	13		87	29	104		144	0	301	99		1.5		706	.96	11320	336	218	2.5	1120	7.4
Nov. 2.....	6000	13		89	29	104		146	0	298	100		2.1		707	.96	11450	340	220	2.5	1130	7.4
Dec. 1.....	3740	20		88	32	111		152	0	311	100		1.5		738	1.00	7450	352	228	2.6	1150	7.4
Jan. 5, 1965.....	4630	17		92	31	111		154	0	314	102		1.6		745	1.01	9310	356	230	2.6	1150	7.6
Feb. 1.....	6720	10		90	31	111		152	0	317	102		1.0		737	1.00	13370	352	228	2.6	1150	7.5
Mar. 1.....	11400	11		93	32	112		154	0	330	103		1.5		758	1.03	23330	364	238	2.5	1160	7.9
Mar. 15.....	9050	12		95	30	112		155	0	318	103		1.5		753	1.02	18400	360	233	2.6	1180	7.8
Apr. 1.....	10700	32		90	31	117		151	0	322	104		1.3		777	1.06	22450	352	228	2.7	1180	8.2
May 3.....	11200	27		98	28	118		154	0	332	104		2.1		785	1.07	23740	360	234	2.7	1200	8.2
June 1.....	11300	13		102	29	130		148	4	354	112		1.2		818	1.11	24960	375	247	2.9	1240	8.3
July 1.....	12200	12		100	31	120		156	0	348	114		.9		803	1.09	26450	378	250	2.7	1250	8.2
Aug. 2.....	14500	12		99	31	119		152	0	345	115		1.0		797	1.08	31200	376	252	2.7	1250	8.0
Sept. 1.....	11100	12		99	30	119		152	0	345	114		1.2		795	1.08	23830	372	248	2.7	1240	8.0

COLORADO RIVER MAIN STEM--Continued

9-4280. COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	76	76	76	76	76	76	76	75	74	74	74	75	75	74	74	73	72	73	73	73	74	74	73	73	73	72	72	71	72	71	71	74
Minimum .....	75	74	74	74	74	75	74	74	73	73	73	74	73	73	73	72	72	71	72	72	72	72	72	72	72	72	71	70	71	70	70	73
November																																
Maximum .....	71	71	70	69	69	68	68	68	67	67	67	67	66	66	66	66	66	66	64	64	64	63	62	62	62	61	61	60	60	60	65	
Minimum .....	71	70	69	68	68	68	67	67	67	66	66	66	65	65	65	65	66	64	64	63	63	63	62	61	61	61	59	59	60	60	65	
December																																
Maximum .....	60	60	60	59	59	59	58	58	57	57	57	57	56	56	55	55	54	53	53	53	52	52	53	53	52	52	52	52	52	52	55	
Minimum .....	60	59	59	58	59	58	58	57	57	57	57	56	56	55	54	53	53	53	52	52	52	52	52	52	52	52	52	52	52	52	55	
January																																
Maximum .....	52	52	52	52	52	52	52	52	52	52	52	53	53	54	54	54	55	55	55	55	55	56	56	56	56	56	56	57	57	57	57	54
Minimum .....	52	52	52	52	51	52	51	52	52	52	52	53	53	53	53	53	54	55	55	55	55	55	55	56	56	56	56	57	57	57	57	54
February																																
Maximum .....	57	57	57	58	58	58	57	58	57	56	56	56	55	55	55	55	54	54	54	55	55	55	56	55	54	54	54	55	55	--	--	56
Minimum .....	57	57	57	57	58	57	57	57	56	56	55	55	55	55	55	54	54	54	54	55	55	55	55	54	54	54	54	55	--	--	--	55
March																																
Maximum .....	56	56	55	55	55	55	56	57	56	56	56	56	56	56	57	58	58	58	58	59	59	59	59	59	59	60	60	60	61	62	63	58
Minimum .....	55	55	55	55	55	55	55	56	56	56	56	56	56	56	56	57	57	57	57	58	59	59	59	59	59	59	60	60	60	61	62	57
April																																
Maximum .....	62	62	62	62	62	62	63	62	62	62	62	61	61	63	64	64	62	64	65	65	65	65	67	67	68	68	68	68	68	68	--	64
Minimum .....	62	62	62	62	62	61	62	61	62	62	62	61	61	61	61	62	62	62	63	64	65	64	64	64	67	67	67	68	68	68	--	63
May																																
Maximum .....	68	68	68	69	69	69	68	69	69	69	69	69	69	68	69	70	70	69	69	69	70	70	70	70	70	71	72	73	73	72	72	70
Minimum .....	68	67	67	67	68	67	68	68	68	68	68	69	68	68	68	69	69	69	69	69	69	68	69	69	69	70	71	72	72	71	69	
June																																
Maximum .....	71	71	70	71	71	71	72	71	71	72	72	72	72	72	71	72	73	73	73	73	73	73	73	73	73	72	74	74	74	74	--	72
Minimum .....	70	70	70	70	70	70	71	70	70	71	72	71	70	71	71	70	71	70	72	72	72	72	72	72	72	72	70	72	74	74	--	71
July																																
Maximum .....	74	74	76	76	76	75	75	75	75	76	76	76	76	76	76	76	77	78	78	78	77	77	77	78	78	78	77	78	78	77	77	77
Minimum .....	74	73	74	75	75	75	75	75	75	75	75	75	75	76	76	76	76	76	76	77	77	77	76	76	78	77	77	77	77	77	77	76
August																																
Maximum .....	77	78	78	78	78	79	79	79	79	79	79	80	80	80	80	79	81	80	78	78	78	78	77	77	77	77	77	78	77	76	76	78
Minimum .....	77	77	77	77	78	78	78	78	79	79	79	79	79	78	79	78	78	78	78	77	78	77	77	77	77	77	77	77	76	76	75	78
September																																
Maximum .....	76	76	75	75	75	75	76	76	77	77	77	77	76	77	77	77	76	75	76	76	74	74	74	74	74	73	73	72	72	72	--	75
Minimum .....	75	75	74	74	75	74	74	75	76	76	76	76	76	76	76	74	73	75	75	73	73	73	73	73	73	72	72	72	71	72	--	74

## COLORADO RIVER MAIN STEM--Continued

9-4291. COLORADO RIVER BELOW PALO VERDE DAM, ARIZ.-CALIF.

LOCATION.--Temperature recorder at gaging station 1.2 miles downstream from Palo Verde Canal intake structure, 9.5 miles north-east of Blythe, Calif., and 11.0 miles upstream from Ehrenberg, Yuma County, Ariz.

DRAINAGE AREA.--182,200 square miles, approximately.

RECORDS AVAILABLE.--Water temperatures: April 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 80°F Oct. 3, 4, Aug. 31; minimum, 52°F on several days during December to February.

EXTREMES, 1956-65.--Water temperatures: Maximum, 88°F Aug. 7, 11, 1958; minimum (1956-62, 1963-65), 47°F Jan. 31, Feb. 1, 4, 1960, Jan. 11-14, 17, 1964.

REMARKS.--Temperature recorder inoperative Nov. 20 to Dec. 2.

Temperature (°F) of water, water year October 1964 to September 1965

Month		Day																															Average
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																	
Maximum ....	79	79	80	80	79	79	78	79	79	78	78	77	77	77	77	75	76	76	75	74	74	74	74	74	73	72	72	72	72	71	71	69	76
Minimum ....	79	79	79	79	79	78	78	78	78	77	77	77	77	77	75	74	74	74	74	74	74	74	74	73	72	72	72	72	71	69	69	75	
November																																	
Maximum ....	69	69	67	67	66	66	66	65	65	65	65	65	64	62	59	57	56	56	56	56	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	69	67	67	66	66	66	66	65	65	65	65	64	62	59	57	56	56	56	56	53	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																	
Maximum ....	--	--	57	57	57	56	56	54	55	56	56	56	56	54	52	54	55	56	56	57	57	58	58	57	57	58	59	58	58	57	55	55	56
Minimum ....	--	--	57	57	56	55	54	53	54	54	54	55	52	52	54	54	55	56	56	56	56	57	57	56	56	57	57	57	57	55	53	54	55
January																																	
Maximum ....	55	55	56	57	57	58	58	57	54	53	54	55	56	56	56	58	58	58	58	58	58	58	57	57	57	53	53	55	55	55	55	56	
Minimum ....	53	53	54	55	56	57	57	53	53	52	53	53	54	54	55	57	58	58	57	58	57	58	57	57	56	52	52	53	53	54	55	55	
February																																	
Maximum ....	55	55	56	56	56	56	56	56	55	55	52	52	52	53	54	54	55	55	56	56	56	56	56	56	56	56	56	56	--	--	--	55	
Minimum ....	55	55	55	55	56	56	56	55	55	52	52	52	52	53	54	52	54	55	55	55	55	56	56	55	55	56	56	56	--	--	--	55	
March																																	
Maximum ....	57	57	56	56	56	57	57	57	57	57	57	57	57	57	57	58	59	60	60	58	58	59	59	59	60	60	61	62	62	64	65	59	
Minimum ....	56	55	55	56	56	56	56	56	57	57	57	57	57	57	57	57	58	59	58	58	58	59	59	59	60	60	60	62	62	64	64	58	
April																																	
Maximum ....	65	64	63	63	62	63	63	63	63	63	61	61	61	62	62	63	64	64	64	65	66	66	66	66	66	66	66	68	67	69	--	64	
Minimum ....	64	63	63	62	61	62	62	62	62	61	60	60	61	61	61	62	63	64	64	64	65	66	66	66	66	65	66	66	66	67	67	--	63
May																																	
Maximum ....	69	69	68	67	67	67	68	68	68	69	69	69	69	69	69	69	70	70	70	70	70	71	71	70	70	71	71	71	71	71	71	69	
Minimum ....	69	68	66	66	66	66	66	66	67	69	69	69	69	69	69	69	70	70	70	70	71	71	69	69	69	69	70	71	71	71	71	69	
June																																	
Maximum ....	71	70	72	72	73	74	74	74	74	73	74	74	74	74	74	74	74	74	74	74	74	75	75	75	76	76	76	76	76	77	--	74	
Minimum ....	69	69	70	72	72	73	73	73	72	72	74	74	74	74	74	72	72	74	74	74	74	75	75	75	76	76	76	76	76	77	--	74	
July																																	
Maximum ....	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	
Minimum ....	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	
August																																	
Maximum ....	78	78	78	78	78	78	78	78	78	78	77	77	77	77	77	77	77	77	77	77	78	78	78	78	79	79	79	79	79	79	80	78	
Minimum ....	78	78	78	78	78	78	78	78	78	77	77	77	77	77	77	77	77	77	77	77	78	78	78	78	79	79	79	79	79	79	79	78	
September																																	
Maximum ....	79	79	79	79	79	78	77	77	77	76	76	76	75	75	75	74	73	73	73	72	70	69	69	69	69	69	69	69	68	--	73		
Minimum ....	77	79	79	79	79	78	77	77	77	76	75	75	75	75	73	73	73	73	72	70	69	69	69	69	69	68	68	68	67	68	--	73	

COLORADO RIVER MAIN STEM--Continued

9-4293. COLORADO RIVER BELOW CIBOLA VALLEY, ARIZ.

LOCATION.--Temperature recorder at gaging station 6.7 miles south of Cibola, Yuma County, Ariz., 38 miles upstream from Imperial Dam, 39.7 miles downstream from Ehrenberg, Ariz., 52.1 miles downstream from Palo Verde diversion dam near Blythe, Calif. and at mile 620 on Colorado River Profile Survey map.

DRAINAGE AREA.--183,000 square miles, approximately.

RECORDS AVAILABLE.--Water temperatures: March 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 85°F July 31, Aug. 12-14.

EXTREMES, 1956-65.--Water temperatures: Maximum, 88°F Aug. 1, 10, 11, 1959; minimum (1956-63), 41°F Jan. 14, 1963.

REMARKS.--Temperature recorder inoperative Oct. 19 to Nov. 7, Nov. 13 to Feb. 14.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	77	76	77	77	73	77	77	78	78	78	77	76	75	74	74	74	72	71	71	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	75	74	75	75	74	76	76	76	74	76	75	74	73	74		72	70	70	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																	
Maximum .....	--	--	--	--	--	--	--	69	68	67	66	65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	64	66	75	62	61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	55	56	58	61	60	60	60	59	56	56	58	59	59	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50	51	50	52	53	55	57	58	56	54	54	55	57	57	--	--	--	--	
March																																	
Maximum .....	58	57	55	55	57	59	59	61	61	61	61	61	61	61	61	61	62	64	64	64	63	63	64	62	62	64	64	65	65	65	67	62	
Minimum .....	57	54	53	54	54	55	57	59	60	60	59	59	58	59	60	59	60	61	62	61	61	62	62	61	60	62	62	63	64	64	65	60	
April																																	
Maximum .....	65	65	64	62	63	62	64	64	63	61	59	61	62	63	64	65	67	67	68	69	70	70	70	69	69	69	70	71	72	74	--	66	
Minimum .....	65	64	62	61	60	61	63	62	60	59	57	58	59	61	62	64	65	66	67	67	68	69	68	68	68	68	68	69	70	71	--	64	
May																																	
Maximum .....	75	73	70	69	70	70	69	70	71	74	75	75	73	73	76	77	78	78	78	77	76	73	70	69	71	73	75	77	79	79	77	74	
Minimum .....	72	70	68	68	69	68	67	67	68	71	72	73	71	71	72	75	76	76	76	75	74	70	69	68	68	70	73	74	75	76	75	72	
June																																	
Maximum .....	75	74	75	76	77	77	77	77	73	75	76	77	77	77	76	74	75	76	78	79	80	80	80	80	80	78	79	80	82	82	--	77	
Minimum .....	74	72	72	74	75	75	75	73	71	72	75	75	76	75	73	73	72	74	76	77	79	79	79	79	78	76	76	78	80	81	--	75	
July																																	
Maximum .....	83	84	84	84	83	83	84	83	83	82	82	82	81	81	81	83	83	83	83	83	82	81	81	82	82	83	83	83	83	84	85	83	
Minimum .....	80	81	82	83	82	80	81	82	81	81	81	79	79	80	80	81	81	81	81	81	80	80	80	79	81	81	81	81	81	81	83	81	
August																																	
Maximum .....	84	84	83	82	82	83	83	84	84	84	84	85	85	85	83	84	83	84	83	83	83	82	80	81	82	82	82	84	84	83	82	83	
Minimum .....	82	82	82	81	80	81	82	82	83	83	82	83	83	82	81	82	82	82	82	82	82	80	79	79	80	80	80	81	82	82	80	81	
September																																	
Maximum .....	82	83	83	83	83	81	80	79	79	80	80	80	80	81	81	81	77	75	74	73	74	75	75	76	77	77	76	75	73	71	--	78	
Minimum .....	80	81	81	81	81	80	79	78	77	77	78	78	78	79	80	77	75	73	73	71	72	73	73	74	75	75	75	73	71	68	--	76	

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

9-5225. GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, ARIZ.-CALIF.

LOCATION.--Temperature recorder at gaging station 3,200 feet downstream from intake at east end of Imperial Dam, Yuma County, Ariz.

RECORDS AVAILABLE.--Water temperatures: January 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 89°F Aug. 1, 12, 13; minimum, 50°F Jan. 4.

EXTREMES, 1956-65.--Water temperatures: Maximum, 89°F on several days during July and August of most years; minimum, 45°F Jan. 13-17, 1964.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	78	78	79	80	80	81	80	80	80	80	80	80	79	77	77	76	74	73	73	73	72	72	73	73	73	72	72	72	72	72	72	76	
Minimum .....	77	77	77	78	79	79	79	79	79	79	79	78	77	77	76	74	73	73	73	72	72	72	72	72	72	72	72	72	72	72	70	75	
November																																	
Maximum .....	70	70	68	67	67	66	66	66	66	66	64	62	62	61	60	---	---	---	---	---	---	---	---	---	---	56	57	57	57	57	---	---	
Minimum .....	70	68	67	67	66	66	66	66	66	66	64	62	62	61	60	58	---	---	---	---	---	---	---	---	---	55	56	57	57	57	---	---	
December																																	
Maximum .....	58	58	58	58	58	58	56	55	55	54	54	54	54	53	52	52	51	51	51	52	53	54	54	55	---	57	57	57	57	56	55	55	
Minimum .....	57	58	58	58	58	56	55	55	55	54	54	54	54	53	52	51	51	51	51	52	53	54	54	---	---	57	57	57	56	55	54	55	
January																																	
Maximum .....	54	53	52	52	52	52	53	53	53	52	52	52	52	52	53	53	54	55	56	56	57	58	58	58	58	58	56	55	53	53	55	54	
Minimum .....	53	52	52	50	52	52	52	53	52	52	52	51	52	52	52	53	53	54	55	55	56	57	57	58	58	56	56	54	52	52	53	54	
February																																	
Maximum .....	55	56	56	58	59	59	58	58	57	56	54	52	51	52	52	53	53	54	56	57	59	60	59	56	56	57	57	58	---	---	---	56	
Minimum .....	55	55	56	56	58	58	58	57	55	54	52	51	51	51	51	52	52	53	54	56	57	58	58	56	55	55	57	57	---	---	---	55	
March																																	
Maximum .....	57	57	55	55	55	55	58	59	60	60	59	60	60	61	61	60	62	63	64	64	63	63	63	63	62	63	64	64	64	65	65	61	
Minimum .....	57	55	55	55	54	54	55	57	59	59	59	59	59	59	59	59	59	62	62	62	62	62	62	62	61	62	62	62	63	63	64	59	
April																																	
Maximum .....	66	65	65	63	63	63	64	64	64	63	62	61	63	65	67	69	70	71	73	73	74	75	73	73	73	73	74	75	76	77	---	69	
Minimum .....	65	65	63	61	61	61	62	64	63	62	60	60	61	62	64	66	67	68	69	71	72	73	73	72	72	72	72	73	73	74	---	67	
May																																	
Maximum .....	77	77	75	73	72	72	71	70	71	73	74	74	73	73	75	77	78	79	79	79	78	77	73	73	72	73	76	77	79	79	79	75	
Minimum .....	75	75	73	71	71	71	68	68	68	70	72	72	72	72	73	74	76	76	77	77	77	73	72	71	71	72	73	75	76	77	77	73	
June																																	
Maximum .....	78	77	76	77	79	80	80	80	77	76	78	79	80	80	79	78	76	77	79	80	80	80	80	80	80	80	79	79	80	81	82	---	79
Minimum .....	76	75	75	75	76	77	78	77	74	74	75	77	78	78	78	75	74	75	76	77	78	79	78	78	78	76	76	77	79	79	---	77	
July																																	
Maximum .....	83	84	85	87	86	85	86	86	86	86	86	86	86	84	85	86	86	87	87	87	86	85	87	87	86	85	87	87	86	87	88	86	
Minimum .....	80	82	83	84	84	83	84	84	84	84	84	84	84	83	83	84	84	84	85	85	84	84	84	84	84	84	84	85	85	85	86	84	
August																																	
Maximum .....	89	88	88	87	86	87	87	87	88	88	88	89	89	88	88	88	87	87	87	87	87	86	85	84	84	85	85	86	87	87	87	87	
Minimum .....	87	87	86	85	84	85	85	85	86	87	86	86	86	86	86	85	86	86	85	85	85	85	84	82	82	83	83	84	85	85	86	85	
September																																	
Maximum .....	86	86	86	86	86	85	84	84	83	82	83	82	83	83	83	84	84	81	79	77	76	75	76	77	78	80	80	80	78	75	---	81	
Minimum .....	84	85	85	84	84	83	83	82	81	81	81	81	81	81	82	83	81	79	77	76	74	74	74	75	77	78	79	79	77	75	73	---	80

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM--Continued

9-5255. YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.

LOCATION.--At gaging station on Yuma Main Canal below Colorado River siphon on Arizona side of river, 3.5 miles downstream from siphon-drop powerplant, and 0.2 mile downstream from upper highway bridge over Colorado River at Yuma, Yuma County.

RECORDS AVAILABLE.--Chemical analyses: September 1926 to September 1928, October 1942 to September 1965.

Water temperatures: May 1961 to September 1965.

EXTREMES, 1964-65.--Dissolved solids: Maximum, 967 ppm Sept. 1-30; minimum, 846 ppm Apr. 1-30.

Hardness: Maximum, 400 ppm June 1 to Sept. 30; minimum, 366 ppm Apr. 1-30.

Specific conductance: Maximum daily, 1,590 micromhos Dec. 28; minimum daily, 1,110 micromhos Apr. 17.

EXTREMES, 1943-65.--Dissolved solids: Maximum, 1,000 ppm Jan. 1-31, 1957; minimum, 532 ppm Jan. 1-10, 1953.

Hardness: Maximum, 520 ppm July 7, 1962; minimum, 260 ppm Jan. 1-10, 1953.

Specific conductance: Maximum daily, 1,600 micromhos July 7, 1962; minimum daily, 795 micromhos Jan. 5, 1953.

REMARKS.--Values reported for sodium (Na) are determined by analysis and do not include potassium (K).

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 1-31, 1964..	449	16	0.00	104	28	149	5.3	170	0	350	143	0.4	0.9	0.19	894	1.22	1080	374	235	3.3	1370	8.1
Nov. 1-30.....	311	18	.00	105	31	161	5.1	176	0	363	156	.5	1.0	.21	928	1.26	779	388	244	3.5	1440	8.2
Dec. 1-31.....	181	17	.00	107	30	162	5.1	182	0	366	157	.5	.6	.22	934	1.27	456	392	243	3.6	1450	8.2
Jan. 1-31, 1965..	197	16	.00	104	32	153	5.5	178	0	366	151	.5	1.2	.20	928	1.26	494	390	244	3.4	1410	8.0
Feb. 1-28.....	413	15	.00	104	30	146	5.4	173	0	360	142	.4	1.3	.18	924	1.26	1030	382	240	3.2	1370	8.1
Mar. 1-31.....	444	15	.00	105	29	135	5.4	170	0	355	132	.4	1.5	.16	880	1.20	1050	382	243	3.0	1330	8.1
Apr. 1-30.....	428	15	.00	100	28	133	5.6	166	0	338	128	.4	1.3	.15	846	1.15	978	366	230	3.0	1280	8.1
May 1-31.....	545	15	.00	108	31	146	6.3	170	0	364	138	.5	1.0	.12	900	1.22	1320	396	257	3.2	1360	8.2
June 1-30.....	560	16	.00	107	32	141	6.2	166	0	368	138	.4	1.0	.13	898	1.22	1360	400	264	3.1	1380	8.1
July 1-31.....	657	15	.00	103	35	148	5.8	162	0	373	141	.4	1.1	.22	923	1.26	1640	400	267	3.2	1390	8.1
Aug. 1-31.....	591	15	.01	102	33	150	5.8	162	0	373	145	.4	1.1	.21	939	1.28	1500	392	259	3.3	1410	8.1
Sept. 1-30.....	629	17	.01	106	33	154	5.6	168	0	382	152	.4	1.3	.21	967	1.31	1640	400	262	3.2	1440	8.2
Weighted average	--	16	0.00	105	31	147	5.7	168	--	364	142	0.4	1.1	0.18	914	1.24	1110	390	252	3.2	1380	8.1
Time-weighted average.....	450	16	0.00	105	31	148	5.6	170	--	363	144	0.4	1.1	0.18	913	--	--	389	249	3.2	1390	8.1
Tons per day....	--	19	0.00	127	38	179	6.9	205	--	443	173	0.5	1.4	0.22	--	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM--Continued  
9-5255. YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	78	78	--	--	80	81	--	80	84	--	--	78	77	78	76	75	--	--	73	74	73	72	72	--	--	73	73	73	73	72	--	--	
November .....	--	68	67	65	66	65	--	--	63	--	--	60	62	--	--	54	52	54	54	52	--	--	--	--	57	--	58	--	--	58	--	--	
December .....	57	57	58	57	--	--	55	52	52	51	52	--	--	52	48	48	49	49	--	--	52	53	56	55	--	--	--	59	58	53	54	--	--
January .....	--	--	--	50	51	52	51	52	--	--	51	50	52	51	52	--	--	58	56	56	56	57	--	58	57	52	54	54	54	--	53	--	
February .....	50	55	56	57	58	--	--	56	54	52	52	--	49	49	53	52	56	58	58	--	57	61	60	--	53	55	55	57	--	--	--	--	
March .....	59	55	53	57	52	54	59	57	62	61	--	63	60	--	--	--	62	63	60	64	64	57	61	59	59	--	62	62	63	63	60	--	
April .....	66	65	--	--	63	63	62	63	63	--	--	60	61	64	64	62	63	64	--	--	--	72	74	--	72	72	--	71	72	71	--	--	
May .....	--	74	71	70	70	68	--	64	64	--	72	--	68	70	70	73	73	77	77	--	75	74	71	71	--	71	72	75	78	78	81	--	
June .....	78	76	76	--	75	76	77	76	--	75	74	76	76	76	76	73	76	--	74	75	75	76	77	79	--	74	74	--	76	77	--	--	
July .....	77	--	81	--	83	85	87	84	85	84	--	83	83	83	82	82	83	82	85	83	82	82	85	--	81	83	84	85	84	84	84	83	
August .....	--	--	88	84	84	--	85	84	84	86	--	85	86	85	84	86	--	84	85	--	--	81	81	81	82	--	83	--	84	83	--	--	
September .....	83	83	--	83	83	93	82	81	--	79	--	79	79	81	81	81	77	74	73	71	72	72	75	--	75	76	76	76	74	70	--	78	

Specific conductance (micromhos at 25°C), water year October 1964 to September 1965

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	1290	--	1540	--	1380	1310	1310	--	1400	1360	--	1420
2.....	1320	1440	1500	--	1410	1330	1300	1350	1410	--	--	1430
3.....	--	1480	1390	--	1410	1310	--	1340	1380	1390	1420	--
4.....	--	1440	1400	1410	1390	1340	--	1350	--	--	1400	1430
5.....	1330	1400	--	1410	1370	1330	1290	1330	1370	1390	1390	1470
6.....	1340	1350	--	1410	--	1290	1320	1340	1370	1380	--	1490
7.....	--	--	1450	1410	--	1330	1270	--	1400	1370	1450	1460
8.....	1310	--	1460	1410	1380	1330	1390	1330	1390	1380	1430	1430
9.....	1320	1410	1490	--	1380	1340	1390	1380	--	1360	1400	--
10.....	--	1430	1440	--	1370	1330	--	--	1390	1380	1380	1440
11.....	--	--	1440	1400	1390	1300	--	1370	1370	--	--	--
12.....	1300	1380	--	1410	--	1300	1390	--	1360	1380	1400	1440
13.....	1340	1390	--	1470	1400	1340	1310	1350	1350	1390	1400	1440
14.....	1340	--	1450	1430	1410	--	1260	1360	1390	1370	1420	1440
15.....	1360	--	1470	1390	1390	--	1280	1380	1370	1400	1430	1420
16.....	1360	1440	1390	--	1410	--	1160	1380	1380	1400	1390	1430
17.....	--	1480	1460	--	1360	1340	1110	1390	1410	1400	--	1430
18.....	--	1440	1430	1400	1360	1320	1120	1400	--	1400	1360	1430
19.....	1360	1440	--	1440	1360	1300	--	1400	1390	1420	1380	1460
20.....	1400	1440	--	1460	--	1380	--	--	1370	1420	--	1470
21.....	1400	--	1390	1420	1360	1360	--	1360	1370	1400	--	1430
22.....	1400	--	1380	1410	1350	1370	1240	1360	1360	1410	--	1430
23.....	1390	--	1420	--	1350	1350	1210	1360	1370	1370	1400	1400
24.....	--	--	1450	1400	--	1310	--	1370	1360	--	1430	--
25.....	--	1500	--	1370	1330	1310	1300	--	--	1410	1410	1450
26.....	1450	--	--	1390	1330	1310	1310	1360	1380	1370	1400	1450
27.....	1460	1530	--	1400	1310	--	--	1370	1380	1380	--	1460
28.....	1420	--	1590	1380	1300	1320	1260	1360	--	1380	1420	1430
29.....	1390	--	1470	1390	--	1310	1270	1360	1370	1380	--	1440
30.....	1410	1490	1440	--	--	1300	1300	1400	1370	1410	1410	1450
31.....	--	--	1420	1370	--	1290	--	1400	--	1430	1400	--
Average	--	--	--	--	--	1320	--	1370	1380	1390	--	1440



MOJAVE RIVER BASIN

10-2615. MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CALIF.

LOCATION.--Temperature recorder at gaging station 1,000 feet upstream from bridge on county road, formerly U.S. Highway 66, 2,500 feet downstream from Atchison, Topeka and Santa Fe Railway bridge, and 3 miles northeast of Victorville, San Bernardino County.  
DRAINAGE AREA.--530 square miles.  
RECORDS AVAILABLE.--Water temperatures: March 1962 to September 1965.  
EXTREMES, 1962-64.--Water temperatures: Maximum, 94°F July 23, Aug. 14, 1962; minimum, 39°F Jan. 13, 1963.  
REMARKS.--Temperature probe covered with silt Oct. 1 to Feb 9; exposed to air May 10 to Sept. 30. Where no maximum or minimum is shown, temperature is once-daily reading.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	--	59	--	--	--	--	--	--	--	--	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--	58	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November	--	--	--	--	--	--	--	--	56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December	--	--	--	--	--	--	--	49	--	--	--	--	--	--	--	--	--	--	--	--	50	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January	--	--	--	--	49	--	--	--	--	--	--	--	50	--	--	--	--	--	49	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	56	--	--	--	--	--	--	--	--	--	53	54	54	55	58	54	55	57	60	61	60	62	59	58	60	61	62	60	60	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	45	46	45	46	49	48	46	47	49	49	50	50	50	48	47	48	49	52	51	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March	62	60	62	60	62	60	63	61	63	62	57	58	62	63	59	63	63	65	64	66	66	64	64	63	65	64	64	67	66	67	57	63
Maximum ....	50	48	47	50	50	50	52	50	50	50	52	52	52	50	52	50	51	51	50	50	51	54	52	50	51	51	52	52	52	53	53	51
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April	57	58	54	58	62	61	62	62	60	58	59	62	63	67	68	68	68	70	72	72	64	69	70	71	72	72	73	73	74	73	--	66
Maximum ....	53	53	53	51	50	51	52	51	50	46	49	51	50	50	51	52	54	54	54	54	54	54	53	54	55	55	56	55	56	55	--	53
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May	69	67	64	66	65	65	64	66	67	--	--	--	--	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	55	53	52	52	54	51	51	51	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	64	--	--	--	--	--	--	--	--	--	--	--	--	66	--	--	--	--	--	--	--	--	--	--	--	--	68	--	--	--	--
June	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July	--	--	--	--	--	--	--	--	--	--	--	--	--	75	--	--	--	--	--	--	--	--	--	--	--	--	63	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August	--	--	--	--	--	--	--	--	67	--	--	--	--	--	--	--	--	--	--	--	--	--	77	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September	--	--	--	--	--	--	--	--	--	69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

MOJAVE RIVER BASIN--Continued

10-2635. BIG ROCK CREEK NEAR VALYERMO, CALIF.

LOCATION.--Temperature recorder at gaging station 0.1 mile upstream from Punchbowl Canyon, and 1.9 miles southeast of Valyermo, Los Angeles County.

DRAINAGE AREA.--23.0 square miles.

RECORDS AVAILABLE.--Water temperatures: January 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 65°F Aug. 10; minimum, 43°F Dec. 18.

EXTREMES, 1962-65.--Water temperatures: Maximum, 65°F June 20, 21, 1962, Aug. 14-17, 1963, Aug. 10, 1965; minimum, 43°F Feb. 16, Dec. 18, 1964.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	56	57	57	57	57	57	58	57	56	56	56	56	55	55	55	56	56	56	54	54	55	55	55	55	54	54	54	55	55	55	56	56	
Minimum .....	51	52	53	53	53	54	54	54	52	53	52	52	52	52	54	53	52	53	51	51	52	52	53	52	52	51	52	54	55	53	52	52	
November																																	
Maximum .....	55	55	54	54	55	55	54	54	53	52	52	53	52	49	48	49	48	48	49	49	50	50	51	52	53	52	51	52	52	52	—	52	
Minimum .....	54	52	52	51	51	52	51	52	52	48	50	52	49	48	48	48	44	43	45	46	46	48	48	48	49	50	48	49	49	50	—	49	
December																																	
Maximum .....	52	51	50	50	50	49	48	49	51	52	52	50	48	48	50	49	48	48	50	52	52	53	53	53	52	51	50	48	48	48	48	50	
Minimum .....	50	50	49	48	48	47	47	46	48	48	49	48	46	45	47	45	46	46	47	49	50	49	52	52	50	49	48	47	45	46	46	48	
January																																	
Maximum .....	47	47	48	49	49	50	48	48	48	49	50	49	49	50	50	51	52	52	52	51	52	52	52	50	50	50	50	52	52	52	52	50	
Minimum .....	45	44	46	46	47	48	46	46	46	46	47	46	46	46	48	48	48	49	50	50	48	49	48	48	48	47	47	48	48	49	50	47	
February																																	
Maximum .....	52	52	52	52	52	50	50	52	48	50	49	50	51	50	50	52	53	53	53	53	53	53	51	51	52	54	52	53	—	—	—	52	
Minimum .....	48	48	48	49	50	49	49	48	47	46	46	45	47	47	46	46	48	48	48	48	48	48	47	46	47	48	49	48	—	—	—	48	
March																																	
Maximum .....	52	52	52	52	53	52	52	50	52	54	51	52	52	52	52	54	54	54	54	55	55	55	54	54	55	55	53	56	57	57	50	53	
Minimum .....	47	47	47	48	48	48	49	48	48	48	49	49	48	48	50	48	47	48	48	48	48	50	49	48	48	48	50	49	49	50	49	48	
April																																	
Maximum .....	50	52	50	54	56	54	51	50	52	53	50	54	52	56	57	57	56	56	56	55	54	56	54	56	56	56	56	56	57	57	—	54	
Minimum .....	48	48	48	49	50	50	50	47	45	46	48	45	48	48	48	48	48	48	48	47	47	47	47	47	48	48	48	49	49	50	—	48	
May																																	
Maximum .....	56	56	55	56	56	56	56	56	56	56	56	55	58	58	58	59	60	60	60	60	60	59	58	57	58	59	59	61	61	61	60	58	
Minimum .....	50	48	48	48	49	48	49	49	50	51	52	51	52	51	52	52	52	52	52	52	53	52	53	53	53	53	54	54	55	55	55	52	
June																																	
Maximum .....	57	59	57	61	61	61	58	60	61	62	62	62	62	61	58	58	59	60	60	60	60	60	59	60	59	58	59	60	60	60	--	60	
Minimum .....	53	53	54	55	55	54	54	54	54	56	56	57	56	56	56	54	54	54	55	55	54	55	55	54	55	54	53	53	54	54	54	--	54
July																																	
Maximum .....	60	60	60	60	60	60	60	60	60	60	60	60	60	60	59	58	59	60	60	60	60	61	61	61	61	58	61	61	61	60	63	60	
Minimum .....	54	54	54	54	54	55	56	56	56	55	55	54	54	56	57	57	57	57	57	57	57	57	54	55	56	55	57	55	56	58	59	59	56
August																																	
Maximum .....	63	63	62	62	62	63	62	62	62	65	64	63	63	63	63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	63	62	62	--
Minimum .....	59	58	58	58	57	58	58	59	59	60	60	61	61	60	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58	58	58	--
September																																	
Maximum .....	62	62	61	60	62	60	60	60	61	60	60	60	60	62	64	62	58	58	58	59	60	60	60	61	61	60	60	58	58	58	--	60	
Minimum .....	57	56	56	56	58	57	56	55	56	56	56	55	56	58	57	57	57	56	56	56	55	56	57	57	57	56	57	56	54	54	--	56	

MISCELLANEOUS ANALYSES OF STREAMS IN MOJAVE RIVER BASIN

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
10-2605.5. WEST FORK MOJAVE RIVER ABOVE CEDAR SPRINGS, CALIF.																		
Dec. 10, 1964.....	1135	46		--	4	T												
Jan. 21, 1965.....	1000	45		0.2	1	T												
Apr. 1.....	1225	44		6.9	103	1.9												
Apr. 2.....	1500	40		15	90	3.6												
Apr. 29.....	0815	54		2.6	3	T												
10-2607. EAST FORK OF WEST FORK MOJAVE RIVER ABOVE CEDAR SPRINGS, CALIF.																		
Dec. 10, 1964.....	1045	42		0.5	1	T					--	--	--	--	--			
Dec. 28.....	1055	--		8.0	86	1.9					--	--	--	--	--			
Jan. 21, 1965.....	1100	46		1.6	2	T					--	--	--	--	--			
Apr. 2.....	1200	--		36	679	66					--	--	--	--	--			
Apr. 9.....	1430	40		80	2450	529					52	77	92	98	100			V
Apr. 29.....	0945	54		12	344	11					89	94	98	99	100			V
10-2608. WEST FORK MOJAVE RIVER BELOW CEDAR SPRINGS, CALIF.																		
Apr. 1, 1965.....	1545	48		123	571	190					83	91	97	100				V
Apr. 1.....	1730	48		143	528	204					78	86	95	100				V
Apr. 2.....	1100	46		132	162	58					77	83	90	100				S
Apr. 3.....	1000	--		143	103	40					--	--	--	--				
Apr. 3.....	1130	49		135	103	38					--	--	--	--				
Apr. 5.....	1325	49		61	49	8.1					--	--	--	--				
Apr. 29.....	0740	53		54	32	4.7					--	--	--	--				

T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN WALKER LAKE BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
10-2930. EAST WALKER RIVER NEAR BRIDGEPORT, CALIF.																						
Nov. 5, 1964.....	22	--	--	--	--	15	--	132	2	--	1.6	--	--	0.1	--	--	--	93	0	0.7	252	8.3
Jan. 19, 1965.....	7.1	--	--	--	--	23	--	134	2	--	3.1	--	--	.2	--	--	--	92	0	1.0	268	8.4
Mar. 9.....	70	--	--	--	--	27	--	130	0	--	5.4	--	--	.2	--	--	--	80	0	1.3	279	8.0
May 11.....	278	17	--	24	2.9	15	2.8	108	0	17	3.0	--	1.7	.1	136	0.18	--	72	0	.8	212	7.8
July 20.....	433	--	--	--	--	7.8	--	70	0	--	1.4	--	--	.0	--	--	--	53	0	.5	139	7.8
Sept. 21.....	193	8.6	--	22	1.7	9.8	3.1	88	0	9.0	1.2	--	1.2	.0	100	.14	--	62	0	.5	164	7.5
10-2960. WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CALIF.																						
Nov. 5, 1964.....	38	--	--	--	--	13	--	74	0	--	2.1	--	--	0.2	--	--	--	43	0	0.9	145	8.1
Jan. 19, 1965.....	128	--	--	--	--	4.7	--	44	0	--	.5	--	--	.0	--	--	--	33	0	.3	86	8.0
Mar. 9.....	116	--	--	--	--	5.8	--	56	0	--	.8	--	--	.0	--	--	--	41	0	.4	104	8.1
May 11.....	419	10	--	8.4	1.2	3.5	0.7	36	0	3.0	.4	--	1.4	.0	40	0.05	--	26	0	.3	68	7.4
July 20.....	866	--	--	--	--	1.7	--	19	0	--	.3	--	--	.0	--	--	--	14	0	.2	35	7.6
Sept. 21.....	105	12	--	13	.1	4.9	.9	44	0	5.0	.6	--	.8	.0	59	.08	--	33	0	.4	87	7.6

MISCELLANEOUS ANALYSES OF STREAMS IN CARSON RIVER BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
10-3055. EAST FORK CARSON RIVER NEAR MARKLEEVILLE, CALIF.																						
Nov. 5, 1964.....		--		--	--	9.6	--	69	0	--	2.5		--	0.2	--	--		46	0	0.6	137	8.2
Jan. 19, 1965.....		--		--	--	8.0	--	64	0	--	2.0		--	.1	--	--		48	0	.5	134	8.2
Mar. 9.....		--		--	--	8.5	--	68	0	--	2.2		--	.1	--	--		48	0	.5	135	8.1
May 11.....	19			9.4	2.1	4.8	0.7	44	0	4.0	1.0		1.0	.0	57	0.08		32	0	.4	86	7.3
July 20.....		--		--	--	3.3	--	30	0	--	.8		--	.0	--	--		22	0	.3	57	7.9
Sept. 21.....		21		12	2.2	5.9	1.2	52	0	7.0	1.6		.9	.0	78	.11		39	0	.4	102	7.5
10-3100. WEST FORK CARSON RIVER AT WOODFORDS, CALIF.																						
Nov. 5, 1964.....	17	--		--	--	4.3	--	42	0	--	0.3		--	0.0	--	--		29	0	0.4	80	7.9
Jan. 19, 1965.....	101	--		--	--	3.1	--	34	0	--	.3		--	.3	--	--		25	0	.3	65	7.9
Mar. 9.....	89	--		--	--	3.4	--	36	0	--	.4		--	.0	--	--		26	0	.3	68	7.7
May 11.....	360	16		5.6	0.7	2.7	1.1	26	0	0.0	.3		1.1	.0	40	0.05		17	0	.3	47	7.0
July 20.....	128	--		--	--	2.3	--	26	0	--	.3		--	.0	--	--		20	0	.2	49	7.8
Sept. 21.....	51	18		9.6	.5	3.2	1.5	36	0	1.0	.2		.8	.0	53	.07		26	0	.3	68	7.5

PYRAMID AND WINNEMUCCA LAKES BASIN  
10-3460. TRUCKEE RIVER AT FLORISTON, CALIF.

LOCATION.--At bridge at Floriston, Nevada County, 0.2 mile above flume diversion, 2.5 miles upstream from gage at Farad, and 1.8 miles upstream from Farad.  
DRAINAGE AREA.--932 square miles, upstream from gaging station.  
RECORDS AVAILABLE.--Chemical analyses: January 1964 to September 1965.  
Water temperatures: January 1964 to September 1965.  
EXTREMES, 1964-65.--Dissolved solids: Maximum, 85 ppm Dec. 1-21; minimum, 45 ppm Dec. 22-31.  
Hardness: Maximum, 39 ppm Dec. 1-21; minimum, 18 ppm Dec. 22-31.  
Specific conductance: Maximum daily, 118 micromhos Oct. 30; minimum daily, 39 micromhos Dec. 23.  
Water temperatures: Maximum, 68°F July 24; minimum, freezing point on several days during winter months.  
EXTREMES, January 1964 to September 1965.--Dissolved solids: Maximum, 85 ppm Dec. 1-21, 1964; minimum, 45 ppm Dec. 22-31, 1964.  
Hardness: Maximum, 43 ppm Mar. 1-31, 1964; minimum, 18 ppm Dec. 22-31, 1964.  
Specific conductance: Maximum daily, 141 micromhos Feb. 3, 1964; minimum daily, 39 micromhos Dec. 23, 1964.  
Water temperatures: Maximum, 68°F July 24, 1964; minimum, freezing point on several days during winter months.  
REMARKS.--Records of daily discharge data given for Truckee River at Farad.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH	
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate				
Oct. 1-31, 1964...	387	19	0.01	10	3.2	6.1	1.3	56	0	3.0	0.8	0.0	1.3	0.1	72	0.10	75.2	38	0	0.4	100	7.3	
Nov. 1-30.....	300	20	.02	10	3.2	6.6	1.0	56	0	4.0	1.8	.0	.8	.0	74	.10	59.9	38	0	.5	105	7.4	
Dec. 1-21.....	333	17	.03	9.6	3.6	5.6	2.7	54	0	4.0	2.8	.8	2.5	.0	85	.12	76.4	39	0	.4	104	7.3	
Dec. 22-31.....	5490	9.5	.12	4.8	1.5	2.3	1.4	22	0	2.0	1.4	.2	1.2	.0	45	.06	667	18	0	.2	48	7.3	
Jan. 1-18, 1965...	1530	17	.07	6.8	1.6	3.9	1.5	31	0	1.0	1.5	.6	1.7	.0	64	.09	264	24	0	.3	66	7.2	
Jan. 19-31.....	1040	18	.04	8.2	2.2	4.1	1.5	39	0	5.0	1.5	.6	1.3	.0	58	.08	163	30	0	.3	80	7.4	
Feb. 1-28.....	1069	17	.03	12	1.2	4.5	1.1	46	0	5.0	2.4	.0	.6	.0	59	.08	170	35	0	.3	95	7.2	
Mar. 1-19.....	511	23	.04	11	2.3	5.0	1.2	46	0	4.0	2.4	.0	.7	.0	70	.10	96.5	37	0	.4	97	7.1	
Mar. 20-31.....	860	24	.04	11	1.3	4.5	1.2	43	0	4.0	1.6	.0	.7	.0	69	.09	160	33	0	.3	85	7.2	
Apr. 1-19.....	859	20	.02	8.6	2.7	3.9	1.2	42	0	1.0	1.9	.3	1.4	.0	70	.10	162	32	0	.3	90	7.4	
Apr. 20-30.....	1780	17	.04	7.6	1.7	3.3	.5	33	0	2.0	1.2	.1	1.4	.0	62	.08	298	26	0	.3	86	7.1	
May 1-31.....	1640	20	.03	5.8	2.3	3.3	.5	32	0	1.0	.8	.1	1.5	.0	57	.08	252	24	0	.3	66	7.3	
June 1-30.....	1260	19	.00	6.6	1.6	2.9	.9	31	0	2.0	.6	.0	1.9	.1	52	.07	177	23	0	.3	61	7.1	
July 1-31.....	615	21	.01	8.0	1.7	3.4	.9	37	0	1.0	.8	.0	2.3	.0	56	.08	92.9	27	0	.3	70	7.1	
Aug. 1-31.....	558	21	.02	8.4	2.4	3.8	1.4	43	0	3.0	1.0	.0	2.1	.1	67	.09	101	31	0	.3	81	7.5	
Sept. 1-30.....	522	21	.02	9.6	1.8	3.9	1.3	43	0	2.0	.9	.0	1.7	.1	64	.09	90.2	32	0	.3	82	7.4	
Weighted average	960	18	0.04	7.7	1.9	3.7	1.1	36	--	2.3	1.3	0.2	1.4	0.1	59	0.08	153	27	3	0.3	73	7.2	
Time-weighted average.....	--	19	0.03	8.7	2.2	4.3	1.2	42	--	2.7	1.4	0.1	1.5	0.1	64	--	--	31	3	0.3	83	7.2	
Tons per day....	--	46	0.11	20	5.0	9.5	2.9	94	--	6.1	3.4	0.4	2.8	0.3	--	--	--	--	--	--	--	--	--

## PYRAMID AND WINNEMUCCA LAKES BASIN--Continued

10-3460. TRUCKEE RIVER AT FLORISTON, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	53	56	52	50	54	53	54	56	55	53	53	52	52	50	55	51	50	47	46	46	47	47	50	46	47	48	49	50	50	47	46	50
November .....	45	44	45	45	44	43	45	44	45	40	33	36	36	--	--	32	35	32	34	32	32	37	38	39	--	--	39	40	41	39	--	39
December .....	43	41	38	35	35	37	--	39	40	41	43	35	32	35	39	35	34	34	36	36	39	39	39	36	37	38	34	--	--	33	--	37
January .....	34	35	--	35	35	35	--	--	35	35	36	35	36	35	36	35	35	36	34	35	33	35	34	34	--	34	32	34	34	35	--	35
February .....	35	33	35	38	40	32	35	34	35	33	33	32	33	35	32	35	32	34	35	37	37	36	38	35	35	36	38	40	33	--	--	35
March .....	38	39	36	38	40	39	39	38	38	--	--	39	38	37	37	39	39	38	39	38	41	40	41	37	39	39	38	38	40	41	41	39
April .....	41	41	41	42	42	41	41	41	41	41	39	41	40	44	43	44	43	43	45	44	45	42	43	42	41	42	43	42	51	51	--	43
May .....	45	43	45	43	43	40	40	42	42	43	45	45	46	46	46	47	46	46	49	48	46	45	46	47	48	48	49	49	48	50	52	46
June .....	50	50	49	49	50	50	51	50	52	53	--	--	51	51	51	49	50	51	54	55	55	50	56	60	55	54	55	55	55	58	--	52
July .....	56	56	59	56	56	60	58	59	60	58	57	57	59	65	62	65	60	60	60	65	60	60	60	68	59	60	60	59	60	58	65	60
August .....	65	62	62	61	63	64	65	62	62	64	62	62	64	54	39	60	62	56	58	60	52	53	50	50	51	51	49	50	52	51	52	57
September .....	50	49	52	51	50	55	48	52	52	53	50	49	51	49	54	53	47	47	47	47	49	49	51	53	54	53	53	51	51	52	--	51

Specific conductance (micromhos at 25°C), water year October 1964 to September 1965

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	96	115	106	63	91	101	84	61	63	62	77	86
2.....	95	103	107	62	91	100	86	69	64	68	78	78
3.....	94	102	107	--	93	101	81	67	62	64	79	77
4.....	94	102	117	74	92	103	82	69	62	62	78	80
5.....	95	104	108	67	93	100	83	68	55	63	79	82
6.....	95	105	104	64	89	97	83	70	56	65	78	84
7.....	96	98	--	--	90	94	83	72	64	66	81	82
8.....	100	98	105	--	91	96	81	72	57	65	78	82
9.....	95	97	112	60	91	96	84	74	60	66	78	84
10.....	97	101	105	61	90	--	83	72	61	69	78	78
11.....	111	98	107	62	92	--	83	70	--	70	83	78
12.....	99	98	99	67	92	95	83	68	--	70	79	81
13.....	95	97	104	65	94	94	98	64	56	69	83	78
14.....	98	--	107	67	93	92	86	63	59	71	83	77
15.....	100	--	101	67	85	98	86	63	59	70	88	87
16.....	104	101	103	68	87	93	85	61	60	72	85	82
17.....	97	103	103	69	94	91	86	63	61	74	83	85
18.....	105	98	102	70	94	93	89	59	60	73	82	78
19.....	102	102	104	73	95	91	85	59	63	72	84	78
20.....	95	100	98	75	95	87	74	59	56	69	81	78
21.....	96	99	103	76	96	87	70	59	58	73	84	77
22.....	97	99	57	76	96	84	70	61	60	70	80	79
23.....	94	101	39	78	98	88	71	63	65	72	80	86
24.....	101	104	48	78	96	81	72	62	64	74	82	81
25.....	107	--	47	--	152	82	68	63	58	73	84	86
26.....	99	--	53	84	102	82	69	61	64	74	81	81
27.....	100	109	56	84	98	82	73	60	63	73	81	--
28.....	103	102	--	84	103	82	67	59	60	73	81	77
29.....	104	106	--	85	--	81	64	57	61	74	81	77
30.....	118	103	64	86	--	82	65	58	67	73	78	78
31.....	104	--	--	--	--	81	--	58	--	73	80	--
Average	99	101	91	72	95	90	79	64	60	69	80	80

MISCELLANEOUS ANALYSES OF STREAMS IN PYRAMID AND WINNEMUCCA LAKES BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
10-3370. LAKE TAHOE AT TAHOE, CALIF.																						
Nov. 3, 1964.....		--		--	--	6.4	--	50	0	--	1.7		--	0.2	--	--		33	0	0.5	93	8.0
Jan. 18, 1965....		--		--	--	6.4	--	50	0	--	1.5		--	.0	--	--		32	0	.5	93	8.0
Mar. 8.....		--		--	--	6.2	--	50	0	--	1.4		--	.0	--	--		32	0	.5	93	8.2
May 10.....		12		8.8	2.4	6.0	1.6	49	0	1.0	1.8		1.8	.0	51	0.07		32	0	.5	93	8.1
July 19.....		--		--	--	5.9	--	52	0	--	1.7		--	.0	--	--		34	0	.4	94	8.1
Sept. 20.....		12		12	.6	5.7	1.6	49	0	3.0	1.5		.0	.0	60	.08		32	0	.4	92	8.0
10-3380. TRUCKEE RIVER NEAR TRUCKEE, CALIF.																						
Nov. 4, 1964.....		--		--	--	5.5	--	54	0	--	1.0		--	0.1	--	--		34	0	0.4	100	8.0
Jan. 18, 1965....		--		--	--	5.4	--	46	0	--	2.3		--	.1	--	--		35	0	.4	96	8.0
Mar. 8.....		--		--	--	5.2	--	48	0	--	2.2		--	.2	--	--		37	0	.4	102	8.1
May 10.....		19		7.8	1.8	3.9	0.7	34	0	5.0	.8		1.0	.0	47	0.06		27	0	.3	71	7.2
July 19.....		--		--	--	4.4	--	40	0	--	1.4		--	.0	--	--		31	0	.3	81	8.0
Sept. 20.....		16		13	1.3	5.9	2.0	54	0	5.0	1.6		.1	.0	72	.10		38	0	.4	102	7.8



HONEY LAKE BASIN

10-3565. SUSAN RIVER AT SUSANVILLE, CALIF.

LOCATION.--At gaging station 0.5 mile west of Susanville, Lassen County, and 1.1 miles upstream from Piute Creek.

DRAINAGE AREA (revised).--184 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	4.3	--	--	--	--	7.0	--	124	0	--	0.5	--	--	0.0	--	--	--	90	0	0.3	193	7.9
Nov. 12.....	21	--	--	--	--	5.9	--	97	0	--	.8	--	--	.0	--	--	--	70	0	.3	158	8.0
Dec. 9.....	20	--	--	--	--	5.8	--	92	1	--	.7	--	--	.0	--	--	--	66	0	.3	157	8.3
Jan. 21.....	114	--	--	--	--	4.0	--	54	0	--	.8	--	--	.0	--	--	--	41	0	.3	97	8.1
Feb. 4.....	208	--	--	--	--	4.3	--	53	0	--	.8	--	--	.0	--	--	--	40	0	.3	96	7.6
Mar. 4.....	118	--	--	--	--	4.0	--	62	0	--	.4	--	--	.0	--	--	--	46	0	.3	107	8.2
Apr. 8.....	190	--	--	--	--	4.0	--	55	0	--	.5	--	--	.0	--	--	--	42	0	.3	96	7.8
May 5.....	228	24	--	10	2.9	3.6	0.5	48	0	3.0	.6	--	0.5	.0	69	0.09	--	37	0	.3	86	7.8
June 17.....	101	--	--	--	--	3.4	--	48	0	--	.4	--	--	.1	--	--	--	35	0	.3	82	8.1
July 15.....	31	--	--	--	--	3.7	--	52	0	--	.2	--	--	.0	--	--	--	38	0	.3	89	8.2
Aug. 12.....	142	--	--	--	--	2.4	--	40	0	--	.3	--	--	.0	--	--	--	32	0	.2	71	8.0
Sept. 16.....	7.9	34	--	18	7.8	6.0	1.7	107	1	1.0	.4	--	3.9	.0	127	.17	--	77	0	.3	172	8.3

## PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA

## SANTA CLARA RIVER BASIN

## 11-1115. SESPE CREEK NEAR WHEELER SPRINGS, CALIF.

LOCATION.--Temperature recorder at gaging station at Sespe Gorge, 1.6 miles upstream from Tule Creek, 5 miles upstream from Cold Springs damsite, and 5 miles northeast of Wheeler Springs, Ventura County.

DRAINAGE AREA.--49.5 square miles.

RECORDS AVAILABLE.--Water temperatures: February 1962 to September 1965.

EXTREMES, 1964-64.--Water temperatures: Maximum, 74°F on several days during August.

EXTREMES, 1962-65.--Water temperatures: Maximum, 84°F Aug. 11, 1964; minimum (1962-64), 35°F Mar. 16, 1963.

REMARKS.--Clock stopped Oct. 30 to Nov. 19, Nov. 24-29, Dec. 22-28; recorded temperature range, 35°F to 55°F, 40°F to 49°F, 46°F to 54°F, respectively.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	72	70	70	72	73	74	74	73	70	69	66	67	64	64	65	64	64	65	64	63	61	62	62	61	60	56	57	59	57	--	--	65	
Minimum .....	52	53	52	55	56	56	58	57	55	54	51	52	51	51	53	53	53	53	51	50	49	52	52	52	50	48	48	55	52	--	--	53	
November																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	39	40	42	42	--	--	--	--	--	--	47	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36	36	38	40	--	--	--	--	--	--	45	--	--	
December																																	
Maximum .....	48	48	46	43	44	43	41	42	47	46	48	48	44	39	41	40	40	40	44	46	48	--	--	--	--	--	--	--	--	45	46	46	--
Minimum .....	45	46	43	40	41	40	39	40	43	44	46	44	39	36	38	38	38	39	40	44	46	--	--	--	--	--	--	--	--	42	45	42	--
January																																	
Maximum .....	43	42	45	47	47	47	47	41	42	48	48	48	49	49	47	47	47	50	50	49	47	49	49	49	45	46	47	46	48	48	48	47	
Minimum .....	40	39	42	45	46	46	40	38	38	40	41	41	42	41	43	44	43	45	45	46	44	45	46	41	40	42	41	42	42	44	44	42	
February																																	
Maximum .....	48	48	48	48	48	48	46	45	44	43	44	44	44	46	46	45	47	48	48	50	50	50	48	48	42	50	50	51	--	--	--	47	
Minimum .....	44	42	43	42	45	45	42	40	40	39	40	38	38	42	40	39	40	40	42	43	43	45	42	40	49	42	46	44	--	--	--	42	
March																																	
Maximum .....	50	49	49	49	50	48	49	50	52	51	48	48	49	47	51	52	52	53	54	54	53	54	55	54	54	55	51	55	54	54	51	51	
Minimum .....	42	42	41	44	46	44	45	43	43	44	44	45	45	45	44	48	44	44	43	44	44	46	47	46	44	45	46	45	44	44	45	44	
April																																	
Maximum .....	45	44	44	43	48	46	48	46	40	49	48	46	49	49	53	53	52	55	56	58	61	62	62	63	64	64	65	64	64	64	--	54	
Minimum .....	43	41	42	39	44	45	44	37	39	39	42	43	45	43	43	46	46	48	50	50	53	54	52	54	55	56	56	55	55	53	--	47	
May																																	
Maximum .....	63	60	58	60	60	58	57	58	59	59	58	57	61	61	63	63	66	66	64	63	62	59	61	61	62	60	61	62	62	61	58	61	
Minimum .....	54	52	50	50	52	49	48	49	50	51	52	52	52	53	54	55	56	56	56	56	53	54	54	52	53	53	53	54	53	52	53	53	
June																																	
Maximum .....	54	58	60	63	65	64	63	59	63	66	67	67	65	64	62	60	63	63	64	65	66	65	65	66	65	61	63	66	66	66	--	63	
Minimum .....	52	53	53	54	56	56	55	55	55	57	58	60	57	57	56	54	55	56	56	57	57	57	57	59	59	59	59	56	56	55	55	--	56
July																																	
Maximum .....	67	67	68	70	69	70	69	69	68	69	67	67	67	67	69	70	69	70	68	67	68	68	68	66	69	70	67	67	67	65	68	70	
Minimum .....	57	56	56	60	59	60	60	59	58	59	58	57	56	58	60	62	62	63	62	60	59	59	55	60	61	60	59	59	62	63	62	59	
August																																	
Maximum .....	72	72	73	72	71	72	69	70	73	74	74	71	74	74	74	74	69	71	72	72	72	71	72	72	73	72	72	72	73	73	72	72	
Minimum .....	65	64	63	63	62	63	60	61	64	66	70	66	66	66	66	66	64	63	63	64	63	62	62	62	62	62	62	63	63	62	62	64	
September																																	
Maximum .....	71	71	69	69	67	68	67	66	67	65	64	65	63	66	68	66	65	61	60	62	62	63	64	66	65	64	61	62	62	62	--	65	
Minimum .....	61	62	60	60	60	63	60	57	58	56	54	55	54	56	57	59	60	58	56	54	53	54	56	57	57	54	54	54	54	53	--	57	

MISCELLANEOUS ANALYSES OF STREAMS IN SANTA YNEZ RIVER BASIN

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
11-1305. SANTA YNEZ RIVER NEAR BUELLTON, CALIF.																		
Dec. 9, 1964.....	1600	58		0.1	27	T												
Dec. 16.....	1425	54		.6	14	T												
Jan. 4, 1965.....	1325	58		1.1	7	T												
Jan. 21.....	0755	54		1.0	17	T												
Jan. 27.....	1300	55		1.2	17	0.1												
Jan. 28.....	1515	59		1.2	18	.1												
Feb. 12.....	1145	52		1.3	115	.4												
Feb. 23.....	1435	59		1.3	52	.2												
Mar. 17.....	1345	62		1.4	50	.2												
Mar. 30.....	1410	62		1.0	13	T												
Apr. 12.....	1400	51		140	30	11												
Apr. 14.....	1440	58		59	8	1.3												
Apr. 28.....	1150	72		50	14	1.9												
May 6.....	0845	57		24	53	3.4												
May 21.....	0710	61		1.6	97	.4												
June 4.....	1225	65		1.1	99	.3												
June 17.....	1340	64		.4	173	.2												
11-1325. SALSIPUEDES CREEK NEAR LOMPOC, CALIF.																		
Nov. 18, 1964.....	1040	45		0.4	102	0.1												
Dec. 4.....		48		.6	65	.1												
Dec. 9.....	1640	52		.6	72	.1												
Dec. 16.....	1300	46		.7	130	.2												
Jan. 7, 1965.....	1100	50		42	534	61					100							S
Jan. 11.....	0830	47		6.7	41	.7												
Jan. 20.....	1025	52		3.0	14	.1												
Jan. 27.....	0840	44		2.4	37	.2												
Jan. 28.....	1600	52		2.7	37	.3												
Feb. 12.....	1025	41		1.8	74	.4												
Feb. 23.....	0900	48		1.6	156	.7												
Mar. 17.....	0825	52		1.6	103	.4												
Mar. 30.....	0810	54		1.4	73	.3												
Apr. 8.....	1215	55		165	3210	1430	57	65	73	86	94	97	100					SPWC
Apr. 12.....	1150	52		20	88	4.8												
Apr. 16.....	0830	53		8.2	22	.5												
Apr. 21.....	1015	62		4.9	18	.2												
Apr. 28.....	1240	70		2.7	11	.1												
May 5.....	0715	52		2.4	60	.4												
May 20.....	0720	59		1.4	67	.3												
May 28.....	1200	65		1.2	27	.1												
June 17.....	0735	60		.5	101	.1												

T Less than 0.05 ton.

## CARMEL RIVER BASIN

11-1432.5. CARMEL RIVER NEAR CARMEL, CALIF.

LOCATION.--Approximately 30 feet downstream from Rancho San Carlos bridge, 2 miles east of Carmel, Monterey County, and 4.5 miles from mouth.

DRAINAGE AREA.--246 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Dec. 11, 1964....	0					64		169	0		31			0.0				197	58	2.0	558	8.0
Jan. 12, 1965....	321					8.5		71	0		7.0			.0				63	5	.5	169	8.0
Feb. 10.....	106					12		93	0		9.0			.2				87	11	.6	227	8.1
Mar. 4.....	45					13		101	0		11			.0				96	13	.6	250	8.2
Apr. 9.....	234					12		100	0		8.6			.2				94	12	.5	241	8.1
May 6.....	90	24		26	5.8	11	1.9	100	0	19	10		1.2	.0	148	0.20		89	7	.5	232	8.0
June 9.....	32					14		101	2		13			.0				97	11	.6	253	8.5
July 14.....	0					23		130	4		16			.0				128	15	.9	348	8.5

SALINAS RIVER BASIN

11-1475. SALINAS RIVER AT PASO ROBLES, CALIF.

LOCATION.--At gaging station in Paso de Robles Grant, at bridge on State Highway 41 at Paso Robles, San Luis County, and 3.5 miles upstream from Huerhuero Creek.

DRAINAGE AREA.--389 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1962 to September 1965.

REMARKS.--Stream dry most of year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Jan. 13, 1965....	120					24		189	13		24			0.0				250	74	0.7	560	8.5
Feb. 9.....	52					26		228	8		28			.1				292	92	.7	634	8.4
Mar. 2.....	23					44		264	8		50			.4				346	116	1.0	809	8.4
Apr. 8.....	126					28		234	6		30			.2				289	87	.7	640	8.4
May 4.....	20	24		107	16	36	1.4	282	2	122	36		1.2	.0	487	0.66		332	97	.9	753	8.3

SALINAS RIVER BASIN--Continued

11-1488. NACIMIENTO RIVER NEAR BRYSON, CALIF.

LOCATION.--At gaging station 0.6 mile upstream from Turtle Creek, 1.6 miles west of Bryson, Monterey County, and 10 miles southwest of Lockwood.

DRAINAGE AREA.--140 square miles.

RECORDS AVAILABLE.--Water temperatures: March 1958 to September 1959, October 1960 to September 1964, March to September 1965.

Sediment records: March 1958 to September 1959, October 1960 to September 1964, March to September 1965.

EXTREMES, March to September 1965.--Sediment concentrations: Maximum daily, 479 ppm Apr. 9; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 3,470 tons Apr. 9; minimum daily, 0 ton on many days.

EXTREMES, 1958-59, 1960-64, March to September 1965.--Sediment concentrations: Maximum daily, 6,860 ppm Nov. 13, 1960; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 50,700 tons Feb. 9, 1962; minimum daily, 0 ton on many days.

REMARKS.--No flow Aug. 6 to Sept. 30.

Temperature (°F) of water, March to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March.....	56	54	55	54	50	51	50	50	52	53	53	50	49	49	48	52	52	58	58	59	54	55	55	58	--	54	--	--	--	56	54	53
April.....	54	--	--	--	--	54	--	49	48	47	--	50	--	--	--	53	--	--	--	50	--	--	--	--	--	--	54	--	--	--	--	--
May.....	--	57	--	--	--	58	--	--	--	--	63	--	--	64	--	--	--	74	--	--	65	--	--	--	--	--	54	--	--	--	--	--
June.....	66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SALINAS RIVER BASIN--Continued

11-1488. NACIMIENTO RIVER NEAR BRYSON, CALIF.--Continued

Suspended sediment, March 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..							45	5	0.6
2..							42	3	.3
3..							42	5	.6
4..							49	12	2.4
5..							189	60	35
6..							351	80	92
7..							218	11	6.5
8..							154	5	2.1
9..							127	6	2.1
10..							112	3	.9
11..							114	--	.9
12..							107	4	1.2
13..							264	9	6.4
14..							222	7	4.2
15..							190	6	3.1
16..							166	3	1.3
17..							152	3	1.2
18..							138	2	.7
19..							124	2	.7
20..							114	3	.9
21..							105	2	.6
22..							98	1	.3
23..							92	2	.5
24..							87	2	.5
25..							81	--	.4
26..							76	4	.8
27..							74	--	.6
28..							76	--	.4
29..							70	--	.4
30..							66	2	.4
31..							331	257	396
Total							4076	--	564.0

S Computed by subdividing day.

SALINAS RIVER BASIN--Continued  
11-1488. NACIMIENTO RIVER NEAR BRYSON, CALIF.--Continued

Suspended sediment, March 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	257	15	10	77	--	0.6	22	1	0.1
2..	237	--	6.4	76	3	.6	24	--	T
3..	214	--	4.6	72	--	.6	23	--	T
4..	184	--	3.5	68	--	.6	22	--	T
5..	166	--	3.1	66	3	.5	21	--	T
6..	163	6	2.6	62	--	.5	20	--	T
7..	163	--	2.6	61	--	.5	19	--	T
8..	803	164 S	375	57	--	.5	18	--	T
9..	1890	479 S	3470	52	--	.4	17	--	T
10..	1310	40	141	50	--	.7	16	--	T
11..	721	--	23	47	5	.6	15	--	T
12..	499	7	9.4	42	--	.6	14	--	T
13..	406	--	5.5	40	--	.4	13	--	T
14..	346	--	3.7	38	3	.3	13	--	T
15..	301	--	3.3	37	--	.3	13	--	T
16..	261	4	2.8	35	--	.4	12	--	T
17..	237	--	2.6	32	5	.4	12	--	T
18..	214	--	1.7	30	6	.5	12	--	T
19..	197	--	1.6	30	--	.3	12	--	T
20..	181	3	1.5	30	--	.2	11	--	T
21..	169	--	1.4	30	2	.2	11	--	T
22..	157	--	1.3	30	--	.2	11	--	T
23..	146	--	1.2	30	--	.2	11	--	T
24..	135	--	1.1	29	--	.2	11	--	T
25..	124	--	1.0	27	--	.1	11	--	T
26..	114	--	1.2	26	--	.1	10	--	T
27..	107	3	.9	26	--	.1	9.2	--	T
28..	98	--	.5	24	--	.1	8.4	--	T
29..	89	--	.5	22	--	.1	7.4	--	T
30..	85	--	.7	21	--	.1	6.6	--	T
31..	--	--	--	21	--	.1	--	--	T
Total	9974	--	4083.7	1288	--	11.0	425.6	--	1.1

Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	5.8			0.4					
2..	5.2			.4					
3..	4.6			.4					
4..	4.2			.2					
5..	3.7			.1					
6..	3.3			0					
7..	3.0			0					
8..	3.0			0					
9..	2.6			0					
10..	2.0			0					
11..	1.9			0					
12..	1.6			0					
13..	1.6			0					
14..	1.4			0					
15..	1.2			0					
16..	.9			0					
17..	.9			0					
18..	.9			0					
19..	.9			0					
20..	.8			0					
21..	.5			0					
22..	.5			0					
23..	.4			0					
24..	.4			0					
25..	.4			0					
26..	.4			0					
27..	.4			0					
28..	.4			0					
29..	.4			0					
30..	.5			0					
31..	.4			0					
Total	54.2	--	0.1	1.5	--	T	0	--	0

Total discharge for period (cfs-days)..... 15,819.3  
Total load for period (tons)..... 4,659.9

S Computed by subdividing day.  
T Less than 0.05 ton.



SALINAS RIVER BASIN--Continued

11-1488. NACIMIENTO RIVER NEAR BRYSON, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, November 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 13, 1964.....	1100	54		221	6	3.6						--	--	--	--		
Dec. 9.....	1020	49		11	1	T						--	--	--	--		
Jan. 27, 1965.....	1505	48		124	1	.3						--	--	--	--		
Feb. 18.....	1325	52		66	1	.2						--	--	--	--		
Feb. 21.....	0900	48		59	24	3.8						--	--	--	--		
Feb. 22.....	0900	50		55	9	1.3						--	--	--	--		
Feb. 23.....	1330	54		50	16	2.2						--	--	--	--		
Feb. 24.....	1330	54		47	7	.9						--	--	--	--		
Feb. 25.....	0900	48		45	11	1.3						--	--	--	--		
Feb. 26.....	0900	48		45	6	.7						--	--	--	--		
Feb. 27.....	0900	51		47	3	.4						--	--	--	--		
Feb. 28.....	0930	51		55	4	.6						--	--	--	--		
Mar. 6.....	1200	51		558	110	--						70	71	73	80	91	100
Mar. 31	1700	55		602	300	--						35	78	100	--	--	
Apr. 9.....	1730	48		2900	255	--						79	90	99	99	100	

T Less than 0.05 ton.

SALINAS RIVER BASIN--Continued

11-1494. NACIMIENTO RIVER BELOW NACIMIENTO DAM, NEAR BRADLEY, CALIF.

LOCATION.--At gaging station, 2.2 miles downstream from Nacimiento Dam, and 7.6 miles southwest of Bradley, Monterey County.

DRAINAGE AREA.--322 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1962 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	318					10		138	0		6.8			0.0				140	27	0.4	313	7.9
Nov. 12.....	.1					10		162	0		7.5			.0				155	22	.4	338	8.1
Mar. 2, 1965.....	.1					11		169	4		7.8			.1				169	24	.4	362	8.4
June 9.....	360					8.1		114	0		5.5			.0				117	24	.3	259	7.8
July 9.....	470					8.6		109	2		5.9			.0				118	25	.3	257	8.4
Sept. 10.....	--	14		39	5.5	8.4	1.1	123	0	29	5.6		1.3	.0	165	22		120	19	.3	269	7.7

## SALINAS RIVER BASIN--Continued

11-1497. SAN ANTONIO RIVER AT SAM JONES BRIDGE, NEAR LOCKWOOD, CALIF.

LOCATION.--At gaging station 300 feet downstream from China Gulch, and 3.5 miles southwest of Lockwood, Monterey County.

DRAINAGE AREA.--211 square miles.

RECORDS AVAILABLE.--Water temperatures: January to July 1959, May 1961 to September 1965 (discontinued).

Sediment records: January to July 1959, May 1961 to September 1965 (discontinued).

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, 4,070 ppm Jan. 6; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 33,600 tons Jan. 6; minimum daily, 0 ton on many days.

EXTREMES, 1959, 1961-65.--Sediment concentrations: Maximum daily, 6,510 ppm Jan. 31, 1963; minimum daily, no flow on many days in 1961 and 1965.

Sediment loads: Maximum daily, 153,000 tons Jan. 31, 1963; minimum daily, 0 ton on many days in 1961 and 1965.

REMARKS.--No flow Aug. 28 to Sept. 30.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	--	--	--	74	--	--	--	--	--	--	--	--	--	--	--	76	--	--	--	--	--	64	--	--	--	--	--	--	--	--	--
November .....	--	--	68	--	--	--	--	64	--	63	--	59	53	52	--	--	--	59	--	--	--	--	--	--	61	--	--	--	--	--	--	--
December .....	--	62	--	--	--	--	--	--	55	--	--	--	--	--	--	58	--	--	--	53	--	57	58	59	58	--	53	49	46	49	50	--
January .....	--	--	49	50	51	52	49	46	52	50	50	50	49	48	--	58	60	--	--	--	58	--	57	--	--	51	52	--	--	--	59	--
February .....	--	--	58	--	--	--	--	--	--	--	--	--	--	--	--	60	46	--	--	--	--	--	--	--	--	--	49	--	--	--	--	--
March .....	--	--	--	--	--	55	--	--	--	--	62	--	--	--	--	--	67	--	--	--	--	--	66	--	66	--	--	--	--	--	57	--
April .....	58	57	--	58	58	--	49	--	--	--	55	--	--	53	--	--	58	--	--	--	63	--	59	--	--	60	65	--	--	--	--	--
May .....	--	--	--	--	71	--	--	--	--	--	--	--	75	--	--	--	--	--	77	--	--	--	--	--	--	--	90	--	--	--	--	--
June .....	78	--	--	--	--	--	--	74	--	--	--	--	--	--	75	--	--	--	--	--	--	73	--	--	--	--	--	--	77	--	--	--
July .....	--	--	--	--	79	--	--	--	--	78	--	--	--	--	--	--	--	--	--	--	--	69	71	--	--	--	--	--	--	--	--	--
August .....	--	--	--	--	--	--	75	--	--	--	--	--	--	76	--	--	--	--	--	--	--	78	--	--	--	--	--	--	--	72	--	--
September .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## SALINAS RIVER BASIN--Continued

11-1497. SAN ANTONIO RIVER AT SAM JONES BRIDGE, NEAR LOCKWOOD, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	0.4	--		1.7	--	T	1.7	--	T
2..	.2	--		1.2	--	T	1.7	1	T
3..	.2	--		1.2	4	T	1.7	--	T
4..	.1	--		1.0	--	T	1.7	--	T
5..	.1	2		.8	--	T	1.7	--	T
6..	.1	--		.8	--	T	1.7	--	T
7..	.2	--		.7	--	T	1.7	--	T
8..	.2	--		1.3	2	T	1.8	--	T
9..	.2	--		2.2	--	T	1.8	1	T
10..	.2	--		2.5	2	T	1.8	--	T
11..	.2	--		2.2	--	T	1.8	--	T
12..	.2	--		5.1	5	S	1.8	--	T
13..	.4	--		22	--	1.2	2.0	--	T
14..	.5	--		12	3	.1	2.0	--	T
15..	.4	--		7.7	--	T	2.0	--	T
16..	.4	--		5.1	--	T	2.0	1	T
17..	.4	2		4.1	--	T	2.0	--	T
18..	.4	--		3.1	1	T	2.3	--	T
19..	.4	--		2.9	--	T	52	42	K
20..	.4	--		2.7	--	T	216	81	47
21..	.4	--		2.3	--	T	279	134	S
22..	.4	--		2.3	--	T	315	195	166
23..	.7	3		2.2	--	T	330	216	192
24..	.7	--		2.0	--	T	267	117	84
25..	1.0	--		1.8	1	T	176	32	15
26..	1.1	--		1.8	--	T	132	--	4.6
27..	1.1	--		1.7	--	T	432	446	S
28..	2.0	--		1.7	--	T	355	275	616
29..	2.9	--		1.7	--	T	271	75	264
30..	1.7	--		1.7	--	T	350	155	55
31..	1.6	--		--	--	--	263	80	146
Total	19.2	--	0.2	99.5	--	1.9	3471.2	--	1788.7
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	199	--	31	75	--	4.5	36	--	1.7
2..	150	--	15	67	--	2.7	36	--	1.7
3..	1070	408	S	66	11	2.0	37	--	1.7
4..	807	238	S	66	--	1.6	37	--	1.7
5..	527	200		109	--	6.8	42	--	2.0
6..	2520	4070	S	108	--	7.0	51	20	2.8
7..	1420	1450		96	--	5.2	66	--	4.5
8..	654	200		79	--	4.3	53	--	2.9
9..	385	177		74	--	4.0	43	--	1.9
10..	315	172		72	--	3.7	44	--	1.5
11..	295	165	131	61	--	3.1	38	9	.9
12..	271	108	79	61	--	3.1	37	--	.8
13..	230	128	79	61	--	3.0	48	--	2.1
14..	199	90	48	56	--	2.7	61	--	3.3
15..	182	131	64	51	--	2.3	55	--	2.7
16..	140	--	35	48	--	2.1	48	--	2.1
17..	132	43	15	50	16	2.2	45	--	1.7
18..	121	29	9.5	51	18	2.5	47	10	1.3
19..	115	--	6.8	45	--	2.2	45	--	1.2
20..	108	--	5.2	44	--	2.1	39	--	1.1
21..	100	16	4.3	40	--	1.9	37	--	1.0
22..	92	--	4.2	40	--	1.9	34	--	.9
23..	86	23	5.3	38	--	1.8	31	--	.8
24..	125	--	22	37	--	1.7	29	--	.9
25..	117	--	22	37	--	1.7	27	15	1.1
26..	104	62	17	37	--	1.7	25	--	1.1
27..	100	54	15	37	17	1.7	24	--	1.0
28..	94	--	11	36	--	1.7	24	--	1.0
29..	92	--	9.7	--	--	--	24	--	1.0
30..	79	--	7.3	--	--	--	35	--	1.4
31..	74	28	5.6	--	--	--	84	36	S
Total	10903	--	43303.9	1642	--	81.2	1282	--	65.8

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

SALINAS RIVER BASIN--Continued

11-1497. SAN ANTONIO RIVER AT SAM JONES BRIDGE, NEAR LOCKWOOD, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	144	62	S 28	70	--	1.9	16	--	4.8
2..	86	8	1.9	66	--	1.8	16	111	4.8
3..	74	--	1.2	64	--	1.6	16	--	4.3
4..	62	11	1.8	51	--	1.1	16	--	3.9
5..	55	7	1.0	49	7	.9	16	--	3.5
6..	45	--	1.5	48	--	.9	14	--	2.6
7..	51	45	6.2	48	--	.9	14	--	1.9
8..	99	--	19	48	--	.9	14	38	1.4
9..	295	190	K 210	47	--	.9	14	--	1.3
10..	390	--	310	45	--	.9	13	--	1.2
11..	230	196	122	45	--	.9	12	--	1.1
12..	170	--	73	42	--	.9	12	--	1.1
13..	155	--	63	41	8	.9	11	--	1.0
14..	145	127	50	40	--	.9	9.6	--	.9
15..	130	--	19	36	--	.7	9.2	34	.8
16..	130	--	14	34	--	.6	8.8	--	.7
17..	119	10	3.2	32	--	.5	8.4	--	.6
18..	117	--	3.2	31	--	.4	8.0	--	.4
19..	110	--	5.9	31	4	.3	7.7	--	.3
20..	108	--	13	28	--	.3	7.3	--	.2
21..	106	62	18	27	--	.4	6.9	--	.1
22..	98	--	11	27	--	.4	6.1	2	T
23..	94	16	4.1	27	--	.4	5.8	--	T
24..	92	--	3.7	27	--	.6	5.8	--	T
25..	86	--	4.6	25	--	.7	5.8	--	T
26..	83	42	9.4	24	--	1.9	5.6	--	T
27..	81	72	16	23	46	2.9	5.4	--	T
28..	79	--	11	20	--	3.8	4.8	--	T
29..	77	--	5.2	18	--	3.9	4.4	5	.1
30..	74	--	2.0	16	--	3.9	4.1	--	.1
31..	--	--	--	16	--	4.3	--	--	--
Total	3585	--	1031.9	1146	--	41.4	297.7	--	37.3
	JULY			AUGUST			SEPTEMBER		
1..	3.6	--	0.1	0.3	--				
2..	3.2	--	.1	.3	--				
3..	2.9	--	.1	.4	--				
4..	2.7	--	.1	.4	--				
5..	2.7	10	.1	.3	--				
6..	2.2	--	.1	.4	--				
7..	2.3	--	.1	.5	2				
8..	1.8	--	T	.5	--				
9..	1.8	--	T	.5	--				
10..	1.6	--	T	.4	--				
11..	1.4	--	T	.5	--				
12..	1.4	--	T	.6	--				
13..	1.2	--	T	.5	--				
14..	1.0	--	T	.4	1				
15..	.8	--	T	.4	--				
16..	.7	--	T	.3	--				
17..	1.1	--	T	.4	--				
18..	1.2	--	T	.5	--				
19..	1.1	--	T	.6	--				
20..	1.2	--	T	.5	--				
21..	1.2	6	T	.4	2				
22..	.8	1	T	.6	--				
23..	.7	--	T	.5	--				
24..	.5	--	T	.5	3				
25..	.5	--	T	.4	--				
26..	.4	--	T	.2	--				
27..	.2	--	T	.1	--				
28..	.3	--	T	0	--				
29..	.3	--	T	0	--				
30..	.4	7	T	0	--				
31..	.4	--	T	0	--				
Total	41.6	--	1.1	11.4	--	0.1	0	--	0

Total discharge for year (cfs-days)..... 22,498.6  
 Total load for year (tons)..... 46,353.5

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## SALINAS RIVER BASIN--Continued

11-1497. SAN ANTONIO RIVER AT SAM JONES BRIDGE, NEAR LOCKWOOD, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Dec. 27, 1964.....	1000	53		500	615						26	45	75	99	100		V	
Jan. 4, 1965.....	1115	50		718	207						68	94	100	--	--		V	
Jan. 6.....	1005	52		3100	5340		9	10	16	21	30	38	60	79	91	98	100	VPWC
Jan. 7.....	1045	49		1510	1470							22	38	74	96	100		V

## SALINAS RIVER BASIN--Continued

11-1500. SAN ANTONIO RIVER AT PLEYTO, CALIF.

LOCATION.--At gaging station at old townsite of Pleyto, Monterey County, 1.1 miles downstream from Copperhead Creek, and 15 miles west of Bradley.  
DRAINAGE AREA.--284 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1962 to September 1965.

Water temperatures: February 1961 to September 1965 (discontinued).

Sediment records: February 1961 to September 1965 (discontinued).

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, 3,050 ppm Jan. 6; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 20,900 tons Jan. 6; minimum daily, 0 ton on many days.

EXTREMES, 1961-65.--Sediment concentrations: Maximum daily, 3,180 ppm Feb. 1, 1963; minimum daily, no flow on many days during 1961-64.

Sediment loads: Maximum daily, 58,400 tons Feb 1, 1963; minimum daily, 0 ton on many days during 1961-64.

REMARKS.--No flow Oct. 1 to Dec. 19.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Jan. 13, 1965....	262					10		130	2		5.7			0.0				140	30	0.4	310	8.4
Feb. 9.....	76					12		150	0		6.6			.1				162	39	.4	364	8.2
Mar. 2.....	39					14		154	4		8.5			.2				176	43	.5	392	8.5
Apr. 8.....	85					12		142	3		6.7			.1				162	41	.4	361	8.4
June 9.....	12					17		167	4		10			.0				183	39	.5	418	8.4
July 9.....	1.2					--		157	5		13			.0				172	35	--	411	8.5

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58	--	--	--	--	--	--	--	--	49	--
January.....	45	45	50	51	49	54	52	50	--	--	50	56	53	54	53	58	--	62	--	--	60	--	--	--	--	--	55	59	--	--	--	--
February.....	--	--	50	--	55	--	52	50	--	58	--	56	--	--	53	58	--	62	--	--	--	--	--	66	--	--	--	--	--	--	--	--
March.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	--	--	--	--	--
May.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June .....	74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	81	--	--	--	--	--	--	--	--	--	--	--
August.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## SALINAS RIVER BASIN--Continued

11-1500. SAN ANTONIO RIVER AT PLEYTO, CALIF.--Continued

Suspended sediment, October 1964 to February 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean dis- charge (cfs)	Suspended sediment		Mean dis- charge (cfs)	Suspended sediment		Mean dis- charge (cfs)	Suspended sediment	
		Mean concen- tration (ppm)	Tons per day		Mean concen- tration (ppm)	Tons per day		Mean concen- tration (ppm)	Tons per day
1..							0	--	0
2..							0	--	0
3..							0	--	0
4..							0	--	0
5..							0	--	0
6..							0	--	0
7..							0	--	0
8..							0	--	0
9..							0	--	0
10..							0	--	0
11..							0	--	0
12..							0	--	0
13..							0	--	0
14..							0	--	0
15..							0	--	0
16..							0	--	0
17..							0	--	0
18..							0	--	0
19..							0	--	0
20..							0.1	--	T
21..							112	--	30
22..							216	150	87
23..							161	--	48
24..							140	--	38
25..							70	--	13
26..							34	--	5
27..							271	--	170
28..							341	--	130
29..							294	--	110
30..							322	--	150
31..							272	144	106
Total	0	--	0	0	--	0	2233.1	--	887
Day	JANUARY			FEBRUARY			MARCH		
	Mean dis- charge (cfs)	Suspended sediment		Mean dis- charge (cfs)	Suspended sediment		Mean dis- charge (cfs)	Suspended sediment	
		Mean concen- tration (ppm)	Tons per day		Mean concen- tration (ppm)	Tons per day		Mean concen- tration (ppm)	Tons per day
1..	245	139	92	70	--	7.9			
2..	203	51	28	65	--	5.4			
3..	549	544	1830	65	--	3.5			
4..	531	557	970	65	--	2.5			
5..	341	640	589	80	15	3.2			
6..	1910	3050	20900	112	--	7.9			
7..	916	1100	2720	95	--	5.1			
8..	582	710	1120	85	--	4.1			
9..	460	--	580	76	--	3.3			
10..	430	--	290	70	15	2.8			
11..	374	85	86	65	--	2.6			
12..	311	55	46	61	--	2.5			
13..	262	165	117	59	--	2.4			
14..	225	113	69	59	--	2.2			
15..	196	54	29	59	--	2.2			
16..	161	34	15	57	--	2.2			
17..	149	--	16	57	13	2.0			
18..	134	57	21	54	--	1.9			
19..	128	--	18	52	--	1.8			
20..	120	--	13	50	--	1.6			
21..	112	29	8.8	50	--	1.6			
22..	107	--	6.4	47	--	1.5			
23..	102	--	5.5	43	--	1.3			
24..	120	--	26	40	--	1.2			
25..	143	--	54	40	--	1.2			
26..	105	--	37	40	--	1.1			
27..	95	116	30	42	--	1.1			
28..	85	90	21	43	--	1.2			
29..	80	--	15	--	--	--			
30..	80	--	13	--	--	--			
31..	74	--	10	--	--	--			
Total	9330	--	29775.7	1701	--	77.3			

Total discharge for period (cfs-days)..... 13,264.1  
 Total load for period (tons)..... 30,740.0

S Computed by subdividing day.

T Less than 0.05 ton.



SALINAS RIVER BASIN--Continued

11-1500. SAN ANTONIO RIVER AT PLEYTO, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Dec. 22, 1964.....	1230	58		252	119	--					65	73	83	100			V
Jan. 3, 1965.....	1645	50		1570	899	--					85	93	99	100			S
Jan. 6.....	1325	54		3610	7970	--					24	28	38	63	95	100	V
Mar. 23.....	--	--		D 32	13	1.1					--	--	--	--			
Apr. 27.....	--	--		D 78	28	5.9					--	--	--	--			
June 2.....	--	--		D 14	6	.2					--	--	--	--			
July 21.....	--	--		D .7	6	T					--	--	--	--			

T Less than 0.05 ton.

D Daily mean discharge.

## SALINAS RIVER BASIN--Continued

11-1505. SALINAS RIVER NEAR BRADLEY, CALIF.

LOCATION.--At gaging station 6 miles northwest of Bradley, Monterey County, and 7 miles downstream from San Antonio River.

DRAINAGE AREA.--2,536 square miles.

RECORDS AVAILABLE.--Chemical analyses: August 1962 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	328	--	--	--	--	14	--	151	0	--	9.0	--	--	0.1	--	--	--	150	26	0.5	340	8.1
Nov. 12.....	72	--	--	--	--	30	--	192	6	--	20	--	--	.1	--	--	--	212	45	.9	523	8.4
Dec. 9.....	14	--	--	--	--	45	--	224	6	--	33	--	--	.2	--	--	--	269	75	1.2	695	8.5
Jan. 13, 1965.....	546	--	--	--	--	25	--	169	3	--	18	--	--	.0	--	--	--	189	45	.8	464	8.4
Feb. 9.....	200	--	--	--	--	35	--	198	6	--	26	--	--	.2	--	--	--	232	60	1.0	582	8.4
Mar. 2.....	83	--	--	--	--	43	--	207	10	--	33	--	--	.3	--	--	--	257	71	1.2	652	8.6
Apr. 8.....	182	--	--	--	--	38	--	202	6	--	29	--	--	.2	--	--	--	237	62	1.1	599	8.4
May 4.....	95	28	--	62	21	39	1.8	220	4	99	28	--	1.0	.1	409	0.56	--	242	55	1.1	629	8.4
June 9.....	412	--	--	--	--	11	--	124	3	--	8.1	--	--	.0	--	--	--	127	20	.4	297	8.3
July 9.....	460	--	--	--	--	11	--	122	1	--	7.0	--	--	.0	--	--	--	124	22	.4	280	8.4
Aug. 4.....	553	--	--	--	--	10	--	124	0	--	6.9	--	--	.1	--	--	--	123	21	.4	282	8.2
Sept. 10.....	484	12	--	27	14	12	1.3	134	0	35	7.2	--	1.1	.2	176	.24	--	127	17	.5	297	7.6

SALINAS RIVER BASIN--Continued

11-1518.7. ARROYO SECO NEAR GREENFIELD, CALIF.

LOCATION.--At gaging station 0.6 mile downstream from Rocky Creek, and 14.5 miles southwest of Greenfield, Monterey County.

DRAINAGE AREA.--113 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1962 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 40°F Nov. 15, Dec. 16.

Sediment concentrations: Maximum daily, 338 ppm Jan. 6; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 3,100 tons Jan. 6; minimum daily, less than 0.05 ton on many days.

EXTREMES, 1962-65.--Water temperatures (1964-65): Minimum, 40°F Nov. 15, Dec. 16, 1964.

Sediment concentrations: Maximum daily, 2,720 ppm Jan. 31, 1963; minimum daily, 1 ppm on many days during 1962-65.

Sediment loads: Maximum daily, 61,200 tons Jan. 31, 1963; minimum daily, less than 0.05 ton on many days during 1962-65.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Aver- age	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	--	--	--	--	69	67	--	--	--	--	--	69	60	--	--	--	--	--	62	58	--	--	59	--	--	68	66	62	58	59	68	--	
November .....	54	--	57	--	--	57	50	50	49	49	49	49	53	50	46	40	41	44	43	43	44	44	44	45	45	47	46	44	45	48	45	--	47
December .....	48	50	48	48	47	48	--	46	48	--	--	44	43	44	43	42	40	42	44	46	49	50	53	53	50	50	50	48	48	42	45	44	47
January .....	47	46	48	48	45	45	50	49	50	51	47	48	51	46	48	50	48	48	48	51	52	50	48	49	51	49	45	50	52	50	50	49	
February .....	49	47	48	43	44	49	47	47	48	46	44	42	45	45	45	45	46	45	46	50	47	50	48	50	50	47	47	50	--	--	--	47	
March .....	--	50	--	--	50	50	50	--	50	--	--	49	48	47	--	51	--	--	--	50	--	--	53	--	--	--	--	52	--	--	53	--	--
April .....	--	50	49	--	--	48	--	47	44	45	--	--	48	--	--	--	49	--	--	52	--	--	--	59	--	62	60	--	--	--	--	--	
May .....	59	--	--	55	--	--	--	59	--	--	--	58	--	--	--	59	--	--	60	--	--	--	62	--	--	61	--	--	--	64	--	--	
June .....	64	--	--	--	62	--	--	66	--	--	--	65	--	--	--	66	--	--	--	65	--	--	65	--	--	--	--	--	--	67	--	--	
July .....	--	--	68	--	--	70	--	--	--	70	--	--	70	--	--	--	--	--	--	--	--	--	71	--	70	--	--	70	--	--	--	70	--
August .....	--	--	70	--	--	--	70	--	--	--	73	--	--	--	--	--	--	71	--	--	--	72	--	--	68	--	--	73	--	--	70	--	--
September .....	--	--	--	65	--	--	71	--	--	--	70	--	--	--	72	--	--	68	--	--	--	69	--	--	--	69	--	--	64	65	--	--	--

## SALINAS RIVER BASIN--Continued

11-1518.7. ARROYO SECO NEAR GREENFIELD, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER				
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment			
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		
1..	1.4	--	T	15	9	S	0.5	24	9	0.6	
2..	1.2	--	T	24	--	--	1.0	24	3	.2	
3..	.6	--	T	15	--	--	.4	24	--	.1	
4..	.5	--	T	10	--	--	.2	23	2	.1	
5..	.5	2	T	8.7	--	--	.2	23	1	.1	
6..	.4	4	T	7.7	7	--	.1	23	1	.1	
7..	.5	--	T	7.0	3	--	.1	24	2	.1	
8..	.5	--	T	9.0	2	T	--	24	1	.1	
9..	.6	--	T	238	41	S	32	25	2	.1	
10..	.6	--	T	298	46	S	41	25	1	.1	
11..	.6	--	T	117	10	--	3.2	26	1	.1	
12..	.6	--	T	313	13	S	13	25	1	.1	
13..	.6	6	T	137	--	--	1.8	24	4	.3	
14..	.6	--	T	89	--	--	1.0	24	--	.4	
15..	.6	--	T	68	3	--	.6	24	--	.4	
16..	.6	--	T	57	2	--	.3	24	--	.4	
17..	.6	--	T	48	--	--	.3	24	--	.3	
18..	.6	--	T	43	--	--	.3	26	--	.4	
19..	.6	2	T	38	4	--	.4	352	57	S	75
20..	.7	2	T	35	--	--	.4	428	91	S	105
21..	.7	--	T	33	1	--	.1	552	36	S	59
22..	.7	--	T	32	1	--	.1	607	15	S	32
23..	.7	1	T	30	--	--	.1	820	14	--	31
24..	.7	--	T	29	--	--	.2	632	6	--	10
25..	.8	--	T	28	7	--	.5	414	5	--	5.6
26..	.9	--	T	27	2	--	.1	560	8	S	27
27..	1.0	6	T	26	1	--	.1	928	10	S	30
28..	2.0	4	T	26	1	--	.1	745	10	--	20
29..	33	13	S	25	1	--	.1	564	13	--	20
30..	28	10	--	24	1	--	.1	592	5	--	8.0
31..	14	--	.3	--	--	--	--	446	1	--	1.2
Total	95.4	--	2.6	1857.4	--	--	98.3	8076	--	--	427.8
JANUARY				FEBRUARY				MARCH			
1..	352	2	1.9	140	4	--	1.5	65	--	--	0.2
2..	304	--	2.5	134	3	--	1.1	63	1	--	.2
3..	1120	207	S	128	1	--	.3	57	--	--	.2
4..	825	73	S	125	1	--	.3	55	1	--	.1
5..	886	29	S	91	15	K	10	87	3	--	.7
6..	3090	338	S	178	3	--	1.4	113	11	S	4.0
7..	2020	140	K	157	3	--	1.3	94	7	--	1.8
8..	1030	--	--	146	2	--	.8	82	--	--	.7
9..	720	--	--	137	1	--	.4	75	2	--	.4
10..	556	--	9.0	131	1	--	.4	72	--	--	.4
11..	464	3	3.8	124	2	--	.7	69	--	--	.4
12..	394	2	2.1	118	8	--	2.5	80	6	S	1.6
13..	343	1	.9	114	2	--	.6	189	11	--	5.6
14..	301	1	.8	110	1	--	.3	138	3	--	1.1
15..	272	2	1.5	104	1	--	.3	120	--	--	.6
16..	248	1	.7	99	2	--	.5	106	2	--	.6
17..	227	1	.6	95	1	--	.3	98	--	--	.5
18..	209	1	.6	90	1	--	.2	92	--	--	.5
19..	194	4	2.1	88	1	--	.2	87	--	--	.2
20..	184	2	1.0	84	1	--	.2	81	1	--	.2
21..	170	1	.5	82	4	--	.9	77	--	--	.2
22..	162	2	.9	79	1	--	.2	74	--	--	.2
23..	183	5	S	76	1	--	.2	71	1	--	.2
24..	295	6	S	74	2	--	.4	69	--	--	.2
25..	215	1	.6	72	4	--	.8	67	--	--	.2
26..	192	1	.5	69	2	--	.4	66	--	--	.4
27..	180	2	1.0	76	1	--	.2	68	3	--	.6
28..	168	1	.5	72	1	--	.2	65	--	--	.5
29..	160	1	.4	--	--	--	--	62	--	--	.3
30..	153	--	.4	--	--	--	--	59	2	--	.3
31..	145	2	.8	--	--	--	--	309	30	K	35
Total	15762	--	5109.6	3130	--	--	26.6	2810	--	--	58.1

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## SALINAS RIVER BASIN--Continued

11-1518.7. ARROYO SECO NEAR GREENFIELD, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	185	--	10	132	1	0.4	50	1	0.1
2..	157	5	2.1	128	--	.3	51	2	.3
3..	138	9	3.4	125	--	.3	47	--	.3
4..	126	--	4.4	120	--	.3	46	--	.2
5..	118	--	4.1	115	--	.3	44	--	.2
6..	118	--	3.5	112	--	.3	43	--	.2
7..	118	--	3.8	108	--	.3	41	--	.2
8..	298	44	40	104	--	.3	42	2	.2
9..	618	54	99	100	--	.3	43	--	.2
10..	550	30	45	96	--	.3	40	--	.2
11..	433	--	20	92	--	.2	37	--	.2
12..	384	--	12	88	--	.2	36	2	.2
13..	363	--	7.8	84	--	.2	34	--	.6
14..	348	--	5.6	82	--	.2	33	--	.9
15..	345	--	3.7	80	1	.2	33	15	1.3
16..	351	--	2.8	75	--	.2	33	--	1.3
17..	333	2	1.8	73	--	.2	32	--	1.4
18..	308	--	1.7	70	1	.2	32	--	1.5
19..	290	--	1.6	68	--	.2	30	18	1.5
20..	270	--	.7	67	--	.2	29	--	1.0
21..	248	--	.7	66	--	.2	29	--	.6
22..	230	--	.6	68	1	.2	28	2	.2
23..	209	--	.6	65	--	.4	26	--	.1
24..	197	1	.5	61	--	.7	26	--	.1
25..	185	--	.5	60	6	1.0	26	--	.1
26..	171	1	.5	57	--	.6	27	2	.1
27..	162	--	.4	56	--	.3	27	--	.1
28..	152	--	.4	52	--	.1	26	--	.1
29..	143	--	.4	50	1	.1	23	2	.1
30..	137	--	.4	48	--	.1	22	--	.1
31..	--	--	--	47	--	.1	--	--	--
Total	7685	--	278.0	2549	--	8.9	1036	--	13.6
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	22	--	.1	7.2	--	0.1	6.4	--	0.1
2..	21	--	.2	6.2	--	T	6.9	--	.1
3..	20	3	.2	5.8	1	T	7.2	--	.1
4..	18	--	.1	5.3	--	T	5.6	3	T
5..	17	--	T	4.7	--	T	2.6	--	T
6..	16	1	T	4.3	--	T	3.4	--	T
7..	15	--	T	4.7	1	T	4.2	5	.1
8..	14	--	T	4.7	--	T	5.4	--	.1
9..	13	--	.1	4.2	--	T	5.8	--	T
10..	12	2	.1	4.3	2	T	6.6	--	T
11..	11	--	.1	4.9	--	T	5.6	1	T
12..	11	--	.1	5.8	--	T	5.1	--	T
13..	11	2	.1	7.2	--	T	4.5	--	T
14..	11	--	.1	5.4	--	T	4.3	1	T
15..	11	--	.1	8.1	--	.1	4.3	--	T
16..	9.8	--	.1	9.5	--	.1	4.0	--	T
17..	9.5	2	.1	8.6	6	.1	4.0	--	T
18..	10	--	.1	8.6	--	.2	3.9	5	.1
19..	9.8	--	.1	8.6	--	.2	4.9	--	.1
20..	8.9	3	.1	8.6	--	.2	5.6	--	.1
21..	8.6	--	T	8.4	11	.2	5.4	6	.1
22..	8.6	2	T	8.4	--	.2	5.1	--	.1
23..	8.4	--	.1	8.4	--	.1	4.5	--	.1
24..	7.9	4	.1	8.4	1	T	4.3	--	.1
25..	7.6	--	.1	8.6	--	T	4.2	5	.1
26..	7.4	--	.1	8.9	--	T	4.2	--	T
27..	7.9	3	.1	8.2	--	T	4.9	--	T
28..	8.2	--	.1	8.9	2	T	5.4	1	T
29..	8.2	--	.1	10	--	.1	5.7	1	T
30..	7.6	--	.1	6.6	--	.1	5.6	--	T
31..	7.6	3	.1	6.4	4	.1	--	--	--
Total	359.0	--	3.0	217.9	--	2.3	149.6	--	1.8
Total discharge for year (cfs-days).....								43,727.3	
Total load for year (tons).....								6,030.6	

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

SALINAS RIVER BASIN--Continued

11-1518.7. ARROYO SECO NEAR GREENFIELD, CALIF.--Continued

Particle-size analysis of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 9, 1964.....	0615	49		516	56						95	100	--	--			S	
Nov. 9.....	1800	50		218	51						97	100	--	--			S	
Nov. 10.....	1730	50		256	54						83	88	100	--	--		S	
Nov. 12.....	1315	53		337	12						96	100	--	--			S	
Dec. 20.....	1630	50		453	99						43	72	97	100			V	
Jan. 3, 1965.....	1500	51		1310	268						59	84	100	--	--		V	
Jan. 6.....	0800	45		3870	486						85	99	100	--	--		V	
Jan. 6.....	1800	51		2620	222						64	76	89	96	100		V	

## SALINAS RIVER BASIN--Continued

11-1525. SALINAS RIVER NEAR SPRECKLES, CALIF.

LOCATION.--At gaging station 80 feet upstream from bridge on Salinas-Monterey highway, 0.5 mile upstream from Toro Creek, 2 miles west of Spreckles, Monterey County, and 4 miles south of Salinas.

DRAINAGE AREA.--4,157 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	3.6	---	---	---	---	141	---	604	0	---	162	---	---	0.4	---	---	---	490	0	2.8	1660	8.2
Nov. 11.....	8.6	---	---	---	---	106	---	626	0	---	124	---	---	.5	---	---	---	480	0	2.1	1410	7.2
Dec. 11.....	5.4	---	---	---	---	136	---	792	0	---	162	---	---	.4	---	---	---	576	0	2.5	1860	8.0
Feb. 10, 1965.....	100	---	---	---	---	54	---	246	2	---	48	---	---	.2	---	---	---	304	99	1.3	779	8.3
Mar. 4.....	5.2	---	---	---	---	99	---	505	0	---	112	---	---	.7	---	---	---	472	58	2.0	1320	7.7
Apr. 9.....	6.4	---	---	---	---	122	---	642	0	---	132	---	---	.3	---	---	---	514	0	2.3	1480	8.0
May 6.....	10	35	---	131	45	106	22	546	28	69	131	---	13	.3	882	1.20	---	514	20	2.0	1370	8.5
June 9.....	6.0	---	---	---	---	138	---	546	49	---	150	---	---	.3	---	---	---	530	0	2.6	1530	8.7
July 8.....	2.6	---	---	---	---	135	---	400	0	---	150	---	---	.8	---	---	---	310	0	3.3	1310	7.2
Aug. 4.....	1.5	---	---	---	---	136	---	186	0	---	148	---	---	.4	---	---	---	246	93	3.8	1130	7.5
Sept. 1.....	6.4	2.5	---	83	22	70	23	342	0	51	80	---	38	.4	577	.78	---	299	19	1.8	937	7.9

## PAJARO RIVER BASIN

11-1540. UVAS CREEK NEAR MORGAN HILL, CALIF.

LOCATION.--Downstream from Uvas Dam at the outlet, 0.6 mile downstream from Eastman Canyon, and 4.8 miles southwest of Morgan Hill, Santa Clara County.

DRAINAGE AREA.--30.4 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH	
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate				
Oct. 7, 1964.....		--		--	--	12	--	217	0	--	7.1		--	0.1	--	--		200	22	0.4	413	8.2	
Nov. 10.....		--		--	--	12	--	211	3	--	6.9		--	.2	--	--		193	15	.4	405	8.4	
Dec. 11.....		--		--	--	12	--	202	8	--	8.0		--	.1	--	--		200	21	.4	424	8.4	
Jan. 14, 1965....		--		--	--	7.0	--	92	0	--	4.1		--	.0	--	--		85	10	.3	195	8.2	
Feb. 10.....		--		--	--	9.0	--	122	2	--	1.4		--	.4	--	--		116	13	.4	253	8.5	
Mar. 2.....		--		--	--	10	--	156	4	--	8.1		--	.0	--	--		156	22	.4	327	8.4	
Apr. 7.....		--		--	--	9.1	--	141	3	--	5.5		--	.1	--	--		136	15	.3	292	8.4	
May 6.....	17	32	13	9.0	0.9	142	0	23	5.5	2.0	.0	172	0.23	132	16	.3	289	8.0	132	16	.3	289	8.0
June 8.....		--		--	--	9.2	--	140	2	--	5.4		--	.0	--	--		131	13	.3	282	8.3	
July 7.....		--		--	--	9.6	--	143	5	--	5.7		--	.0	--	--		140	15	.4	296	8.5	
Sept. 8.....		16	36	16	11	1.7	177	0	25	6.0	3.8	.1	202	.27	157	12	.4	340	7.9				



## PAJARO RIVER BASIN--Continued

11-1565. SAN BENITO RIVER NEAR WILLOW CREEK SCHOOL, CALIF.

LOCATION.--At gaging station 1.7 miles downstream from Willow Creek, San Benito County, 1.8 miles northwest of Willow Creek School, and 10.4 miles northwest of San Benito.

DRAINAGE AREA.--251 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 12, 1964....	0.7	--	--	--	--	298	--	370	12	--	152	--	--	1.9	--	--	--	364	41	6.8	2180	8.4
Dec. 9.....	.6	--	--	--	--	230	--	530	16	--	146	--	--	1.8	--	--	--	608	147	4.0	2110	8.6
Jan. 13, 1965....	13	--	--	--	--	55	--	392	12	--	89	--	--	.8	--	--	--	460	99	1.1	1280	8.7
Feb. 9.....	6.0	--	--	--	--	125	--	463	19	--	86	--	--	1.2	--	--	--	510	99	2.4	1370	8.5
Mar. 2.....	66	--	--	--	--	44	--	398	31	--	29	--	--	.5	--	--	--	406	27	.9	844	8.7
Apr. 8.....	32	--	--	--	--	94	--	443	25	--	54	--	--	.9	--	--	--	444	40	1.9	1120	8.5
May 4.....	55	12	--	37	85	61	2.9	440	28	97	30	--	1.6	.7	A 571	0.78	--	440	33	1.3	915	8.7
June 8.....	4.0	--	--	--	--	136	--	452	32	--	91	--	--	1.5	--	--	--	504	81	2.6	1400	8.6
July 7.....	.1	--	--	--	--	198	--	392	16	--	152	--	--	1.5	--	--	--	484	136	3.9	1690	8.6
Sept. 10.....	.1	11	--	36	120	282	4.5	444	33	496	212	--	3.2	2.2	1470	2.00	--	584	164	5.1	2190	8.7

A Calculated from sum of determined constituents.

## PAJARO RIVER BASIN--Continued

11-1590. PAJARO RIVER AT CHITTENDEN, CALIF.

LOCATION.--At gaging station on State highway bridge in Salsipuedes Grant, 0.6 mile downstream from Pescadero Creek, 0.6 mile southeast of Chittenden, Santa Cruz County, and 2.3 miles downstream from San Benito River.

DRAINAGE AREA.--1,186 square miles.

RECORDS AVAILABLE.--Chemical analyses; October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	0.7	--	--	--	--	170	--	496	12	--	175	--	--	1.0	--	--	--	430	4	3.6	1620	8.4
Nov. 11.....	4.2	--	--	--	--	149	--	526	4	--	126	--	--	.7	--	--	--	430	0	3.1	1410	8.3
Dec. 11.....	3.9	--	--	--	--	166	--	502	0	--	182	--	--	1.0	--	--	--	496	84	3.2	1830	7.9
Jan. 12, 1965....	474	--	--	--	--	25	--	147	3	--	22	--	--	.1	--	--	--	160	35	.9	414	8.4
Feb. 10.....	85	--	--	--	--	78	--	236	10	--	77	--	--	.3	--	--	--	372	162	1.8	1000	8.4
Mar. 4.....	20	--	--	--	--	102	--	368	0	--	113	--	--	.6	--	--	--	574	272	1.9	1410	8.2
Apr. 8.....	32	--	--	--	--	95	--	306	18	--	94	--	--	.6	--	--	--	510	230	1.8	1270	8.6
May 6.....	22	18	--	83	55	66	2.3	314	10	183	68	--	13	.5	685	0.93	--	432	158	1.4	1040	8.5
June 8.....	12	--	--	--	--	102	--	436	4	--	106	--	--	.6	--	--	--	534	163	1.9	1330	8.3
July 8.....	4.2	--	--	--	--	129	--	466	16	--	134	--	--	.8	--	--	--	530	122	2.4	1470	8.5
Aug. 4.....	5.3	--	--	--	--	129	--	492	12	--	108	--	--	.5	--	--	--	528	105	2.4	1410	8.4
Sept. 1.....	5.1	25	--	115	58	115	4.4	538	0	186	111	--	1.4	.5	A 881	1.20	--	526	85	2.2	1380	8.0

A Calculated from sum of determined constituents.

MISCELLANEOUS ANALYSES OF STREAMS IN PAJARO RIVER BASIN

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
11-1539. UVAS CREEK ABOVE UVAS RESERVOIR, NEAR MORGAN HILL, CALIF.																		
Oct. 22, 1964.....	1400	69		0.1	2	T												
Dec. 8.....	1215	49		2.1	1	T												
Dec. 21.....	1440	54		225	180	109						82	89	94	99	100		S
Jan. 26, 1965.....	1150	51		43	6	.7												
Jan. 28.....	1220	51		37	2	.2												
Feb. 1.....	1600	51		29	1	.1												
Feb. 4.....	1705	51		26	1	.1												
Feb. 5.....	0800	50		114	38	12												
Feb. 11.....	1735	46		24	1	.1												
Feb. 16.....	1530	49		19	1	.1												
Feb. 22.....	1800	50		15	2	.1												
Feb. 26.....	1700	51		13	3	.1												
Mar. 22.....	1525	58		7.0	2	T												
Apr. 26.....	1415	63		26	4	.3												
June 1.....	1620	69		7.3	1	T												
July 20.....	1300	75		1.5	3	T												
Aug. 23.....	1445	79		1.0	2	T												
Sept. 28.....	0900	56		.6	2	T												

T Less than 0.05 ton.

SOQUEL CREEK BASIN

11-1600. SOQUEL CREEK AT SOQUEL, CALIF.

LOCATION.--At gaging station, 0.2 mile upstream from highway bridge in town of Soquel, Santa Cruz County, and 0.4 mile downstream from Bates Creek.

DRAINAGE AREA.--40.2 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	1.7	--	--	--	--	40	--	220	12	--	58	--	--	0.1	--	--	--	292	92	1.0	735	8.5
Nov. 11.....	41	--	--	--	--	35	--	126	0	--	44	--	--	.1	--	--	--	182	79	1.1	547	8.1
Dec. 10.....	5.1	--	--	--	--	62	--	258	0	--	85	--	--	.1	--	--	--	326	114	1.5	929	8.2
Jan. 12, 1965.....	112	--	--	--	--	24	--	136	4	--	16	--	--	.0	--	--	--	199	81	.7	486	8.5
Feb. 11.....	41	--	--	--	--	30	--	164	7	--	24	--	--	.1	--	--	--	231	85	.9	569	8.5
Mar. 5.....	23	--	--	--	--	36	--	194	4	--	32	--	--	.1	--	--	--	257	91	1.0	634	8.3
Apr. 9.....	428	--	--	--	--	12	--	88	0	--	9.8	--	--	.2	--	--	--	102	30	.5	270	7.5
May 6.....	29	26	--	72	20	34	3.2	184	10	123	30	--	1.1	.1	421	0.57	--	260	93	.9	623	8.6
June 9.....	14	--	--	--	--	42	--	184	20	--	44	--	--	.1	--	--	--	277	91	1.1	690	8.7
July 9.....	7.0	--	--	--	--	50	--	232	4	--	56	--	--	.0	--	--	--	284	87	1.3	751	8.4
Sept. 8.....	2.7	33	--	81	23	49	5.1	244	2	106	68	--	1.8	.1	499	68	--	296	93	1.2	779	8.3

SAN LORENZO RIVER BASIN

11-1605. SAN LORENZO RIVER AT BIG TREES, CALIF.

LOCATION.--At Sequoia Picnic and Camp Grounds at Big Trees, Santa Cruz County, approximately 0.5 mile upstream from gaging station, and 4 miles north of Santa Cruz.

DRAINAGE AREA--111 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: May to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	12	--	--	--	--	22	--	134	2	--	28	--	--	0.1	--	--	--	135	22	0.8	372	8.3
Nov. 11.....	116	--	--	--	--	18	--	84	0	--	18	--	--	.1	--	--	--	108	39	.8	321	7.8
Dec. 10.....	25	--	--	--	--	26	--	146	0	--	26	--	--	.1	--	--	--	150	30	.9	439	8.0
Jan. 12, 1965.....	390	--	--	--	--	14	--	91	1	--	12	--	--	.0	--	--	--	107	31	.6	281	8.3
Feb. 11.....	153	--	--	--	--	18	--	117	0	--	15	--	--	.1	--	--	--	134	38	.7	347	8.0
Mar. 5.....	115	--	--	--	--	18	--	116	1	--	18	--	--	.0	--	--	--	131	34	.7	341	8.3
Apr. 9.....	1080	--	--	--	--	9.9	--	53	0	--	8.7	--	--	.1	--	--	--	64	21	.5	184	7.5
May 6.....	109	25	--	44	7.1	19	1.6	119	2	57	18	--	0.4	.0	233	0.32	--	139	38	.7	357	8.5
June 9.....	58	--	--	--	--	20	--	115	8	--	18	--	--	.2	--	--	--	136	29	.7	355	8.6
July 6.....	35	--	--	--	--	20	--	130	4	--	20	--	--	.0	--	--	--	140	27	.7	364	8.5
Aug. 5.....	25	--	--	--	--	22	--	144	0	--	22	--	--	.0	--	--	--	139	21	.8	370	7.9
Sept. 7.....	19	25	--	42	7.3	21	1.8	143	0	35	22	--	3.2	.0	227	.31	--	135	18	.8	366	8.1

Temperature (°F) of water, May to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
May																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62	60	60	59	61	63	63	63	64	66	66	66	65	64	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	56	56	57	57	56	56	56	56	58	60	60	60	60	61	--
June																																
Maximum ....	61	64	65	63	64	65	62	61	65	67	69	69	67	65	67	66	65	68	68	68	65	64	64	70	66	69	70	71	71	72	--	66
Minimum ....	59	57	60	61	61	61	59	59	57	59	62	62	59	59	59	59	61	61	61	62	63	62	62	62	61	61	61	62	63	64	--	61
July																																
Maximum ....	73	72	72	72	72	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	65	65	64	65	65	65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

11-1625. PESCADERO CREEK NEAR PESCADERO, CALIF.

DRAINAGE AREA.--45.9 square miles.

RECORDS AVAILABLE.--Water temperatures: April to September 1965.

REMARKS.--No record June 26 to July 7, probe out of water; clock stopped Aug. 25 to Sept. 7, Sept. 9-30.

Temperature (°F) of water, April to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
December																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
January																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
February																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
March																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
April																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58	59	59	59	59	59	59	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	56	56	58	58	57	57	--	--	
May																																	
Maximum .....	58	58	57	57	57	57	56	56	57	58	59	58	58	59	59	59	60	59	59	58	57	58	60	60	60	62	64	65	64	61	57	59	
Minimum .....	56	56	54	56	54	54	52	54	54	55	55	55	56	54	55	54	56	57	55	56	55	53	55	54	53	54	56	57	58	57	55	55	
June																																	
Maximum .....	56	60	59	58	57	57	56	57	59	65	67	66	65	61	62	66	65	67	69	70	70	70	63	62	64	--	--	--	--	--	--	63	
Minimum .....	54	54	56	57	56	55	55	55	55	56	57	58	56	56	56	56	58	58	58	60	60	61	60	58	57	--	--	--	--	--	--	57	
July																																	
Maximum .....	--	--	--	--	--	--	62	65	65	63	65	65	66	66	66	67	66	66	67	66	67	67	68	67	66	64	66	64	66	66	67	--	
Minimum .....	--	--	--	--	--	--	60	57	58	58	58	59	58	60	60	60	61	61	61	59	60	60	60	67	61	58	57	59	60	60	60	--	
August																																	
Maximum .....	68	68	69	69	70	68	70	69	71	69	66	70	70	70	68	68	64	63	64	68	67	67	68	69	--	--	--	--	--	--	--	--	
Minimum .....	61	62	62	61	61	60	60	60	59	61	64	63	63	64	65	64	62	62	62	63	64	64	65	63	--	--	--	--	--	--	--	--	
September																																	
Maximum .....	--	--	--	--	--	--	65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

GUADALUPE RIVER BASIN

11-1680. LOS GATOS CREEK AT LOS GATOS, CALIF.

LOCATION.--At gaging station 0.3 mile downstream from Trout Creek, 0.5 mile downstream from Lexington Reservoir, and 1 mile south of Los Gatos, Santa Clara County.

DRAINAGE AREA.--38.6 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	0.4	--	--	--	--	30	--	310	0	--	22	--	--	0.2	--	--	--	360	106	0.7	779	8.1
Nov. 11.....	.5	--	--	--	--	22	--	242	4	--	17	--	--	.2	--	--	--	296	91	.6	643	8.3
Dec. 10.....	.2	--	--	--	--	25	--	311	0	--	17	--	--	.2	--	--	--	321	66	.6	677	8.0
Jan. 12, 1965....	32	--	--	--	--	9.2	--	86	0	--	5.4	--	--	.0	--	--	--	100	29	.4	240	8.2
Feb. 11.....	54	--	--	--	--	9.6	--	105	0	--	6.3	--	--	.0	--	--	--	117	31	.4	269	8.0
Mar. 5.....	74	--	--	--	--	10	--	110	0	--	7.0	--	--	.0	--	--	--	121	31	.4	276	8.2
Apr. 9.....	28	--	--	--	--	7.7	--	112	0	--	4.9	--	--	.1	--	--	--	110	18	.3	248	7.8
May 6.....	60	18	--	37	8.1	11	1.6	113	3	43	6.6	--	1.7	.0	190	0.26	--	126	28	.4	294	8.5
June 6.....	58	--	--	--	--	11	--	114	4	--	7.1	--	--	.0	--	--	--	128	28	.4	295	8.5
July 9.....	54	--	--	--	--	11	--	132	0	--	7.8	--	--	.0	--	--	--	138	30	.4	320	7.8
Aug. 5.....	26	--	--	--	--	12	--	136	4	--	7.9	--	--	.0	--	--	--	151	33	.4	342	8.4
Sept. 8.....	50	14	--	44	16	14	1.9	164	1	57	9.0	--	3.0	.1	248	34	--	175	39	.5	393	8.3

## 11-1698. COYOTE CREEK NEAR GILROY, CALIF.

DRAINAGE AREA.--109 square miles.

DRAINAGE AREA.--109 square miles.

RECORDS AVAILABLE.--Water temperatures: December 1964 to September 1965.

Sediment records: December 1964 to September 1965.

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## COYOTE CREEK BASIN--Continued

11-1698, COYOTE CREEK NEAR GILROY, CALIF.--Continued

Suspended sediment, period December 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean dis-charge (cfs)	Suspended sediment		Mean dis-charge (cfs)	Suspended sediment		Mean dis-charge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..							1.2	--	T
2..							1.5	--	T
3..							1.5	--	T
4..							1.5	--	T
5..							1.5	--	T
6..							1.5	--	T
7..							1.5	3	T
8..							1.5	--	T
9..							1.7	--	T
10..							1.7	--	T
11..							1.7	--	T
12..							1.7	--	T
13..							1.7	--	T
14..							1.8	--	T
15..							1.8	--	T
16..							1.7	--	T
17..							1.7	--	T
18..							1.7	--	T
19..							8.0	--	.1
20..							79	13 S	3.0
21..							126	7 S	2.5
22..							624	282 S	990
23..							1190	477 S	1800
24..							849	149 S	358
25..							233	24	15
26..							488	151 S	518
27..							773	130 S	335
28..							826	85 S	203
29..							554	45	67
30..							546	32	47
31..							794	48 S	110
Total							7118.9	--	4448.8
Day	JANUARY			FEBRUARY			MARCH		
	Mean dis-charge (cfs)	Mean concentration (ppm)	Tons per day						
1..	258	11	7.7						
2..	161	7	3.0						
3..	1180	186 S	718						
4..	674	37	67						
5..	553	402 S	2250						
6..	3500	2210 S	23000						
7..	2240	984 S	7640						
8..	672	102 S	224						
9..	224	18	11						
10..	156	8	3.4						
11..	128	4	1.4						
12..	107	--	.9						
13..	87	--	.7						
14..	74	3	.6						
15..	63	--	.3						
16..	53	2	.3						
17..	46	--	.2						
18..	41	--	.2						
19..	40	--	.2						
20..	42	--	.2						
21..	35	--	.2						
22..	31	--	.2						
23..	38	4 K	.7						
24..	149	14 S	6.2						
25..	95	3	.8						
26..	75	10	2.0						
27..	64	--	2.1						
28..	55	--	1.3						
29..	50	--	.8						
30..	45	--	.4						
31..	40	--	.2						
Total	10976	--	33944.0						

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## COYOTE CREEK BASIN--Continued

11-1698. COYOTE CREEK NEAR GILROY, CALIF.--Continued

Suspended sediment, period December 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	45	--	1.2						
2..	28	--	.3						
3..	22	--	.2						
4..	16	--	.1						
5..	14	--	.1						
6..	12	--	.1						
7..	12	--	.1						
8..	16	--	.2						
9..	560	305	S 946						
10..	1270	384	S 1360						
11..	710	95	S 224						
12..	401	30	32						
13..	309	14	12						
14..	196	9	4.8						
15..	147	--	2.0						
16..	128	--	2.1						
17..	107	6	1.7						
18..	84	3	.7						
19..	72	2	.4						
20..	60	--	.3						
21..	54	--	.3						
22..	48	--	.3						
23..	40	--	.2						
24..	36	--	.2						
25..	33	--	.2						
26..	30	2	.2						
27..	27	--	.1						
28..	24	--	.1						
29..	22	--	.1						
30..	20	--	.1						
31..									
Total	4543	--	2590.1						
Day	JULY			AUGUST			SEPTEMBER		
1..									
2..									
3..									
4..									
5..									
6..									
7..									
8..									
9..									
10..									
11..									
12..									
13..									
14..									
15..									
16..									
17..									
18..									
19..									
20..									
21..									
22..									
23..									
24..									
25..									
26..									
27..									
28..									
29..									
30..									
31..									
Total									

Total discharge for period December, January, April (cfs-days)..... 22,637.9  
 Total load for period December, January, April (tons)..... 40,982.9

S Computed by subdividing day.

## COYOTE CREEK BASIN--Continued

11-1698. COYOTE CREEK NEAR GILROY, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, December 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Dec. 22, 1964.....	1600	56		626	304	---						57	66	75	92	100	---	S
Dec. 23.....	0800	56		1830	893	---						58	66	71	81	92	100	S
Dec. 24.....	1300	57		1110	213	---						77	80	82	97	100	---	V
Dec. 28.....	0830	46		1110	139	---						84	87	90	94	100	---	V
Jan. 6, 1965.....	0730	51		3480	2160	---						67	80	89	97	100	---	V
Jan. 6.....	1230	51		2660	1300	---						70	79	86	94	100	---	V
Jan. 7.....	1700	47		1580	489	---						68	72	78	83	93	100	S
Feb. 16.....	1430	--		17	1	T						--	--	--	--	--	--	
Mar. 23.....	0900	--		5.7	10	.2						--	--	--	--	--	--	
Mar. 31.....	1630	--		62	12	2.0						--	--	--	--	--	--	
June 1.....	1430	--		4.6	2	T						--	--	--	--	--	--	

T Less than 0.05 ton.

## COYOTE CREEK BASIN--Continued

11-1700. COYOTE CREEK NEAR MADRONE, CALIF.

LOCATION.--At gaging station near southeast corner of La Laguna Seca Grant, 1.2 miles downstream from Anderson Dam, and 1.8 miles northeast of Madrone, Santa Clara County.

DRAINAGE AREA.--196 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	0.6	--	--	--	--	35	--	272	5	--	28	--	--	0.2	--	--	--	265	34	0.9	635	8.3
Nov. 10.....	.1	--	--	--	--	35	--	261	13	--	29	--	--	.2	--	--	--	268	33	.9	623	8.6
Dec. 11.....	2.2	--	--	--	--	42	--	318	10	--	36	--	--	.2	--	--	--	315	38	1.0	736	8.5
Jan. 14, 1965.....	63	--	--	--	--	15	--	115	2	--	12	--	--	.0	--	--	--	112	14	.6	287	8.4
Feb. 15.....	59	--	--	--	--	15	--	110	2	--	11	--	--	.4	--	--	--	108	15	.6	278	8.3
Mar. 4.....	40	--	--	--	--	14	--	113	2	--	11	--	--	.0	--	--	--	111	15	.6	279	8.3
Apr. 7.....	46	--	--	--	--	14	--	119	0	--	11	--	--	.1	--	--	--	114	16	.6	278	8.1
May 6.....	65	11	--	27	12	16	1.7	121	2	34	11	--	3.7	.1	180	0.24	--	116	14	.6	286	8.4
June 8.....	99	--	--	--	--	16	--	124	6	--	11	--	--	.1	--	--	--	129	17	.6	315	8.5
July 7.....	96	--	--	--	--	14	--	134	2	--	11	--	--	.1	--	--	--	149	36	.5	310	8.3
Aug. 8.....	75	--	--	--	--	15	--	135	5	--	10	--	--	.0	--	--	--	135	16	.6	319	8.5
Sept. 8.....	80	11	--	38	11	15	2.2	153	0	32	11	--	2.5	.0	207	.28	--	141	16	.5	334	7.8

## ALAMEDA CREEK BASIN

11-1765. ARROYO VALLE NEAR LIVERMORE, CALIF.

LOCATION.--At gaging station 900 feet downstream from highway bridge, 1.1 miles upstream from Dry Creek, 4.1 miles south of Livermore, Alameda County, and 6.9 miles southeast of Pleasanton.

DRAINAGE AREA.--147 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1958 to September 1965.

Water temperatures: October 1959 to September 1961, October 1962 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 84°F Aug. 1; minimum, 43°F Jan. 1, 8.

Sediment concentrations: Maximum daily, 1,980 ppm Dec. 23; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 7,410 tons Dec. 23; minimum daily, 0 ton on many days.

EXTREMES, 1962-65.--Water temperatures (1963-65): Maximum, 86°F July 28, 1964; minimum, 42°F Dec. 11, 12, 1963.

Sediment concentrations: Maximum daily, 3,290 ppm Feb. 1, 1963; minimum daily, no flow on many days during 1962-65.

Sediment loads: Maximum daily, 45,900 tons Feb. 1, 1963; minimum daily, 0 ton on many days during 1962-65.

REMARKS.--No flow Oct. 1 to Dec. 20, Aug. 26 to Sept. 30.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Jan. 14, 1965....	55					16		180	8		12			.2				180	19	.5	395	8.7
Feb. 8.....	33					19		211	4		11			.5				204	24	.6	450	8.4
Mar. 1.....	14					24		228	9		14			.4				231	29	.7	508	8.6
Apr. 6.....	19					22		239	4		14			.4				235	32	.6	512	8.5
May 3.....	16	15		43	25	20	1.6	222	1	49	12		0.3	.3	284	0.39		210	26	.6	464	8.3
June 10.....	2.9					29		278	4		21			.5				260	25	.8	592	8.3
July 8.....	.6					38		312	0		30			.5				284	28	1.0	669	8.2
Aug. 3.....	.3					50		356	0		44			.9				324	32	1.2	783	8.1

## ALAMEDA CREEK BASIN--Continued

11-1765. ARROYO VALLE NEAR LIVERMORE, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	47	47	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	47	44	--
January																																
Maximum .....	45	45	46	48	50	50	49	46	46	48	48	50	49	50	50	51	51	52	51	52	52	52	54	52	47	49	50	50	51	52	52	50
Minimum .....	43	44	45	46	47	49	46	43	44	45	47	46	45	46	46	48	48	49	50	51	50	51	50	46	46	46	46	46	48	48	48	47
February																																
Maximum .....	51	50	51	51	53	51	52	52	50	52	51	51	51	53	52	53	54	55	56	55	56	56	55	55	56	58	58	58	58	--	--	53
Minimum .....	49	48	49	50	51	50	46	47	46	45	45	44	46	48	46	46	47	48	48	49	49	50	48	48	48	50	53	50	--	--	--	48
March																																
Maximum .....	58	58	60	60	55	55	59	59	55	56	58	55	55	60	60	60	60	61	62	62	63	63	57	59	60	58	61	59	58	60	59	59
Minimum .....	50	49	51	52	53	53	51	52	54	54	51	53	52	51	52	54	54	52	51	52	54	54	54	53	52	54	55	53	54	54	56	53
April																																
Maximum .....	60	57	63	63	60	58	57	57	55	50	50	56	54	53	60	60	58	60	67	62	64	66	68	70	71	72	72	72	71	68	--	62
Minimum .....	54	54	53	54	55	55	52	53	49	47	48	48	52	51	51	54	52	55	56	58	58	56	55	57	58	59	60	62	60	58	--	54
May																																
Maximum .....	67	64	67	66	67	64	67	68	69	71	72	71	70	71	71	72	72	70	65	66	63	66	70	70	72	74	74	75	74	72	70	69
Minimum .....	56	56	55	56	55	55	54	56	56	57	58	60	60	58	58	59	60	60	59	61	59	58	58	60	60	60	62	62	62	62	62	59
June																																
Maximum .....	70	73	72	73	73	70	68	63	72	75	73	72	70	68	72	73	72	74	76	76	76	76	76	74	67	74	76	79	80	74	--	73
Minimum .....	60	60	63	62	63	62	62	61	60	62	62	61	60	60	60	60	62	63	63	64	64	65	65	63	60	59	60	62	64	64	--	62
July																																
Maximum .....	81	80	80	82	81	78	81	79	76	76	76	79	78	80	82	82	78	78	79	78	79	82	80	80	77	78	79	79	80	80	82	79
Minimum .....	65	66	65	65	66	65	66	66	65	62	59	62	64	64	66	67	68	68	66	63	64	64	66	65	66	65	64	65	65	68	70	65
August																																
Maximum .....	84	82	82	83	81	80	78	79	79	79	71	80	82	82	77	78	77	74	75	73	74	74	75	75	78	79	--	--	--	--	--	78
Minimum .....	69	68	66	66	66	65	65	63	66	68	67	67	67	71	67	66	66	66	64	63	61	62	65	66	65	66	--	--	--	--	--	66
September																																
Maximum .....																																
Minimum .....																																

## ALAMEDA CREEK BASIN--Continued

11-1765. ARROYO VALLE NEAR LIVERMORE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..							0	--	0
2..							0	--	0
3..							0	--	0
4..							0	--	0
5..							0	--	0
6..							0	--	0
7..							0	--	0
8..							0	--	0
9..							0	--	0
10..							0	--	0
11..							0	--	0
12..							0	--	0
13..							0	--	0
14..							0	--	0
15..							0	--	0
16..							0	--	0
17..							0	--	0
18..							0	--	0
19..							0	--	0
20..							0	--	0
21..							167 <sup>4</sup>	18 K	1.4
22..							736	S	484
23..							1180	S	7410
24..							653	S	1510
25..							272	510 K	410
26..							127	--	69
27..							254	--	290
28..							414	480	537
29..							297	198 S	170
30..							258	98	68
31..							238	166	107
Total	0	--	0	0	--	0	3860.4	--	11056.4
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	165	--	43	44	5	0.6	14	--	0.5
2..	110	36	11	40	--	.5	13	--	.6
3..	164	86 S	44	36	--	.8	12	18	.6
4..	350	191 S	187	33	11	1.0	12	--	.5
5..	209	--	56	40	--	1.2	11	11	.3
6..	734	1160 S	2680	47	--	1.4	11	--	.3
7..	735	722 S	1530	39	--	1.1	12	--	.4
8..	312	--	280	33	7	.6	13	--	.4
9..	171	--	92	27	--	.5	13	--	.4
10..	114	--	43	26	--	.5	12	--	.4
11..	90	--	24	22	--	.4	12	--	.5
12..	77	--	15	21	7	.4	13	17	.6
13..	63	--	6.8	20	--	.4	20	--	1.3
14..	55	17	2.5	20	--	.4	18	34	1.7
15..	51	--	2.1	20	--	.4	17	--	1.3
16..	45	--	2.3	18	--	.3	15	--	.9
17..	39	--	2.3	18	--	.3	13	--	.6
18..	37	27	2.7	17	--	.3	13	--	.6
19..	37	31	3.1	17	6	.3	11	15	.4
20..	42	19	2.2	17	--	.3	9.9	--	.4
21..	38	10	1.0	16	--	.3	9.4	--	.4
22..	33	--	.8	15	--	.3	8.8	--	.4
23..	33	12	1.1	14	--	.3	8.2	--	.4
24..	296	52 K	46	13	--	.3	8.2	18	.4
25..	165	--	13	13	--	.3	8.2	--	.4
26..	103	17	4.7	13	11	.4	7.8	--	.3
27..	77	--	3.5	15	12	.5	10	--	.4
28..	66	19	3.4	16	--	.6	12	--	.4
29..	58	--	2.7	--	--	--	10	13	.4
30..	52	13	1.8	--	--	--	8.8	--	.3
31..	48	--	1.2	--	--	--	12	--	.5
Total	4569	--	5108.2	670	--	14.7	368.3	--	17.0

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## ALAMEDA CREEK BASIN--Continued

11-1765. ARROYO VALLE NEAR LIVERMORE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	45	42	5.1	17	--	1.5	3.2	--	0.4
2..	36	--	2.3	16	--	1.4	3.2	--	.4
3..	29	13	1.0	16	--	1.3	3.2	--	.4
4..	25	--	.7	16	--	1.3	3.2	--	.4
5..	20	--	.5	15	--	1.3	2.9	--	.3
6..	19	--	.5	15	--	1.3	3.5	--	.4
7..	18	--	.4	14	31	1.2	3.5	--	.4
8..	17	--	.4	13	--	1.0	3.2	38	.3
9..	89	39	16	12	--	.9	2.9	--	.3
10..	898	--	390	11	--	.8	2.9	--	.2
11..	569	--	180	9.9	25	.7	2.9	--	.2
12..	344	98	91	8.8	--	.8	2.9	--	.2
13..	310	--	79	8.8	42	1.0	2.9	--	.2
14..	210	--	48	8.2	--	1.0	1.8	--	.1
15..	140	--	31	7.8	--	.9	1.8	13	.1
16..	148	--	34	7.8	--	.9	1.8	--	.1
17..	127	78	27	7.8	--	.9	1.6	--	.1
18..	94	--	15	7.4	--	.9	1.4	35	.1
19..	73	--	9.1	7.4	--	.9	1.6	--	.2
20..	63	--	5.4	7.0	--	.8	2.0	--	.2
21..	55	--	3.3	7.0	--	.8	1.8	--	.2
22..	49	16	2.1	7.0	--	.8	1.2	--	.2
23..	41	--	1.8	7.4	--	.9	1.4	52	.2
24..	36	--	1.6	7.0	--	.8	1.2	--	.2
25..	31	--	1.3	6.2	--	.7	1.8	--	.3
26..	28	--	1.3	5.4	--	.6	1.1	--	.2
27..	25	20	1.4	4.6	44	.5	1.4	--	.2
28..	23	--	1.5	4.6	--	.5	1.1	--	.2
29..	20	--	1.5	4.2	--	.5	.8	--	.1
30..	20	33	1.8	3.8	--	.5	.8	54	.1
31..	--	--	--	3.5	47	.4	--	--	--
Total	3602	--	954.0	286.6	--	27.8	65.0	--	6.9
	JULY			AUGUST			SEPTEMBER		
1..	0.7			0.1					
2..	.7			.3					
3..	.5			.3					
4..	.7			.3					
5..	.5			.3					
6..	.4			.4					
7..	.3			.4					
8..	.6			.4					
9..	.3			.3					
10..	.4			.2					
11..	.7			.5					
12..	.5			.3					
13..	.4			.2					
14..	.4			.2					
15..	.2			.2					
16..	.3			.2					
17..	.3			.1					
18..	.1			.1					
19..	.4			.2					
20..	.4			.2					
21..	.1			.2					
22..	.1	27		.2					
23..	.2			.1					
24..	.2			.1					
25..	.4			.1					
26..	.3			.1					
27..	.1			0					
28..	.1			0					
29..	.4			0					
30..	.2			0					
31..	.2			0					
Total	11.1	--	1.2	6.0	--	0.2	0	--	0

Total discharge for year (cfs-days)..... 13,438.4

Total load for year (tons)..... 17,186.4

S Computed by subdividing day.



## ALAMEDA CREEK BASIN--Continued

11-1765. ARROYO VALLE NEAR LIVERMORE, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Dec. 22, 1964.....	0855	56		86	576		--	--	--	--	99	100	--	--			S
Dec. 23.....	0910	58		1750	3310		25	36	49	61	75	82	93	97	100		VPWC
Dec. 24.....	0830	58		708	670		--	--	--	--	85	93	100	--			V
Jan. 6, 1965.....	1100	50		928	1640		24	34	47	60	73	80	87	94	100		VPWC

## ALAMEDA CREEK BASIN--Continued

11-1790. ALAMEDA CREEK NEAR NILES, CALIF.

LOCATION.--At gaging station 0.3 mile downstream from railroad bridge, and 1.2 miles northeast of Niles, Alameda County.

DRAINAGE AREA.--633 square miles.

RECORDS AVAILABLE.--Chemical analyses: February 1952 to September 1965.

Water temperatures: July 1956 to September 1965.

Sediment records: January 1957 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 76°F July 16, Aug. 2, 14; minimum, 44°F Nov. 18, Jan. 1, 2.

Sediment concentrations: Maximum daily, 3,360 ppm Dec. 23; minimum daily, 2 ppm Dec. 21.

Sediment loads: Maximum daily, 32,800 tons Dec. 23; minimum daily, less than 0.05 ton Dec. 18.

EXTREMES, 1956-65.--Water temperatures: Maximum (1956-62, 1964-65), 88°F June 1, 1960; minimum, 37°F Jan. 5, 1961, Jan. 14, 1963.

Sediment concentrations (1957-65): Maximum daily, 5,340 ppm Apr. 3, 1958; minimum daily, no flow on many days during 1957, 1959-61.

Sediment loads (1957-65): Maximum daily, 285,000 tons Apr. 3, 1958; minimum daily, 0 ton on many days during 1957, 1959-61.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	28	--	--	--	--	48	--	135	0	--	68	--	--	0.2	--	--	--	142	31	1.8	517	8.1
Nov. 10.....	16	--	--	--	--	50	--	182	3	--	69	--	--	.4	--	--	--	184	30	1.6	615	8.4
Dec. 10.....	3.3	--	--	--	--	71	--	195	10	--	89	--	--	.6	--	--	--	224	48	2.1	751	8.6
Jan. 14, 1965.....	140	--	--	--	--	36	--	195	5	--	34	--	--	.4	--	--	--	210	42	1.1	554	8.4
Feb. 11.....	34	--	--	--	--	54	--	246	14	--	59	--	--	.5	--	--	--	291	66	1.4	773	8.6
Mar. 5.....	13	--	--	--	--	85	--	308	16	--	100	--	--	1.2	--	--	--	391	112	1.9	1060	8.6
Apr. 6.....	22	--	--	--	--	58	--	266	9	--	60	--	--	.7	--	--	--	304	71	1.4	801	8.4
May 7.....	13	5.5	--	74	35	60	2.9	270	16	116	67	--	3.6	.9	517	0.70	--	330	82	1.4	843	8.7
June 9.....	42	--	--	--	--	44	--	140	0	--	62	--	--	.3	--	--	--	152	37	1.5	507	8.2
July 14.....	36	--	--	--	--	40	--	131	2	--	56	--	--	.3	--	--	--	145	34	1.4	488	8.4
Aug. 5.....	36	--	--	--	--	35	--	134	0	--	51	--	--	.0	--	--	--	140	30	1.3	449	8.2
Sept. 2.....	36	15	--	43	7.4	42	2.7	134	0	37	62	--	3.0	.1	283	.38	--	138	28	1.6	486	7.7

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	60	65	63	64	65	67	63	66	62	64	61	62	61	63	60	61	61	57	61	60	60	57	60	59	59	58	59	59	60	60	59	61
November .....	58	59	58	58	58	58	57	57	58	55	53	55	53	49	46	45	46	44	48	45	--	48	48	48	53	48	50	53	52	53	--	52
December .....	53	55	53	49	49	49	49	51	52	55	54	51	47	45	47	48	48	46	49	48	55	55	59	58	58	57	59	49	48	47	45	51
January .....	44	44	46	48	50	50	48	45	46	45	48	47	47	46	49	49	50	50	50	51	53	51	53	50	49	45	48	46	52	50	53	48
February .....	53	50	49	51	52	53	47	50	48	50	47	48	48	54	48	50	49	53	51	55	53	56	52	48	50	55	55	54	--	--	--	51
March .....	54	59	58	57	54	56	53	58	55	54	55	52	53	55	55	55	55	59	58	62	59	60	54	56	56	55	56	55	58	56	61	56
April .....	56	56	54	59	57	54	55	54	53	52	49	53	53	55	56	57	55	61	60	59	65	62	58	64	62	68	65	68	64	68	--	58
May .....	62	65	62	62	57	61	60	61	58	64	70	68	64	68	62	70	64	67	61	65	60	65	60	70	66	65	65	67	67	64	67	64
June .....	63	62	62	70	64	66	62	60	67	67	67	70	62	62	67	64	66	63	68	66	64	68	67	65	62	63	60	69	70	65	--	65
July .....	67	74	73	67	65	71	68	72	68	67	63	71	72	74	70	76	70	73	69	73	70	73	70	75	70	71	71	72	70	--	73	71
August .....	--	76	69	68	74	72	74	72	73	72	69	70	72	76	73	73	70	72	72	72	72	70	73	75	75	74	75	74	74	74	72	73
September .....	65	70	69	70	67	71	70	71	71	69	68	72	70	66	63	69	66	59	65	59	65	60	62	63	65	65	62	--	68	64	--	66

## ALAMEDA CREEK BASIN--Continued

11-1790. ALAMEDA CREEK NEAR NILES, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	26	50	3.5	45	127	15	32	64	5.5
2..	22	44	2.6	36	119	12	34	58	5.3
3..	27	56	4.1	11	72	2.1	32	51	4.4
4..	27	50	3.6	5.6	44	.7	17	39	1.8
5..	26	57	4.0	3.9	36	.4	9.1	26	.6
6..	29	53	4.1	3.3	27	.2	5.0	17	.2
7..	27	62	4.5	2.7	39	.3	3.7	14	.1
8..	28	51	3.9	2.4	33	.2	3.4	18	.2
9..	28	52	3.9	4.3	42	.5	3.7	16	.2
10..	27	45	3.3	16	48	2.1	3.3	13	.1
11..	18	65	3.2	34	190	B	4.1	15	.2
12..	22	51	3.0	62	415	69	3.9	13	.1
13..	35	83	7.8	54	287	42	3.6	8	.1
14..	34	56	5.1	16	170	7.3	3.8	6	.1
15..	37	70	7.0	8.6	155	3.6	3.9	7	.1
16..	37	69	6.9	8.1	99	2.2	3.4	8	.1
17..	37	72	7.2	13	68	2.4	2.4	9	.1
18..	38	72	7.4	27	49	3.6	2.0	9	T
19..	38	76	7.8	33	76	6.8	3.1	13	.1
20..	37	61	6.1	29	21	1.6	5.3	8	.1
21..	39	68	7.2	37	7	.7	11	2	.1
22..	38	66	6.8	36	6	.6	215	366	S 546
23..	37	52	5.2	34	6	.6	3400	3360	S 32800
24..	38	58	6.0	34	6	.6	2170	1860	S 11200
25..	42	83	9.4	37	7	.7	1030	739	S 2170
26..	37	81	8.1	31	7	.6	606	490	802
27..	33	91	8.1	33	5	.4	794	620	1330
28..	35	94	8.9	32	6	.5	1270	875	3000
29..	48	93	12	32	5	.4	1200	640	2070
30..	48	100	13	31	35	2.9	1100	1090	3240
31..	42	120	14	--	--	--	1030	1030	2860
Total	1037	--	197.7	751.9	--	197.0	13004.7	--	60037.5
	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	549	325	482	72	45	8.7	15	10	0.4
2..	326	200	176	66	90	16	14	17	.6
3..	479	1270	S 1180	59	97	15	15	14	.6
4..	951	1200	3080	54	99	14	13	68	2.4
5..	743	1360	S 3210	89	110	26	13	82	2.9
6..	1640	2850	S 12900	71	109	21	16	75	3.2
7..	2150	1760	S 11300	62	90	15	34	112	10
8..	999	534	S 1510	50	44	5.9	16	102	4.4
9..	511	260	359	44	34	4.0	14	95	3.6
10..	350	142	134	39	22	2.3	14	89	3.4
11..	260	99	69	34	20	1.8	16	80	3.5
12..	198	77	41	31	39	3.3	44	174	S 53
13..	161	65	28	29	82	6.4	105	863	S 271
14..	140	57	22	26	96	6.7	37	260	26
15..	134	118	43	24	64	4.1	28	150	11
16..	105	81	23	23	67	4.2	26	140	9.8
17..	82	63	14	23	73	4.5	24	118	7.6
18..	67	36	6.5	21	80	4.5	22	116	6.9
19..	76	35	7.2	21	102	5.8	20	156	8.4
20..	98	88	23	19	77	4.0	18	142	6.9
21..	72	60	12	17	58	2.7	16	160	6.9
22..	62	40	6.7	17	98	4.5	15	186	7.5
23..	105	238	S 183	17	101	4.6	14	125	4.7
24..	579	1730	2700	15	76	3.1	15	135	5.5
25..	435	432	S 572	16	62	2.7	14	135	5.1
26..	244	150	99	15	35	1.4	14	126	4.8
27..	170	113	52	19	18	.9	28	184	14
28..	134	75	27	17	13	.6	20	95	5.1
29..	112	55	17	--	--	--	16	86	3.7
30..	93	44	11	--	--	--	15	55	2.2
31..	80	37	8.0	--	--	--	26	97	6.8
Total	12105	--	38295.4	990	--	193.7	697	--	501.9

S Computed by subdividing day.

T Less than 0.05 ton.

B Computed from estimated-concentration graph.

## ALAMEDA CREEK BASIN--Continued

11-1790. ALAMEDA CREEK NEAR NILES, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	34	93	8.5	19	75	3.8	48	99	13
2..	31	57	4.4	17	72	3.3	47	97	12
3..	31	51	4.7	15	76	3.1	49	122	16
4..	28	51	3.9	13	64	2.2	37	95	9.5
5..	23	56	3.5	13	77	2.7	29	79	6.2
6..	22	36	2.1	12	60	1.9	49	108	14
7..	21	29	1.6	13	61	2.1	46	117	15
8..	20	40	2.2	13	41	1.4	40	115	12
9..	118	200	113	12	82	2.7	42	103	12
10..	706	1210	2680	11	64	1.9	42	111	13
11..	868	580	1440	14	54	2.0	42	104	12
12..	525	272	386	15	124	5.0	41	114	13
13..	969	478	1280	11	132	3.9	41	121	13
14..	1010	330	900	29	61	4.8	41	130	14
15..	828	210	469	37	42	4.2	41	117	13
16..	739	160	319	35	39	3.7	40	146	16
17..	719	140	272	34	63	5.8	36	127	12
18..	538	115	167	34	74	6.8	36	127	12
19..	392	85	90	35	100	9.5	39	126	13
20..	302	92	75	43	95	11	36	121	12
21..	247	69	46	48	128	17	37	148	15
22..	184	64	32	49	125	17	38	190	19
23..	135	77	28	48	111	14	38	161	17
24..	103	73	20	47	98	12	39	193	20
25..	81	99	22	48	105	14	37	224	22
26..	61	67	11	47	93	12	36	152	15
27..	48	77	10	46	106	13	35	135	13
28..	38	70	7.2	43	98	11	34	130	12
29..	30	63	5.1	47	109	14	34	135	12
30..	23	73	4.5	46	109	14	36	154	15
31..	--	--	--	47	104	13	--	--	--
Total	8877	--	8407.7	941	--	232.8	1186	--	412.7
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	36	219	21	42	130	15	43	187	22
2..	34	196	18	35	160	15	36	146	14
3..	35	160	15	36	148	14	31	100	8.4
4..	36	178	17	37	159	16	37	114	11
5..	37	157	16	36	206	20	44	117	14
6..	36	142	14	39	223	23	44	85	10
7..	36	153	15	39	252	27	44	88	10
8..	35	138	13	41	223	25	47	95	12
9..	33	131	12	41	158	17	44	76	9.0
10..	36	127	12	40	185	20	45	86	10
11..	35	135	13	41	200	22	44	88	10
12..	33	114	10	37	186	19	44	70	8.3
13..	35	109	10	34	197	18	44	61	7.2
14..	36	113	11	34	178	16	38	132	14
15..	36	104	10	41	144	16	33	164	15
16..	34	110	10	41	157	17	30	83	6.7
17..	35	117	11	41	165	18	30	103	8.3
18..	37	118	12	41	185	20	33	98	8.7
19..	36	96	9.3	42	200	23	38	60	6.2
20..	36	107	10	41	175	19	41	73	8.1
21..	35	116	11	42	129	15	42	187	21
22..	37	165	16	42	103	12	42	134	15
23..	39	127	13	42	105	12	43	112	13
24..	40	155	17	42	153	17	44	70	8.3
25..	40	148	16	41	151	17	44	78	9.3
26..	26	123	8.6	42	153	17	49	98	13
27..	35	137	13	43	152	18	44	71	8.4
28..	40	147	16	40	142	15	44	53	6.3
29..	41	141	16	44	120	14	37	44	4.4
30..	41	132	15	43	76	8.8	41	73	8.1
31..	35	162	15	43	134	16	--	--	--
Total	1116	--	415.9	1243	--	541.8	1220	--	319.7

Total discharge for year (cfs-days)..... 43,168.6  
 Total load for year (tons)..... 109,753.8

S Computed by subdividing day.

B Computed from estimated-concentration graph.

## ALAMEDA CREEK BASIN--Continued

11-1790. ALAMEDA CREEK NEAR NILES, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

F, pipet; S, sieve; v, visual accumulation tube; w, in distilled water)																		
Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Dec. 23, 1964.....	1145	59		3900	3770		40	48	66	80	90	97	100					VPWC
Dec. 24.....	1400	58		2490	1750		44	57	65	80	91	97	100					SPWC
Dec. 27.....	1145	59		788	586		--	--	--	--	--	98	100					S
Dec. 31.....	1145	45		1160	1100		--	--	--	--	--	99	100					S
Jan. 24, 1965.....	1145	50		484	1700		71	83	90	95	99	100	--					SPWC
Mar. 13.....	1145	52		93	884		--	--	--	--	--	100	--					S
Apr. 9.....	1410	53		110	148		--	--	--	--	--	99	100					S
June 15.....	1330	67		41	110		--	--	--	--	--	100	--					S
July 22.....	1415	73		38	182		--	--	--	--	--	99	100					S
Sept. 17.....	1500	66		28	114		--	--	--	--	--	99	100					S

BUENA VISTA LAKE BASIN

11-1855. KERN RIVER CANAL NO. 3 NEAR KERNVILLE, CALIF.

LOCATION.--Temperature recorder located at gaging station 4 miles downstream from intake, and 12 miles north of Kernville, Kern County.

RECORDS AVAILABLE.--Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 65°F Aug. 9-11; minimum, freezing point Nov. 19, 20.

EXTREMES, 1962-65.--Water temperatures: Maximum, 71°F July 24-26, 30, 31, Aug. 10-13, 1964; minimum, freezing point on several days during December 1963, Nov. 19, 20, 1964.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	61	60	60	60	60	61	61	62	62	59	58	58	58	58	56	56	57	57	57	55	54	53	53	52	52	51	49	50	50	51	50	56	
Minimum ....	54	59	57	57	58	58	59	59	56	55	53	54	54	54	52	53	54	57	52	53	51	51	51	52	51	49	45	48	51	49	49	53	
November																																	
Maximum ....	49	48	48	46	46	46	45	46	46	45	43	41	43	40	40	37	37	37	36	35	35	36	37	37	38	39	40	40	40	40	--	41	
Minimum ....	47	45	44	46	44	42	43	44	45	40	39	39	36	35	33	33	35	34	32	32	33	34	36	35	37	38	37	36	38	38	--	38	
December																																	
Maximum ....	40	40	42	42	41	41	41	41	41	41	41	41	42	42	40	41	40	40	40	40	40	41	45	44	44	43	43	42	40	40	39	41	
Minimum ....	38	39	40	36	37	36	36	36	37	37	39	40	38	36	35	35	35	36	36	37	39	40	41	43	43	43	42	38	36	38	37	38	
January																																	
Maximum ....	40	39	38	39	40	40	40	40	39	39	39	39	39	39	39	40	40	41	41	42	42	42	43	41	40	39	39	39	39	39	40	40	
Minimum ....	37	37	37	38	39	40	39	36	37	38	38	38	37	37	39	39	40	40	41	41	41	42	42	42	39	36	36	37	37	37	39	39	
February																																	
Maximum ....	40	40	40	41	41	41	41	41	40	40	40	38	37	37	38	38	39	40	41	41	41	42	42	42	42	42	43	43	43	--	--	40	
Minimum ....	39	39	40	40	40	41	39	37	37	36	34	34	35	35	34	34	37	38	39	40	40	40	40	39	40	41	43	42	--	--	--	38	
March																																	
Maximum ....	44	44	43	43	43	43	43	43	43	42	42	42	42	41	41	43	44	45	45	44	45	46	46	45	44	44	44	45	44	44	44	44	
Minimum ....	42	41	41	41	41	41	41	40	39	40	42	40	38	39	39	39	41	42	42	42	41	42	43	44	43	41	42	43	42	42	42	41	
April																																	
Maximum ....	44	42	43	42	44	44	43	43	40	39	36	39	40	43	44	45	45	46	49	49	49	49	49	49	50	50	50	49	49	49	--	45	
Minimum ....	42	40	41	40	41	42	41	38	34	33	34	35	38	39	41	42	43	43	46	46	46	46	46	44	44	46	47	47	47	46	46	--	42
May																																	
Maximum ....	49	47	46	46	45	45	44	44	44	44	44	45	45	48	49	50	52	52	50	52	50	48	48	47	47	48	50	49	50	50	50	48	
Minimum ....	46	44	43	41	43	42	41	41	42	42	43	43	45	46	46	48	49	46	48	47	46	44	45	45	45	46	47	48	48	48	48	45	
June																																	
Maximum ....	50	49	48	51	51	51	51	51	50	53	53	53	52	51	51	50	50	51	52	52	53	53	52	52	53	52	52	53	54	54	--	52	
Minimum ....	48	46	47	48	50	50	48	47	44	49	51	51	49	49	48	48	46	48	51	51	52	52	51	50	51	49	49	51	52	52	--	49	
July																																	
Maximum ....	54	55	55	55	56	56	50	58	58	58	57	57	57	57	57	58	58	59	59	59	59	58	59	59	60	60	60	58	62	60	63	58	
Minimum ....	52	52	53	54	54	55	55	56	56	56	55	54	54	56	56	57	57	56	57	57	57	56	54	55	57	56	57	56	54	56	59	56	
August																																	
Maximum ....	64	64	63	62	62	63	63	63	65	65	65	63	62	62	62	62	61	60	61	60	61	61	61	60	61	61	61	--	--	--	--	62	
Minimum ....	61	61	60	59	58	59	59	59	60	62	62	61	60	60	60	59	57	57	57	57	57	56	57	56	57	56	56	--	--	--	--	59	
September																																	
Maximum ....	--	--	61	61	60	60	60	59	59	58	59	58	58	57	57	58	58	57	56	55	54	55	56	57	57	57	56	56	57	--	--	58	
Minimum ....	--	--	58	58	57	57	56	54	55	55	54	53	54	52	53	55	56	53	50	49	50	51	52	54	54	55	53	52	51	49	--	54	

BUENA VISTA LAKE BASIN--Continued

11-1860. KERN RIVER NEAR KERNVILLE, CALIF.

LOCATION.--At gaging station 3 miles upstream from Salmon Creek, and 15 miles north of Kernville, Kern County.

DRAINAGE AREA.--848 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1955 to July 1963.

Water temperatures: June 1961 to September 1963, October 1964 to September 1965.

EXTREMES, 1961-64.--Water temperatures: Maximum (1961-62, 1963-64), 84.F June 25, July 11, 1961; minimum, 33°F Jan. 15, 16, 1962, on several days during January 1963.

REMARKS.--Recorder probe buried in sand for period Dec. 23 to Sept. 30.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Jan. 11, 1965....	52	--	--	--	--	11	--	56	0	--	3.8	--	--	0.0	--	--	--	34	0	0.8	119	7.8
May 7.....	572	16	--	7.6	0.4	5.6	0.8	31	0	5.0	1.6	--	0.3	.1	54	0.07	--	20	0	.5	66	7.1
July 12.....	776	--	--	--	--	3.9	--	18	0	--	1.1	--	--	.0	--	--	--	12	0	.5	49	7.6
Sept. 7.....	68	14	--	10	1.7	9.1	1.2	47	0	7.0	3.2	--	3.0	.0	68	.09	--	32	0	.7	104	7.6

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	64	64	64	64	64	65	67	66	62	61	61	61	60	59	59	59	59	59	58	57	56	55	55	54	52	50	50	55	54	53	52	58
Minimum ....	58	57	58	58	58	59	61	61	56	55	55	55	56	56	54	54	55	55	57	52	51	51	51	51	49	47	46	49	53	49	48	54
November																																
Maximum ....	50	50	49	49	47	46	48	48	48	46	42	44	44	40	38	38	38	39	38	39	39	40	41	41	44	44	42	42	43	43	--	43
Minimum ....	49	48	46	46	45	45	44	45	46	42	42	42	40	36	36	36	37	36	36	36	36	38	38	39	40	42	40	40	40	40	--	41
December																																
Maximum ....	43	42	43	41	41	40	39	39	40	40	42	42	41	38	37	37	37	36	36	37	41	43	--	--	--	--	--	--	--	--	--	--
Minimum ....	41	42	41	39	39	38	38	37	38	38	40	41	38	36	36	35	35	36	36	36	37	41	--	--	--	--	--	--	--	--	--	--

BUENA VISTA LAKE BASIN--Continued

11-1870. KERN RIVER AT KERNVILLE, CALIF.

LOCATION.--Temperature recorder at gaging station 300 feet downstream from highway bridge at new town of Kernville, Kern County, 1.1 miles upstream from Isabella Dam, and 41 miles northeast of Bakersfield.

DRAINAGE AREA.--1,009 square miles.

RECORDS AVAILABLE.--Water temperatures: June 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 71°F Aug. 1; minimum, 34°F Jan. 1.

EXTREMES, 1962-65.--Water temperatures: Maximum (1962-63, 1964-65), 71°F Aug. 1, 1965; minimum, 34°F Jan. 13, 14, 1963, Jan. 1, 1965.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	65	66	67	67	67	67	69	69	66	64	64	64	62	64	63	63	63	63	62	62	60	60	60	60	58	57	55	58	58	56	54	62	
Minimum .....	59	60	60	61	61	62	63	63	60	59	58	59	59	59	58	58	58	58	57	56	55	56	55	55	54	52	51	54	56	52	51	57	
November																																	
Maximum .....	54	52	52	52	51	50	50	52	51	49	46	47	47	43	41	40	41	41	40	40	41	43	44	44	45	46	46	45	46	46	--	46	
Minimum .....	52	49	49	49	49	49	49	49	49	46	44	45	43	39	38	38	40	39	38	38	38	40	41	42	42	44	44	42	43	43	--	44	
December																																	
Maximum .....	47	47	46	45	44	44	43	43	44	44	46	47	45	42	41	41	40	40	41	43	45	47	52	48	47	45	46	44	39	39	39	44	
Minimum .....	44	46	44	42	42	42	41	40	41	42	43	44	41	39	38	38	38	38	40	40	42	44	47	46	43	43	44	39	36	37	37	41	
January																																	
Maximum .....	37	36	38	41	44	44	45	41	40	41	42	42	42	41	43	45	45	46	46	47	47	47	46	46	42	40	41	42	43	45	45	43	
Minimum .....	34	35	36	38	41	43	41	36	37	38	39	39	38	38	40	43	43	43	43	44	44	43	42	42	37	37	38	39	40	41	42	40	
February																																	
Maximum .....	45	45	46	46	46	46	45	44	42	41	40	40	41	42	42	43	44	46	46	46	46	46	45	45	46	48	48	47	--	--	--	45	
Minimum .....	42	42	42	43	44	45	42	40	41	38	37	36	37	39	39	38	40	41	42	43	43	42	43	40	41	43	46	44	--	--	--	41	
March																																	
Maximum .....	47	47	47	47	48	48	47	46	46	48	48	46	47	47	47	49	50	51	50	51	51	52	52	51	50	49	48	51	51	51	51	49	
Minimum .....	43	43	43	44	44	45	44	42	42	42	46	45	41	43	43	43	45	46	45	46	46	47	48	47	44	46	47	44	46	47	48	45	
April																																	
Maximum .....	48	47	47	47	51	51	49	49	45	42	42	46	48	50	52	52	52	54	56	56	56	56	54	56	56	56	56	55	54	55	--	51	
Minimum .....	47	44	45	45	46	48	46	45	40	38	40	41	42	44	44	46	48	50	50	50	50	51	48	49	50	51	51	50	50	50	--	46	
May																																	
Maximum .....	54	53	50	50	52	50	50	51	52	52	52	52	55	56	57	58	58	59	56	54	54	52	53	53	54	54	56	56	56	55	55	54	
Minimum .....	50	48	46	44	46	45	45	45	46	46	47	47	48	50	50	52	54	53	53	52	50	49	48	48	48	50	50	51	52	52	52	49	
June																																	
Maximum .....	56	54	53	57	58	57	56	54	54	57	58	58	56	55	55	53	55	57	59	59	58	60	58	58	60	57	58	60	60	60	--	57	
Minimum .....	53	50	50	51	54	54	53	50	48	52	54	55	53	52	52	50	48	51	54	54	55	55	53	52	55	52	51	54	54	55	--	52	
July																																	
Maximum .....	60	60	61	62	62	62	63	64	63	64	63	62	63	64	62	65	64	64	65	65	66	65	66	65	66	65	66	65	66	66	70	64	
Minimum .....	54	54	55	56	56	57	58	58	58	57	56	55	56	58	60	60	61	59	60	60	56	58	60	61	61	61	60	58	61	64	64	58	
August																																	
Maximum .....	71	70	68	68	68	68	67	68	69	69	69	68	68	68	68	66	66	65	66	65	65	65	66	66	66	67	65	65	66	67	67	67	
Minimum .....	65	64	63	62	62	62	62	63	64	65	66	65	63	63	63	63	61	60	60	60	60	60	60	61	61	61	60	61	61	62	63	62	
September																																	
Maximum .....	67	67	66	66	65	65	66	64	64	64	64	64	64	63	64	64	65	65	63	61	59	59	61	62	64	64	64	63	61	60	59	--	63
Minimum .....	63	62	62	63	61	61	62	60	60	60	60	58	59	58	58	60	62	59	56	55	55	55	57	58	59	59	58	56	55	54	--	59	



BUENA VISTA LAKE BASIN--Continued

11-1875. BOREL CANAL BELOW ISABELLA DAM, CALIF.

LOCATION.--Temperature recorder at gaging station 500 feet downstream from Isabella Dam, Kern County, and 3 miles upstream from point where canal crosses Erskine Creek.

RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 76°F Aug. 18; minimum, 37°F Nov. 20.

EXTREMES, 1958-65.--Water temperatures: Maximum, 80°F July 31-Aug. 1, 1959; minimum, 33°F Jan. 17, 18, 1960.

REMARKS.--No record Aug. 3-5; temperature bulb out of water.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	70	71	71	69	70	72	72	68	70	69	70	70	68	68	67	66	67	68	69	68	68	68	68	66	66	66	65	65	64	64	63	68	
Minimum .....	66	67	67	67	68	68	68	67	66	66	67	67	67	66	66	66	65	65	66	66	66	66	65	65	64	63	63	64	63	62	62	66	
November																																	
Maximum .....	63	62	61	55	54	53	52	54	54	50	47	47	46	43	41	40	40	42	41	42	43	44	45	45	46	47	47	46	47	47	--	48	
Minimum .....	62	61	55	49	49	48	48	48	50	47	44	45	43	40	39	38	38	39	38	37	38	40	40	42	42	44	44	42	43	44	--	45	
December																																	
Maximum .....	48	47	46	45	45	44	44	43	45	45	46	46	45	43	42	42	41	41	41	43	45	48	50	50	47	45	49	49	48	48	47	45	
Minimum .....	44	45	44	42	42	42	41	40	40	42	43	45	41	39	38	38	38	38	39	40	42	43	47	46	44	43	43	48	47	47	46	42	
January																																	
Maximum .....	46	45	45	46	47	47	47	44	44	44	45	45	45	46	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	47	47	46	
Minimum .....	45	45	45	45	46	46	44	43	43	44	44	45	45	45	45	45	46	46	46	46	45	45	46	46	46	46	46	46	46	46	47	45	
February																																	
Maximum .....	47	48	47	49	48	47	46	46	46	46	47	47	47	46	47	47	47	47	48	48	49	48	48	50	50	50	49	48	--	--	--	48	
Minimum .....	45	46	47	47	47	46	46	46	46	46	46	46	46	46	46	46	47	47	47	47	47	47	48	49	48	48	49	48	--	--	--	47	
March																																	
Maximum .....	50	50	51	51	52	51	51	51	52	51	50	50	51	51	51	51	51	51	54	55	56	52	52	52	51	51	51	51	51	55	54	53	52
Minimum .....	48	49	50	51	51	50	51	50	50	50	50	50	49	51	51	50	50	50	51	52	52	52	52	51	51	51	51	51	51	53	53	51	
April																																	
Maximum .....	53	52	52	52	52	52	52	52	52	51	50	51	51	53	53	51	50	50	53	55	52	52	56	56	58	59	63	66	65	65	--	54	
Minimum .....	52	52	52	52	52	52	52	52	51	50	49	50	50	50	51	49	50	49	50	51	51	51	51	53	53	57	58	60	60	59	--	52	
May																																	
Maximum .....	59	56	56	56	56	56	55	57	57	58	59	60	59	55	59	60	58	59	58	58	59	59	59	59	59	60	62	64	64	65	62	61	59
Minimum .....	56	56	56	56	56	55	55	55	56	56	57	58	55	55	55	58	57	58	58	58	58	58	59	59	59	59	60	62	64	64	65	61	57
June																																	
Maximum .....	59	59	61	61	63	61	61	60	60	62	60	60	60	60	60	61	61	62	62	64	64	64	65	65	61	61	63	64	65	65	--	62	
Minimum .....	58	58	59	59	59	60	59	59	59	59	60	59	59	60	60	60	61	61	62	62	63	63	63	61	61	61	61	63	64	65	--	61	
July																																	
Maximum .....	65	66	66	66	68	67	67	66	67	65	64	68	68	68	70	71	69	69	70	68	70	71	72	71	74	70	72	71	72	70	70	69	
Minimum .....	63	63	65	64	64	66	65	64	65	63	63	63	67	68	68	69	69	68	68	68	68	67	68	70	69	69	69	67	69	68	69	70	67
August																																	
Maximum .....	71	71	--	--	--	73	74	73	72	74	75	74	74	74	74	72	75	76	75	73	72	71	71	72	72	73	72	71	72	72	72	73	
Minimum .....	69	69	--	--	--	71	72	72	72	72	74	72	71	72	72	72	73	74	72	71	70	70	71	70	70	70	71	71	71	71	72	71	71
September																																	
Maximum .....	71	71	71	71	71	71	70	70	70	70	70	70	70	70	69	69	68	68	68	68	68	68	68	69	69	68	67	67	66	67	68	--	69
Minimum .....	71	70	70	70	70	70	70	69	69	69	69	69	69	69	68	68	68	67	67	67	67	67	67	67	67	67	66	66	66	66	--	68	

BUENA VISTA LAKE BASIN--Continued

11-1940. KERN RIVER NEAR BAKERSFIELD, CALIF.

LOCATION.--At gaging station at Kern County Land Co. diversion weir, approximately 2 miles east of Oil City, and 5 miles northeast of Bakersfield, Kern County.

DRAINAGE AREA.--2,407 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Cal- cium (Ca)	Mag- ne- sium (Mg)	Sodium (Na)	Po- tas- sium (K)	Bi- car- bon- ate (HCO <sub>3</sub> )	Car- bon- ate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluo- ride (F)	Ni- trate (NO <sub>3</sub> )	Bo- ron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		So- dium ad- sorp- tion ratio	Specific con- duct- ance (micro- mhos at 25°C)	pH
															Parts per million	Tons per acre- foot	Tons per day	Cal- cium, Mag- ne- sium	Non- car- bon- ate			
Oct. 27, 1964...	132	--	--	--	--	16	--	82	0	--	6.2	--	--	0.2	--	--	--	54	0	1.0	183	7.9
Nov. 2.....	202	--	--	--	--	17	--	82	0	--	6.4	--	--	.3	--	--	--	50	0	1.0	177	7.3
Dec. 1.....	236	--	--	--	--	21	--	86	0	--	8.8	--	--	.2	--	--	--	65	0	1.1	229	7.5
Jan. 4, 1965...	619	--	--	--	--	14	--	76	0	--	5.7	--	--	.1	--	--	--	50	0	.9	170	8.1
Feb. 1.....	569	--	--	--	--	14	--	73	0	--	5.1	--	--	.1	--	--	--	48	0	.9	161	7.3
Mar. 2.....	755	--	--	--	--	14	--	68	0	--	4.9	--	--	.1	--	--	--	46	0	.9	154	8.0
	597	--	--	--	--		--															
Apr. 6.....	597	--	--	--	--	14	--	74	0	--	4.4	--	--	.2	--	--	--	48	0	.9	160	8.0
May 4.....	1079	14	--	14	1.9	13	1.7	65	1	10	4.2	--	1.2	.1	95	0.13	--	43	0	.9	146	8.3
June 1.....	1089	--	--	--	--	9.1	--	46	0	--	3.3	--	--	.1	--	--	--	31	0	.7	103	8.0
July 6.....	1631	--	--	--	--	7.5	--	38	0	--	2.8	--	--	.0	--	--	--	27	0	.6	91	7.7
Aug. 3.....	1357	--	--	--	--	7.0	--	38	0	--	2.6	--	--	.0	--	--	--	25	0	.6	86	7.9
Sept. 1.....	1026	12	--	10	7	7.2	1.6	41	0	6.0	2.6	--	2.0	.0	64	.09	--	28	0	.6	91	7.7

## MISCELLANEOUS ANALYSES OF STREAMS IN BUENA VISTA LAKE BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
11-1910. KERN RIVER BELOW ISABELLA DAM, CALIF.																						
Jan. 11, 1965.....	3	--	--	--	--	13	--	69	0	--	5.1	--	0.1	--	--	--	--	44	0	0.9	150	7.6
May 7.....	365	14	--	12	1.9	11	1.4	58	0	10	3.9	--	1.6	.1	86	0.12	--	38	0	.8	127	8.1
June 12.....	1080	--	--	--	--	6.8	--	34	0	--	2.2	--	--	.0	--	--	--	24	0	.6	80	7.5
Sept. 7.....	346	12	--	9.0	.9	7.1	1.4	39	0	5.0	2.2	--	2.4	.1	64	.09	--	26	0	.6	87	8.0

## TULARE LAKE BASIN

11-2032. TULE RIVER NEAR SPRINGVILLE, CALIF.

LOCATION.--At gaging station 15 feet upstream from highway bridge, 2 miles southwest of Springville, Tulare County, and 4 miles downstream from North Fork.

DRAINAGE AREA.--225 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1963 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	2.0	--	--	--	--	28	--	256	0	--	17	--	--	0.2	--	--	--	175	0	0.9	452	8.1
Nov. 3.....	21	--	--	--	--	25	--	253	0	--	12	--	--	.4	--	--	--	174	0	.8	431	8.1
Dec. 7.....	46	--	--	--	--	17	--	202	0	--	9.4	--	--	.2	221	0.30	--	144	0	.6	346	8.0
Jan. 5, 1965.....	413	--	--	--	--	9.0	--	72	0	--	3.2	--	--	.0	--	--	--	51	0	.5	141	7.7
Mar. 2.....	126	--	--	--	--	9.4	--	112	0	--	4.3	--	--	.0	--	--	--	79	0	.5	196	8.1
Apr. 6.....	208	--	--	--	--	9.3	--	92	0	--	3.2	--	--	.1	--	--	--	64	0	.5	166	8.1
May 3.....	386	19	--	14	1.1	5.4	0.9	58	0	1.0	1.9	--	0.4	.0	A 73	.10	--	40	0	.4	104	7.1
June 7.....	271	--	--	--	--	5.5	--	61	0	--	2.2	--	--	.0	--	--	--	44	0	.4	113	8.1
July 12.....	46	--	--	--	--	11	--	152	0	--	5.7	--	--	.0	--	--	--	110	0	.5	261	8.0
Aug. 3.....	24	--	--	--	--	16	--	195	0	--	7.9	--	--	.1	--	--	--	135	0	.6	323	7.7
Sept. 13.....	12	31	--	52	7.9	22	3.6	229	3	5.0	10	--	2.7	.2	249	.34	--	162	0	.8	389	8.3

A Calculated from sum of determined constituents.

## TULARE LAKE BASIN--Continued

11-2049. TULE RIVER BELOW SUCCESS DAM, CALIF.

LOCATION.--At gaging station 1,000 feet downstream from Success Dam, Tulare County, and 5 miles east of Porterville.

DRAINAGE AREA.--393 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1961 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	24	---	---	---	---	14	---	143	0	---	5.5	---	---	0.1	154	0.21	---	102	0	0.6	254	8.0
Nov. 3.....	5	---	---	---	---	21	---	218	0	---	7.7	---	---	.1	226	.31	---	148	0	.7	368	8.2
Dec. 7.....	65	---	---	---	---	16	---	156	0	---	8.0	---	---	.2	188	.26	---	110	0	.7	286	7.8
Jan. 5, 1965.....	522	---	---	---	---	10	---	95	0	---	4.5	---	---	.0	125	.17	---	67	0	.5	179	8.2
Feb. 1.....	109	---	---	---	---	8.7	---	86	0	---	4.2	---	---	.0	111	.15	---	62	0	.5	161	8.2
Mar. 2.....	47	---	---	---	---	9.6	---	96	0	---	4.8	---	---	.0	119	.16	---	70	0	.5	180	7.9
Apr. 6.....	1.9	---	---	---	---	16	---	182	2	---	6.2	---	---	.1	197	.27	---	131	0	.6	314	8.3
May 3.....	98	23	---	26	1.7	10	1.6	101	0	4.0	4.1	---	1.8	.1	130	.18	---	72	0	.5	186	7.5
June 7.....	137	---	---	---	---	9.7	---	93	1	---	4.4	---	---	.0	119	.16	---	69	0	.5	176	8.3
July 12.....	306	---	---	---	---	8.3	---	86	0	---	3.8	---	---	.0	109	.15	---	63	0	.5	162	8.1
Aug. 3.....	378	---	---	---	---	7.4	---	82	2	---	3.4	---	---	.1	120	.16	---	59	0	.4	152	8.5
Sept. 13.....	30	24	---	23	3.5	8.5	2.5	97	0	5.0	3.5	---	5.5	.0	128	.17	---	72	0	.4	182	7.5

## TULARE LAKE BASIN--Continued

11-2080. MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CALIF.

LOCATION.--Temperature recorder at gaging station 0.1 mile north of Potwisha Camp, Tulare County, and 0.3 mile upstream from confluence with Middle Fork Kaweah River.

DRAINAGE AREA.--51.4 square miles.

RECORDS AVAILABLE.--Water temperatures: January 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 71°F Aug. 14; minimum, 34°F Jan. 1.

EXTREMES, 1962-65.--Water temperatures: Maximum, 74°F July 30, 1964; minimum (1963-65), 34°F Jan. 1, 1965.

REMARKS.--Clock stopped Nov. 14-28.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	62	62	63	63	64	64	65	64	64	63	62	62	62	60	60	60	60	60	60	59	59	59	59	58	57	56	56	58	58	56	54	60
Minimum ....	59	59	59	61	61	61	63	63	61	60	60	60	60	59	58	58	59	58	58	58	58	57	57	57	56	54	54	56	56	53	52	58
November																																
Maximum ....	54	52	51	52	53	52	52	53	53	52	48	48	46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	46	--	--
Minimum ....	52	50	50	50	52	52	51	52	51	48	47	46	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	44	--	--
December																																
Maximum ....	46	47	46	45	45	44	44	44	44	44	45	45	44	42	42	42	41	41	41	41	43	43	44	41	43	42	43	40	37	36	37	43
Minimum ....	46	46	45	43	44	43	43	44	44	44	44	44	42	42	42	41	41	41	41	43	43	44	41	43	42	43	40	37	36	37	36	42
January																																
Maximum ....	36	38	40	41	42	42	42	39	41	42	42	42	42	42	43	44	45	46	45	44	44	45	45	45	39	40	42	42	44	45	44	42
Minimum ....	34	36	38	40	41	42	38	36	39	40	41	40	40	40	41	42	43	44	44	44	44	44	42	39	37	38	39	40	40	43	43	40
February																																
Maximum ....	44	45	45	45	45	45	42	42	41	39	39	40	41	41	42	43	44	45	45	45	46	44	44	44	43	43	43	42	--	--	--	43
Minimum ....	42	43	43	43	44	42	40	39	39	36	37	37	38	39	39	40	40	41	42	43	43	42	41	41	41	39	43	39	--	--	--	41
March																																
Maximum ....	43	43	43	43	42	42	42	42	44	42	42	42	41	44	43	44	42	41	44	45	45	46	44	43	42	44	42	44	46	45	44	43
Minimum ....	39	39	39	40	39	41	35	39	40	40	42	39	38	39	40	41	41	40	42	41	42	42	42	42	40	41	42	41	41	42	43	41
April																																
Maximum ....	43	41	41	42	43	43	42	41	40	38	39	40	42	46	48	47	46	49	51	48	50	49	49	51	52	51	52	52	52	52	--	46
Minimum ....	41	40	39	40	42	42	41	40	38	36	37	38	40	40	42	43	43	44	45	44	44	46	42	45	45	46	46	46	46	46	--	42
May																																
Maximum ....	51	47	44	45	45	44	42	46	47	47	47	48	51	49	52	54	54	54	54	52	49	45	46	47	50	52	53	54	54	54	53	49
Minimum ....	47	43	42	41	42	41	39	41	44	44	45	45	46	45	46	47	47	47	47	45	45	43	44	44	44	46	46	47	47	47	47	45
June																																
Maximum ....	52	51	52	56	57	56	56	52	54	57	59	56	55	53	50	50	53	55	57	58	57	58	56	58	57	52	56	57	59	58	--	55
Minimum ....	46	46	46	48	49	49	48	47	46	47	49	50	47	46	46	47	47	49	50	51	51	52	51	51	51	47	49	51	52	53	--	49
July																																
Maximum ....	59	60	61	61	62	63	62	62	61	60	60	60	62	62	63	66	63	64	65	63	62	63	63	61	64	63	63	62	62	62	67	62
Minimum ....	52	53	55	54	57	57	58	58	56	57	56	56	57	58	61	62	60	61	62	60	57	57	57	58	59	59	57	56	58	61	61	58
August																																
Maximum ....	68	68	66	65	65	66	67	66	67	69	68	68	69	71	65	62	60	60	62	62	62	60	61	63	63	62	62	63	64	64	65	65
Minimum ....	63	63	61	59	60	61	61	60	61	63	65	65	65	51	49	56	58	57	59	60	60	59	60	60	60	61	61	61	62	63	63	60
September																														</		

## TULARE LAKE BASIN--Continued

11-2099. KAWEAH RIVER AT THREE RIVERS, CALIF.

LOCATION.--At gaging station opposite schoolhouse in Three Rivers, Tulare County, and 0.25 mile downstream from North Fork Kaweah River.

DRAINAGE AREA.--418 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1963 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	26	--		--	--	9.0	--	71	0	--	8.7		--	0.0	--	--		55	0	0.5	155	7.2
Nov. 12.....	468	--		--	--	7.0	--	54	0	--	4.4		--	0	--	--		41	0	.5	114	7.2
Dec. 7.....	115	--		--	--	5.6	--	47	0	--	3.2		--	0	68	0.09		36	0	.4	99	7.9
Jan. 5, 1965.....	1340	--		--	--	4.0	--	33	0	--	1.4		--	0	--	--		26	0	.3	72	7.7
Feb. 8.....	436	--		--	--	4.5	--	38	0	--	1.6		--	0	--	--		30	0	.4	79	7.1
Mar. 2.....	414	--		--	--	5.3	--	38	0	--	1.4		--	0	--	--		29	0	.4	76	7.8
Apr. 6.....	516	--		--	--	4.1	--	38	0	--	1.4		--	.1	--	--		28	0	.3	76	7.2
May 4.....	1250	11		6.2	0.5	2.6	0.8	23	0	2.0	.7		0.6	.1	37	.05		18	0	.3	47	7.6
June 2.....	1800	--		--	--	1.5	--	12	0	--	.4		--	0	--	--		10	0	.2	27	7.3
July 8.....	1010	--		--	--	2.0	--	16	0	--	.6		--	.1	--	--		12	0	.3	32	7.4
Aug. 9.....	156	--		--	--	3.7	--	35	0	--	2.0		--	0	--	--		26	0	.3	71	7.4
Sept. 8.....	100	14		12	1.9	5.8	1.5	50	0	3.0	4.4		.6	0	A 68	.09		38	0	.4	105	7.4

A Calculated from sum of determined constituents.

## TULARE LAKE BASIN--Continued

11-2109.5. KAWEAH RIVER BELOW TERMINUS DAM, CALIF.

LOCATION.--At gaging station 0.6 mile downstream from Terminus Dam, Tulare County, and 2.2 miles northeast of Lemoncove.

DRAINAGE AREA.--561 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1961 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	0.8	---	---	---	---	6.7	---	61	0	---	4.0	---	---	0.0	70	0.10		48	0	0.4	112	7.2
Nov. 12.....	286	---	---	---	---	7.0	---	63	0	---	5.3	---	.2	.79	.11		49	0	.4	133	7.4	
Dec. 7.....	111	---	---	---	---	6.4	---	55	0	---	4.1	---	.1	.75	.10		42	0	.4	116	7.1	
Jan. 5, 1965.....	1170	---	---	---	---	5.1	---	39	0	---	2.2	---	.0	.70	.10		32	0	.4	83	7.9	
Feb. 8.....	495	---	---	---	---	4.6	---	40	0	---	1.7	---	.0	.64	.09		31	0	.4	82	7.0	
Mar. 1.....	438	---	---	---	---	4.1	---	34	0	---	1.4	---	.0	.54	.07		25	0	.4	68	7.4	
Apr. 6.....	263	---	---	---	---	4.0	---	36	0	---	1.3	---	.1	.55	.07		28	0	.3	74	7.0	
May 4.....	977	15	---	8.0	0.9	3.7	0.9	32	0	2.0	1.0	---	0.6	.0	.48	.06	24	0	.3	62	7.9	
June 8.....	1760	---	---	---	---	2.6	---	22	0	---	.9	---	.0	.38	.05		16	0	.3	46	7.6	
July 8.....	1960	---	---	---	---	1.9	---	18	0	---	.8	---	.3	.32	.04		14	0	.2	39	7.3	
Aug. 9.....	868	---	---	---	---	2.5	---	27	0	---	1.1	---	.0	.44	.06		22	0	.2	55	7.5	
Sept. 8.....	154	8.1	---	9.2	.1	3.5	1.5	36	0	2.0	1.6	---	.8	.0	.55	.07	27	0	.3	74	7.0	

A Calculated from sum of determined constituents.



## TULARE LAKE BASIN--Continued

11-2200. BIG CREEK ABOVE PINE FLAT RESERVOIR, CALIF.

LOCATION.--At gaging station 2.4 miles upstream from mouth, and 2.7 miles northeast of Trimmer.

DRAINAGE AREA.--69.9 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1960 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 19, 1964....	0.7	--	--	--	--	14	--	58	0	--	21	--	--	0.0	--	--	--	50	2	0.9	178	8.0
Nov. 9.....	12	--	--	--	--	11	--	45	0	--	11	--	--	.0	--	--	--	36	0	.8	130	7.4
Dec. 14.....	11	--	--	--	--	7.5	--	36	0	--	5.6	--	--	.1	--	--	--	26	0	.7	91	7.1
Jan. 11, 1965....	142	--	--	--	--	5.2	--	34	0	--	2.0	--	--	.0	--	--	--	24	0	.5	74	6.9
Feb. 8.....	90	--	--	--	--	5.7	--	35	0	--	1.9	--	--	.0	--	--	--	22	0	.5	73	7.4
Mar. 8.....	53	--	--	--	--	5.6	--	38	0	--	2.1	--	--	.0	--	--	--	26	0	.5	78	7.6
Apr. 13.....	229	--	--	--	--	5.3	--	40	0	--	1.6	--	--	.0	--	--	--	29	0	.4	81	7.2
May 10.....	83	25	--	6.2	1.7	5.9	0.9	36	0	1.0	1.6	--	2.3	.2	67	0.09	--	22	0	.5	72	7.3
June 14.....	33	--	--	--	--	6.9	--	42	0	--	2.9	--	--	.0	--	--	--	26	0	.6	83	8.2
July 16.....	--	--	--	--	--	8.2	--	44	0	--	4.3	--	--	.0	--	--	--	27	0	.7	93	8.0
Aug. 9.....	5.4	--	--	--	--	9.1	--	52	0	--	6.3	--	--	.0	--	--	--	31	0	.7	109	8.0
Sept. 13.....	2.9	29	--	14	.2	9.4	2.2	54	0	3.0	8.3	--	1.0	.0	94	13	--	36	0	.7	122	7.8

## TULARE LAKE BASIN--Continued

11-2227. KINGS RIVER AT PEOPLES WEIR, NEAR KINGSBURG, CALIF.

LOCATION.--Approximately 0.2 mile downstream from gaging station located on diversion weir, 2 miles south of Kingsburg, Fresno County, and approximately 12 miles northeast of Hanford.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by Kings River Water Association.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....	80	--	--	--	--	7.0	--	46	0	--	1.9	--	--	0.0	--	--	--	36	0	0.5	98	7.4
Nov. 9.....	76	--	--	--	--	11	--	81	0	--	4.9	--	.2	--	--	--	--	56	0	.6	166	7.7
Dec. 14.....	48	--	--	--	--	9.3	--	75	0	--	4.2	--	.0	--	--	--	--	56	0	.5	156	8.0
Jan. 11, 1965....	104	--	--	--	--	9.9	--	83	1	--	5.7	--	.1	--	--	--	--	69	0	.5	182	8.4
Feb. 8.....	604	--	--	--	--	4.5	--	24	0	--	3.1	--	.0	--	--	--	--	19	0	.5	59	7.7
Mar. 8.....	1341	--	--	--	--	3.2	--	22	0	--	1.2	--	.2	--	--	--	--	18	0	.3	51	7.6
Apr. 16.....	175	--	--	--	--	8.3	--	75	0	--	4.6	--	.0	--	--	--	--	60	0	.5	156	7.5
May 10.....	305	12	--	6.8	1.7	5.2	1.2	31	0	4.0	1.6	--	3.3	.2	51	0.07	--	24	0	.5	69	7.1
June 10.....	1750	--	--	--	--	2.8	--	17	0	--	.9	--	.0	--	--	--	--	14	0	.3	40	7.7
July 12.....	1852	--	--	--	--	2.5	--	13	0	--	.8	--	.2	--	--	--	--	10	0	.3	31	7.5
Aug. 9.....	1865	--	--	--	--	1.8	--	13	0	--	.6	--	.0	--	--	--	--	10	0	.2	29	7.4
Sept. 13.....	1537	7.1	--	4.0	.5	2.3	.3	14	0	3.0	1.0	--	.8	.0	32	.04	--	12	1	.3	35	6.9

MISCELLANEOUS ANALYSES OF STREAMS IN TULARE LAKE BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
11-2185. KINGS RIVER BELOW NORTH FORK, CALIF.																						
Jan. 11, 1965....	2080	--	--	--	--	3.6	--	24	0	--	1.1	--	--	0.0	--	--	--	20	0	0.4	57	6.9
May 10.....	3290	11	--	3.6	0.0	2.4	0.3	14	0	0.0	.4	--	2.6	.0	23	0.03	--	9	0	.3	31	7.1
July 16.....	4200	--	--	--	--	1.3	--	8	0	--	.4	--	--	.0	--	--	--	6	0	.2	18	7.2
Aug. 6.....	2140	--	--	--	--	1.8	--	11	0	--	.7	--	--	.0	--	--	--	8	0	.3	27	7.1
Sept. 13.....	2090	11	--	5.2	.2	2.8	.7	19	0	3.0	1.0	--	.0	.0	32	.04	--	14	0	.3	43	7.5
11-2215. KINGS RIVER BELOW PINE FLAT DAM, CALIF.																						
Jan. 11, 1965....	250	--	--	--	--	2.7	--	17	0	--	0.8	--	--	0.0	--	--	--	13	0	0.3	40	6.7
May 10.....	4310	11	--	4.6	0.9	3.0	0.6	20	0	1.0	1.0	--	1.5	.0	36	0.05	--	15	0	.3	44	7.2
July 16.....	6590	--	--	--	--	1.6	--	10	0	--	.4	--	--	.0	--	--	--	8	0	.3	22	7.4
Aug. 6.....	4500	--	--	--	--	1.5	--	9	0	--	.6	--	--	.0	--	--	--	7	0	.3	23	7.2
Sept. 13.....	1580	5.4	--	2.8	.0	1.4	.5	9	0	1.0	.4	--	.2	.0	20	.03	--	7	0	.2	22	7.1

SAN JOAQUIN RIVER BASIN

11-2370. BIG CREEK BELOW HUNTINGTON LAKE, CALIF.

LOCATION.--Temperature recorder at gaging station 1,200 feet upstream from Grouse Creek, and 1 mile downstream from Huntington Lake, Fresno County.

DRAINAGE AREA (revised).--81.1 square miles.

RECORDS AVAILABLE.--Water temperatures: July 1961 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 58°F Oct. 5-8.

EXTREMES, 1961-65.--Water temperatures: Maximum, 62°F Aug. 20-25, 1961, July 22-24, 1963; minimum (1961-63), 33°F on several days during January to March 1962.

REMARKS.--Clock stopped Jan. 1-14; pen left off paper Mar. 1 to Apr. 8.

Temperature (°F) of water, water year October 1964 to September 1965

Month		Day																															Average
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																	
Maximum ....	56	56	57	57	58	58	58	58	56	56	56	56	56	56	55	55	55	55	55	54	54	54	53	53	52	51	51	52	49	49	49	55	
Minimum ....	52	52	53	54	54	54	55	55	53	52	53	53	53	53	53	52	52	52	51	51	51	50	50	50	48	48	51	42	47	47	47	51	
November																																	
Maximum ....	48	47	48	48	48	47	47	48	47	42	42	40	40	40	39	38	38	38	37	37	38	38	38	38	38	38	39	39	39	--	41		
Minimum ....	44	45	46	46	45	45	45	46	41	39	40	39	37	38	38	38	38	37	36	36	36	37	36	37	38	36	37	37	37	--	40		
December																																	
Maximum ....	40	38	37	36	36	36	36	36	37	37	36	36	36	36	36	36	35	35	35	35	34	35	35	37	37	38	38	36	34	35	35	36	
Minimum ....	38	37	36	36	36	35	35	36	36	36	36	36	35	35	35	35	35	35	34	34	34	35	35	37	37	36	34	34	34	34	34	35	
January																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35	35	36	36	36	37	37	38	38	36	35	35	36	37	37	38	38	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35	35	35	36	36	36	37	37	36	34	34	34	36	36	37	37	37	--	
February																																	
Maximum ....	38	38	39	39	38	38	37	37	38	37	36	35	36	37	36	36	37	37	37	38	37	37	37	37	37	37	37	37	--	--	--	37	
Minimum ....	38	37	38	38	38	37	37	37	37	35	35	34	35	35	36	36	36	36	36	36	36	35	35	35	35	36	36	35	--	--	--	36	
March																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
April																																	
Maximum ....	--	--	--	--	--	--	--	--	35	34	34	35	35	37	38	38	38	40	41	40	42	42	42	43	43	44	44	44	44	45	--	--	
Minimum ....	--	--	--	--	--	--	--	--	34	33	33	34	34	35	35	36	36	37	37	38	38	38	37	38	38	38	39	39	39	39	--	--	
May																																	
Maximum ....	45	40	41	43	44	41	40	42	44	45	44	45	46	44	47	48	49	48	48	46	42	40	42	45	47	48	49	50	50	50	45		
Minimum ....	39	38	38	38	38	37	37	38	38	38	39	39	39	39	39	40	40	40	41	41	39	39	39	39	39	40	41	42	42	43	43	39	
June																																	
Maximum ....	45	46	46	51	51	48	51	47	50	51	52	52	51	50	47	46	49	50	52	52	53	52	51	52	51	48	51	52	53	54	--	50	
Minimum ....	43	42	42	42	44	44	43	44	42	44	45	45	44	44	43	44	43	44	44	46	46	46	46	46	46	46	44	45	46	46	47	--	
July																																	
Maximum ....	54	54	55	55	55	55	55	55	55	55	54	54	54	54	52	55	52	56	53	54	54	55	55	55	55	55	55	54	55	54	56	54	
Minimum ....	47	48	48	48	49	49	49	49	49	49	48	48	49	49	50	50	50	50	50	49	48	49	49	50	50	50	50	49	49	52	51	49	
August																																	
Maximum ....	56	56	55	55	56	56	56	55	56	56	55	55	55	55	57	57	56	56	56	56	55	55	55	55	55	55	55	55	55	56	55	56	
Minimum ....	51	51	50	50	50	50	51	51	52	52	53	53	52	53	53	54	52	52	51	51	50	50	50	50	50	50	50	51	51	51	51	51	
September																																	
Maximum ....	55	55	54	54	54	52	52	53	54	55	55	55	55	55	56	55	54	54	53	53	54	54	56	56	56	55	55	54	52	53	54	--	
Minimum ....	51	50	50	50	50	50	50	49	49	50	51	51	51	51	52	52	52	51	50	49	50	50	51	52	52	52	50	50	49	50	--	51	

SAN JOAQUIN RIVER BASIN--Continued

11-2465. WILLOW CREEK AT MOUTH, NEAR AUBERRY, CALIF.

LOCATION.--Temperature recorder at gaging station 40 feet upstream from bridge, 0.4 mile upstream from mouth, 1.3 miles downstream from Whiskey Creek, and 4.3 miles northeast of Auberry, Fresno County.

DRAINAGE AREA.--130 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1960 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 79°F Aug. 10, 16; minimum, 36°F Jan. 1.

EXTREMES, 1960-65.--Water temperatures: Maximum (1960-63, 1964-65), 88°F June 23, 24, 26, 27, 1961; minimum, 36°F Jan. 3, 4, 1961, Jan. 1, 1965.

REMARKS.--No flow Oct. 1-21.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	67	66	64	61	61	58	60	60	58	57	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60	59	59	58	56	56	57	58	54	55	--	
November																																	
Maximum ....	57	56	54	55	55	56	55	57	56	54	50	49	48	44	44	43	43	43	43	42	42	42	45	45	46	48	49	49	47	48	--	49	
Minimum ....	56	52	52	52	52	53	52	54	54	50	48	48	44	42	40	41	41	40	40	40	40	42	44	44	46	48	45	46	46	45	--	47	
December																																	
Maximum ....	49	50	50	47	47	47	46	47	46	46	46	46	44	44	42	42	42	42	42	44	46	47	48	48	49	47	47	47	44	41	42	46	
Minimum ....	47	49	46	44	45	44	45	45	46	46	46	46	44	41	40	41	41	40	41	40	41	44	46	46	47	47	45	46	44	41	39	40	44
January																																	
Maximum ....	39	41	41	43	43	43	43	41	42	43	44	44	43	43	44	45	46	47	47	46	46	47	47	47	41	42	43	43	45	46	47	44	
Minimum ....	36	38	40	41	43	43	40	38	40	41	42	42	40	41	41	43	44	45	45	45	46	45	46	44	41	39	39	41	41	43	44	42	
February																																	
Maximum ....	46	46	46	47	46	46	44	45	44	42	42	43	43	44	45	45	45	46	47	48	49	49	49	47	47	49	49	48	--	--	--	46	
Minimum ....	43	43	43	44	46	44	42	42	42	39	39	39	40	42	42	41	41	42	43	45	45	45	43	42	43	44	48	44	--	--	--	43	
March																																	
Maximum ....	49	48	49	49	49	49	46	46	47	47	47	46	47	47	47	49	49	47	49	49	51	53	53	53	50	48	48	50	50	51	51	51	49
Minimum ....	44	43	44	45	45	45	44	42	43	44	46	43	42	42	44	46	45	46	45	46	47	48	49	46	44	47	48	45	46	48	50	45	
April																																	
Maximum ....	50	49	50	50	48	48	47	46	46	43	44	45	47	51	53	54	52	56	58	56	56	54	54	55	56	57	57	58	58	59	57	--	52
Minimum ....	48	47	46	48	48	47	46	45	43	40	42	42	44	44	45	47	48	49	50	50	50	50	51	48	50	50	51	51	52	52	51	--	48
May																																	
Maximum ....	56	53	51	53	53	50	50	54	54	57	56	58	58	58	60	62	62	62	60	59	57	52	53	57	59	61	62	65	65	65	64	58	
Minimum ....	50	48	45	46	48	44	43	46	48	48	51	50	51	51	52	55	56	55	55	54	52	49	49	49	50	53	54	57	57	58	58	51	
June																																	
Maximum ....	61	58	62	65	66	64	64	59	61	65	68	67	64	63	59	58	62	66	67	68	70	69	69	69	67	63	64	66	68	--	65		
Minimum ....	55	52	54	56	59	58	57	55	56	56	60	62	59	57	57	55	55	57	58	61	63	64	63	63	62	57	56	59	61	62	--	58	
July																																	
Maximum ....	68	69	71	71	72	73	72	72	71	71	69	68	69	71	72	74	74	74	75	74	72	72	73	73	74	73	72	72	72	72	74	72	
Minimum ....	61	62	64	64	66	67	66	65	65	64	63	62	62	65	67	69	70	69	70	68	66	66	67	67	69	69	67	66	67	70	69	66	
August																																	
Maximum ....	76	77	76	75	75	77	77	76	77	79	75	75	76	76	78	79	78	78	77	76	74	74	74	75	73	75	75	75	74	75	75	76	
Minimum ....	70	71	68	68	68	70	70	69	70	72	74	72	72	73	73	73	72	71	71	70	68	66	67	67	67	66	66	66	67	68	68	69	
September																																	
Maximum ....	74	74	74	71	72	68	68	70	72	72	72	72	72	72	73	73	70	70	68	67	68	69	70	72	72	71	66	66	66	66	--	70	
Minimum ....	67	66	66	68	65	66	64	64	65	65	65	65	65	65	66	66	65	64	62	61	60	62	63	64	65	65	65	62	61	60	--	64	

SAN JOAQUIN RIVER BASIN--Continued

11-2470. SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, CALIF.

LOCATION.--Temperature recorder at gaging station 1.1 miles downstream from Kerckhoff powerhouse, Fresno County, 1.4 miles downstream from Big Sandy Creek, and 3.8 miles southeast of Prather.

DRAINAGE AREA (revised).--1,481 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 67°F on several days during October; minimum, 41°F Jan. 8-11.

EXTREMES, 1960-65.--Water temperatures: Maximum, 73°F Aug. 22, 1961; minimum, 38°F several days in January 1961.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	66	66	67	67	66	67	68	67	67	67	67	66	66	66	67	66	66	66	66	65	65	64	63	63	63	62	62	62	61	61	61	61	65
Minimum ....	65	65	65	66	65	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	64	63	63	63	62	62	62	61	61	61	61	64	
November																																	
Maximum ....	61	61	61	61	60	60	59	59	59	59	58	58	58	57	56	55	55	54	53	52	51	51	51	51	51	51	50	50	50	50	--	55	
Minimum ....	61	61	61	60	60	59	59	59	59	58	58	58	54	56	55	55	54	53	52	51	51	49	50	51	51	50	50	50	50	50	--	55	
December																																	
Maximum ....	50	51	50	50	50	49	49	49	49	50	49	49	49	48	48	48	48	48	47	47	47	47	48	48	49	47	47	47	46	47	47	48	
Minimum ....	50	50	49	49	49	49	49	49	49	49	49	49	49	48	48	48	48	47	47	47	47	47	47	48	47	47	47	46	46	46	45	48	
January																																	
Maximum ....	45	43	43	43	42	42	43	42	41	41	42	42	43	42	42	42	42	42	42	42	43	43	43	43	43	43	43	43	43	43	42	43	
Minimum ....	43	43	43	42	42	42	42	41	41	41	41	42	42	42	42	42	42	42	42	42	42	43	43	43	43	43	43	43	43	42	42	42	
February																																	
Maximum ....	42	42	42	43	43	43	43	43	43	43	43	42	42	42	42	42	42	42	42	42	43	43	43	43	44	44	44	45	--	--	--	43	
Minimum ....	42	42	42	42	43	43	43	43	43	42	42	42	42	42	42	42	42	42	42	42	43	43	43	43	44	44	44	44	--	--	--	43	
March																																	
Maximum ....	45	44	44	44	44	44	45	45	45	44	44	44	44	44	44	45	45	45	45	45	45	46	47	47	47	47	47	47	48	47	47	45	
Minimum ....	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	45	45	45	45	45	46	47	47	47	47	47	46	47	47	47	45	
April																																	
Maximum ....	47	47	47	47	47	47	47	47	47	47	47	47	46	46	46	46	46	46	46	47	48	48	48	49	49	49	49	51	51	51	--	48	
Minimum ....	47	47	47	47	47	47	47	47	47	47	47	46	46	46	46	46	45	46	46	47	48	48	48	48	49	49	49	50	50	50	--	47	
May																																	
Maximum ....	51	51	50	50	49	49	48	48	48	48	48	49	49	48	49	50	50	51	51	50	50	50	50	49	49	49	50	52	53	53	53	50	
Minimum ....	50	50	49	49	49	48	48	47	48	48	48	48	48	48	48	49	49	49	49	50	50	49	49	49	49	49	49	49	51	52	52	49	
June																																	
Maximum ....	53	52	52	53	53	53	53	53	53	53	54	54	54	54	54	53	53	53	53	53	53	53	53	54	54	54	53	53	53	54	--	53	
Minimum ....	52	52	52	52	52	52	53	53	53	53	53	53	53	52	53	53	53	52	52	52	52	52	53	53	53	53	53	53	53	53	--	53	
July																																	
Maximum ....	54	54	55	56	56	56	57	57	58	58	57	57	57	56	56	56	57	56	56	56	57	57	57	57	57	57	57	57	57	57	57	57	
Minimum ....	53	54	54	54	55	55	55	55	57	56	56	56	56	55	55	55	55	55	55	56	56	56	56	56	56	56	57	56	57	57	57	56	
August																																	
Maximum ....	57	58	58	58	57	58	58	58	58	58	58	57	58	58	59	59	59	59	59	58	59	59	59	59	59	59	60	60	60	60	59	59	
Minimum ....	57	57	57	57	56	56	56	56	56	56	57	57	57	57	57	58	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	58	
September																																	
Maximum ....	59	59	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	61	61	61	60	61	--	60		
Minimum ....	59	59	59	59	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	--	60	

SAN JOAQUIN RIVER BASIN--Continued

11-2540. SAN JOAQUIN RIVER NEAR MENDOTA, CALIF.

LOCATION.--Approximately 2.5 miles downstream from Mendota Dam, and 4 miles north of Mendota, Fresno County.

DRAINAGE AREA.--4,310 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....		--		--	--	44	--	110	0	--	58		--	0.2	--	--		116	26	1.8	451	8.0
Nov. 9.....		--		--	--	75	--	134	0	--	102		--	.4	--	--		161	51	2.6	686	8.1
Dec. 21.....		--		--	--	81	--	104	4	--	93		--	.4	--	--		148	56	2.9	686	8.4
Jan. 11, 1965....		--		--	--	79	--	119	0	--	72		--	.2	--	--		98	0	3.5	520	7.8
Feb. 8.....		--		--	--	41	--	67	0	--	47		--	.3	--	--		89	34	1.9	393	7.9
Mar. 8.....		--		--	--	38	--	64	0	--	50		--	.2	--	--		82	30	1.8	366	7.9
Apr. 12.....		--		--	--	69	--	100	0	--	94		--	.3	--	--		146	64	2.5	635	8.2
May 13.....		16		16	7.2	27	1.8	62	0	23	38		1.2	.1	166	0.23		70	19	1.4	287	7.6
June 14.....		--		--	--	28	--	56	0	--	40		--	.4	--	--		69	23	1.5	297	7.9
July 12.....		--		--	--	28	--	67	0	--	37		--	.0	--	--		74	19	1.4	291	7.8
Aug. 9.....		--		--	--	29	--	79	0	--	36		--	.1	--	--		84	19	1.3	309	8.2
Sept. 13.....		16		30	10	46	2.6	104	0	41	62		1.5	.1	270	.37		117	32	1.8	462	7.7

SAN JOAQUIN RIVER BASIN--Continued

11-2610. SALT SLOUGH NEAR LOS BANOS, CALIF.

LOCATION.--At gaging station at San Luis Ranch, 600 yards downstream from confluence with Mud Slough, and 7.0 miles north of Los Banos, Merced County.  
RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	65	--	--	--	--	138	--	170	4	136	180	--	--	0.5	--	--	--	246	100	3.8	1180	8.3
Nov. 9.....	102	--	--	--	--	238	--	214	4	310	288	--	--	1.7	--	--	--	380	98	5.3	1950	8.3
Dec. 8.....	92	--	--	--	--	340	--	226	8	440	360	--	--	2.1	--	--	--	468	270	6.8	2340	8.5
Jan. 5, 1965.....	151	--	--	--	--	380	--	248	0	616	418	--	--	2.8	--	--	--	572	369	6.9	2700	8.1
Feb. 2.....	79	--	--	--	--	440	--	256	6	675	524	--	--	4.0	--	--	--	685	465	7.3	3220	8.3
Mar. 2.....	184	--	--	--	--	226	--	156	0	362	235	--	--	1.9	--	--	--	352	224	5.3	1700	8.0
Apr. 6.....	127	--	--	--	--	290	--	216	0	366	355	--	--	1.7	--	--	--	432	255	6.1	2080	7.8
May 4.....	144	17	--	91	33	226	5.2	148	0	372	248	--	5.0	2.1	1150	1.56	--	362	241	5.2	1760	7.5
June 15.....	87	--	--	--	--	120	--	150	0	122	170	--	--	.5	--	--	--	216	93	3.6	1040	8.2
July 13.....	94	--	--	--	--	123	--	156	0	113	177	--	--	.6	--	--	--	222	94	3.6	1040	8.0
Aug. 13.....	94	--	--	--	--	112	--	156	0	78	162	--	--	.4	--	--	--	202	74	3.4	926	8.2
Sept. 14.....	52	27	--	54	30	142	4.8	190	0	122	200	--	4.4	.5	700	.95	--	258	102	3.8	1170	7.9



SAN JOAQUIN RIVER BASIN--Continued

11-2615. SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CALIF.

LOCATION.--At gaging station 30 feet downstream from Fremont Ford Bridge, Merced County, 2.1 miles downstream from Salt Slough, 4.5 miles west of Stevenson, and 6.7 miles upstream from Merced River.  
DRAINAGE AREA (revised).--7,619 square miles.  
RECORDS AVAILABLE.--Chemical analyses: July 1955 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	81	--	--	--	--	200	--	202	0	210	305	--	--	0.4	--	--	--	340	174	4.7	1720	8.2
Nov. 9.....	150	--	--	--	--	250	--	224	0	276	302	--	--	1.5	--	--	--	360	176	5.7	1920	8.2
Dec. 8.....	115	--	--	--	--	340	--	230	10	438	450	--	--	1.8	--	--	--	512	307	6.5	2550	8.5
Jan. 5, 1965.....	1840	--	--	--	--	61	--	104	0	82	67	--	--	1.5	--	--	--	129	44	2.3	556	7.4
Feb. 2.....	413	--	--	--	--	184	--	168	0	221	224	--	--	1.0	--	--	--	292	154	4.7	1380	8.2
Mar. 2.....	269	--	--	--	--	172	--	152	0	246	210	--	--	1.2	--	--	--	288	163	4.4	1380	8.1
Apr. 6.....	288	--	--	--	--	182	--	172	0	206	250	--	--	.8	--	--	--	300	159	4.6	1430	7.7
May 4.....	385	24	--	56	25	140	4.4	147	0	180	178	3.8	.9	703	0.96	--	--	244	123	3.9	1140	7.6
June 15.....	425	--	--	--	--	90	--	143	0	70	127	--	--	.2	--	--	--	169	52	3.0	775	8.1
July 13.....	216	--	--	--	--	122	--	152	0	97	175	--	--	.2	--	--	--	212	87	3.7	1010	8.2
Aug. 13.....	192	--	--	--	--	135	--	164	8	98	205	--	--	.3	--	--	--	244	96	3.8	1120	8.5
Sept. 14.....	224	25	--	53	11	95	3.6	160	0	69	134	2.2	.1	485	--	66	--	176	45	3.1	820	8.1

## SAN JOAQUIN RIVER BASIN--Continued

11-2725. MERCED RIVER NEAR STEVINSON, CALIF.

LOCATION.--At gaging station 5 miles upstream from mouth, and 6 miles northwest of Stevinson, Merced County.

DRAINAGE AREA.--1,273 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	69	--	--	--	--	38	--	150	0	--	31	--	--	0.0	--	--	--	98	0	1.7	365	8.2
Nov. 9.....	133	--	--	--	--	30	--	140	0	--	15	--	--	.0	--	--	--	89	0	1.4	302	7.9
Dec. 8.....	223	--	--	--	--	22	--	101	1	--	13	--	--	.0	--	--	--	72	0	1.1	239	8.3
Jan. 5, 1965.....	302	--	--	--	--	15	--	86	0	--	7.4	--	--	.1	--	--	--	64	0	.8	196	8.2
Feb. 2.....	1140	--	--	--	--	3.8	--	32	0	--	1.7	--	--	.0	--	--	--	27	1	.3	72	7.8
Mar. 2.....	272	--	--	--	--	28	--	113	0	--	19	--	--	.0	--	--	--	75	0	1.4	275	8.2
Apr. 6.....	457	--	--	--	--	26	--	112	0	--	16	--	--	.1	--	--	--	82	0	1.2	273	8.2
May 4.....	2280	12	--	7.6	1.9	3.1	0.5	32	0	5.0	1.0	--	0.9	.0	50	0.07	--	27	1	.3	68	7.6
June 15.....	2870	--	--	--	--	2.4	--	16	0	--	.9	--	--	.0	--	--	--	13	0	.3	38	7.6
July 13.....	245	--	--	--	--	24	--	86	2	--	16	--	--	.0	--	--	--	59	0	1.4	215	8.3
Aug. 13.....	291	--	--	--	--	14	--	65	0	--	8.6	--	--	.0	--	--	--	45	0	.9	156	8.0
Sept. 14.....	273	23	--	18	3.2	18	1.8	88	0	8.0	13	--	5.7	.0	134	.18	--	58	0	1.0	204	8.2

## SAN JOAQUIN RIVER BASIN--Continued

11-2745.5. SAN JOAQUIN RIVER NEAR CROWS LANDING, CALIF.

LOCATION.--At gaging station at Crows Landing Bridge, 4.2 miles northeast of Crows Landing, Stanislaus County, and 6.4 miles southeast of Patterson.

RECORDS AVAILABLE.--Chemical analyses: January 1962 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....		--		--	--	70	--	136	0	--	94		--	0.2	360	0.49		148	36	2.5	651	8.2
Nov. 9.....		--		--	--	148	--	199	0	--	169		--	.9	688	.94		232	69	4.2	1180	8.0
Dec. 8.....		--		--	--	125	--	168	6	--	184		--	.8	723	.98		244	96	3.5	1290	8.5
Jan. 5, 1965.....		--		--	--	71	--	119	0	--	75		--	.5	371	.50		134	36	2.7	613	8.1
Feb. 2.....		--		--	--	74	--	81	0	--	80		--	.5	350	.48		117	51	3.0	589	8.1
Mar. 2.....		--		--	--	163	--	160	0	--	180		--	.8	782	1.06		256	125	4.4	1270	8.0
Apr. 6.....		--		--	--	135	--	154	0	--	170		--	.5	643	.87		224	98	3.9	1070	7.6
May 4.....		14		18	5.1	28	1.5	56	0	35	36		0.7	.2	169	.23		66	20	1.5	282	7.1
June 15.....		--		--	--	17	--	36	0	--	23		--	.1	104	.14		36	6	1.2	170	7.8
July 13.....		--		--	--	86	--	138	0	--	114		--	.2	456	.62		166	53	2.9	771	8.1
Aug. 13.....		--		--	--	93	--	134	2	--	125		--	.2	439	.60		154	41	3.3	751	8.3
Sept. 14.....		21		30	14	64	2.8	131	0	54	80		2.6	.1	345	.47		132	25	2.4	582	8.1

SAN JOAQUIN RIVER BASIN--Continued

11-2745.7. SAN JOAQUIN RIVER NEAR PATTERSON, CALIF.

LOCATION.--At gaging station at Patterson Bridge, 3.3 miles northeast of Patterson. Stanislaus County. and 7.2 miles north of Crows Landing.

RECORDS AVAILABLE.--Chemical analyses: January 1962 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....		--		--	--	76	--	142	0	--	96		--	0.2	372	0.51		148	32	2.7	670	8.2
Nov. 9.....		--		--	--	155	--	206	0	--	185		--	1.0	729	.99		246	77	4.3	1210	7.8
Dec. 8.....		--		--	--	125	--	188	4	--	186		--	.8	723	.98		244	83	3.5	1270	8.2
Jan. 5, 1965.....		--		--	--	70	--	121	0	--	73		--	.5	377	.51		133	34	2.6	610	8.0
Feb. 2.....		--		--	--	68	--	80	0	--	74		--	.4	340	.46		112	46	2.8	554	8.1
Mar. 2.....		--		--	--	169	--	162	0	--	192		--	.8	811	1.10		264	131	4.5	1310	8.2
Apr. 6.....		--		--	--	129	--	162	0	--	165		--	.4	607	.83		216	0	3.8	1020	7.9
May 4.....	15			18	6.1	32	1.5	60	0	36	39		1.3	.2	A 179	.24		70	21	1.7	304	7.1
June 15.....		--		--	--	15	--	37	0	--	17		--	.1	94	.13		34	4	1.1	148	7.7
July 13.....		--		--	--	112	--	152	2	--	114		--	.2	540	.73		138	50	3.6	918	8.3
Aug. 13.....		--		--	--	76	--	126	2	--	96		--	.2	378	.51		138	31	2.8	645	8.3
Sept. 14.....	20			26	20	79	3.0	147	0	60	98		.2	.1	385	.51		148	27	2.8	683	7.9

A Calculated from sum of determined constituents.

SAN JOAQUIN RIVER BASIN--Continued

11-2747. SAN JOAQUIN RIVER NEAR GRAYSON, CALIF.

LOCATION.--At gaging station at Laird Slough Bridge, 1.8 miles east of Grayson, Stanislaus County, 5 miles upstream from confluence with Tuolumne River, and 14 miles southwest of Modesto.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by Public Utilities Commission, City and County of San Francisco. Flow is San Joaquin River diversion into Laird Slough which returns to San Joaquin River main channel 2.1 miles downstream.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	845	--	--	--	--	87	--	162	0	--	115	--	--	0.2	--	--	--	184	51	2.8	812	8.2
Nov. 5.....	720	--	--	--	--	164	--	216	0	--	204	--	.8	--	--	--	--	268	91	4.3	1330	8.2
Dec. 9.....	660	--	--	--	--	170	--	200	4	--	208	--	.7	--	--	--	--	284	113	4.4	1430	8.3
Jan. 18, 1965....	4210	--	--	--	--	53	--	86	0	--	57	--	.4	--	--	--	--	98	27	2.3	461	7.4
Feb. 11.....	2880	--	--	--	--	112	--	122	0	--	127	--	.6	--	--	--	--	186	86	3.6	901	7.4
Mar. 5.....	3480	--	--	--	--	19	--	45	0	--	21	--	.1	--	--	--	--	50	13	1.2	201	7.7
Apr. 5.....	1580	--	--	--	--	130	--	162	0	--	152	--	.3	--	--	--	--	216	83	3.9	1000	8.0
Apr. 29.....	2210	18	--	31	14	73	2.3	112	0	75	84	4.2	.4	359	0.49	--	--	137	45	2.7	586	7.8
June 2.....	1790	--	--	--	--	48	--	78	0	--	65	--	.1	--	--	--	--	94	30	2.2	444	8.0
July 8.....	1030	--	--	--	--	92	--	142	0	--	126	--	.1	--	--	--	--	184	68	2.9	815	8.2
Aug. 2.....	--	--	--	--	--	116	--	176	2	--	156	--	.3	--	--	--	--	216	68	3.4	979	8.3
Sept. 14.....	820	24	--	38	20	93	3.4	160	0	81	116	6.0	.2	473	.64	--	--	178	47	3.0	791	8.2

SAN JOAQUIN RIVER BASIN--Continued

11-2831. LILY CREEK NEAR PINECREST, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank 1500 feet downstream from Mud Lake, and 5.7 miles southeast of Pinecrest, Tuolumne County.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 65°F Aug. 7, 8; minimum, freezing point on many days during December to February.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	57	57	57	55	55	56	54	56	56	54	53	52	52	52	50	52	50	51	49	50	50	47	48	47	46	46	46	45	45	44	44	44	51
Minimum .....	52	52	52	52	52	52	53	53	52	51	51	50	50	49	48	48	48	47	47	47	47	46	46	46	46	45	45	45	44	44	44	49	
November																																	
Maximum .....	44	44	44	44	44	44	44	44	44	44	43	43	43	43	41	39	39	38	38	38	36	35	35	35	35	35	35	35	35	35	--	40	
Minimum .....	44	44	44	44	44	44	44	44	44	44	43	43	43	43	41	39	39	38	38	38	35	35	35	35	35	35	35	35	35	35	35	40	
December																																	
Maximum .....	35	35	35	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	33	33	33	33	33	33	33	33	33	
Minimum .....	35	35	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	33	33	33	33	33	33	33	
January																																	
Maximum .....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	33	32	
Minimum .....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	32	
February																																	
Maximum .....	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	33	33	33	33	33	33	34	34	34	34	34	34	34	34	--	--	--	33
Minimum .....	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	33	33	33	33	33	34	34	34	34	34	34	--	--	--	33
March																																	
Maximum .....	35	35	35	35	35	35	35	35	35	35	34	34	34	34	36	36	36	36	37	37	37	36	36	36	36	36	34	34	35	37	37	35	
Minimum .....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	35	35	35	35	36	34	35	35	35	34	34	34	34	34	36	34	
April																																	
Maximum .....	36	36	37	37	37	37	36	35	35	35	35	35	35	35	35	35	36	37	38	36	35	36	38	39	38	39	39	38	38	39	--	37	
Minimum .....	35	35	35	36	36	36	35	35	35	35	35	35	35	34	34	35	35	35	36	35	35	35	35	36	36	36	36	37	37	37	--	35	
May																																	
Maximum .....	39	37	39	41	42	39	39	39	39	42	41	41	42	41	42	41	42	41	41	40	38	37	42	40	42	42	39	42	41	40	42	40	
Minimum .....	36	36	35	36	37	36	36	36	36	36	37	38	37	38	31	38	39	39	39	38	36	35	36	35	36	36	36	36	37	37	37	36	
June																																	
Maximum .....	39	41	42	44	44	43	44	40	46	46	47	47	47	45	45	41	41	45	46	50	47	49	47	51	49	47	51	52	53	53	--	46	
Minimum .....	37	37	37	38	38	38	38	39	38	39	40	40	40	41	40	39	39	41	42	43	43	44	44	44	45	43	43	45	47	47	--	41	
July																																	
Maximum .....	54	55	56	56	57	58	58	59	59	59	58	59	60	61	61	61	61	61	61	60	61	62	63	64	64	64	64	63	63	63	63	60	
Minimum .....	46	48	49	49	50	51	51	51	53	52	51	50	52	54	56	56	56	56	55	55	55	57	59	60	60	60	58	58	59	63	62	55	
August																																	
Maximum .....	63	63	63	63	63	64	65	65	64	65	64	64	60	60	60	58	57	56	57	58	59	58	59	59	59	58	58	59	61	61	61	61	
Minimum .....	62	62	61	60	60	61	62	62	61	62	63	57	57	60	55	57	47	49	51	52	53	52	53	54	55	55	56	57	57	58	58	57	
September																																	
Maximum .....	60	61	61	59	58	57	55	53	55	55	53	54	54	55	56	55	55	51	49	49	50	50	52	54	54	53	52	50	49	50	--	54	
Minimum .....	58	58	58	57	55	55	52	47	50	52	52	52	52	52	53	53	51	48	46	46	46	46	48	49	50	50	50	47	46	46	--	51	

SAN JOAQUIN RIVER BASIN--Continued

11-2898. TUOLUMNE RIVER AT HICKMAN, CALIF.

LOCATION.--At gaging station approximately 0.6 mile south of Waterford, and 1 mile north of Hickman, Stanislaus County.

DRAINAGE AREA.--1,642 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by California State Department of Water Resources.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	121	--	--	--	--	49	--	108	4	--	99	--	--	0.0	--	--	--	124	29	1.9	517	8.3
Nov. 6.....	704	--	--	--	--	7.1	--	26	0	--	11	--	--	.0	--	--	--	28	7	.6	91	7.9
Dec. 9.....	975	--	--	--	--	6.0	--	23	0	--	8.4	--	--	.0	--	--	--	22	3	.6	77	7.4
Jan. 19, 1965....	2540	--	--	--	--	4.0	--	32	0	--	2.6	--	--	.1	--	--	--	29	3	.3	74	7.9
Feb. 9.....	4380	--	--	--	--	4.5	--	27	0	--	1.7	--	--	.2	--	--	--	21	0	.4	61	7.1
Mar. 5.....	1780	--	--	--	--	4.1	--	25	0	--	4.3	--	--	.0	--	--	--	21	1	.4	63	7.4
Apr. 5.....	2750	--	--	--	--	3.5	--	22	0	--	2.5	--	--	.0	--	--	--	19	1	.3	50	7.0
Apr. 28.....	1970	13	--	11	0.4	6.7	1.2	32	0	4.0	12	--	0.8	.0	67	0.09	--	29	3	.5	97	7.4
June 2.....	1010	--	--	--	--	3.8	--	20	0	--	4.1	--	--	.0	--	--	--	18	2	.4	57	7.6
July 8.....	468	--	--	--	--	8.3	--	32	0	--	14	--	--	.0	--	--	--	30	4	.7	107	7.8
Aug. 3.....	127	--	--	--	--	35	--	93	0	--	65	--	--	.1	--	--	--	89	13	1.6	372	7.9
Sept 2.....	121	47	--	29	8.9	47	4.7	98	0	4.0	97	--	1.2	.1	317	.43	--	109	29	2.0	481	8.2

SAN JOAQUIN RIVER BASIN--Continued

11-2900. TUOLUMNE RIVER AT MODESTO, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank at bridge on U.S. Highway 99 in Modesto, Stanislaus County, and 0.2 mile downstream from Dry Creek.

DRAINAGE AREA.--1,884 square miles.

RECORDS AVAILABLE.--Water temperatures: July to September 1965.

Temperature (°F) of water, July to September 1965																																	
Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	79	79	78	77	77	77	79	78	78	79	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	75	74	75	75	74	73	73	75	74	76	76	--	--
August																																	
Maximum .....	80	79	79	80	80	80	80	80	79	80	78	77	78	80	78	80	79	78	77	77	77	77	77	77	77	78	78	78	78	78	76	78	
Minimum .....	77	76	76	76	77	76	76	75	76	77	75	74	74	77	76	75	76	75	74	74	75	74	74	73	73	74	74	75	75	73	75		
September																																	



SAN JOAQUIN RIVER BASIN--Continued

11-2902. TUOLUMNE RIVER AT TUOLUMNE CITY, CALIF.

LOCATION.--At gaging station at bridge in Tuolumne City, Stanislaus County, and 3.4 miles from mouth.

DRAINAGE AREA.--1,897 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by Public Utilities Commission, City and County of San Francisco.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	345	--	--	--	--	78	--	130	0	--	152	--	--	0.1	--	--	--	164	57	2.6	748	8.1
Nov. 5.....	810	--	--	--	--	32	--	57	0	--	66	--	--	.1	--	--	--	70	23	1.7	325	7.9
Dec. 9.....	1290	--	--	--	--	25	--	42	0	--	48	--	--	.0	--	--	--	52	18	1.5	246	7.4
Jan. 18, 1965....	4010	--	--	--	--	12	--	40	0	--	21	--	--	.1	--	--	--	44	11	.8	149	7.9
Feb. 11.....	4400	--	--	--	--	7.3	--	26	0	--	12	--	--	.1	--	--	--	28	7	.6	98	7.3
Mar. 5.....	2550	--	--	--	--	14	--	38	0	--	27	--	--	.1	--	--	--	41	10	1.0	164	7.7
Apr. 5.....	3040	--	--	--	--	8.7	--	26	0	--	17	--	--	.0	--	--	--	28	7	.7	106	6.9
Apr. 29.....	2490	8.5	--	12	3.4	15	1.7	38	3	5.0	26	--	2.4	.0	102	0.14	--	44	8	1.0	168	8.4
June 2.....	915	--	--	--	--	39	--	66	2	--	76	--	--	.0	--	--	--	85	28	1.8	375	8.3
July 8.....	860	--	--	--	--	38	--	72	0	--	76	--	--	.0	--	--	--	85	26	1.8	385	8.1
Aug. 2.....	455	--	--	--	--	70	--	124	0	--	134	--	--	.1	--	--	--	142	40	2.6	651	7.8
Sept. 14.....	400	34	--	37	11	65	5.3	112	0	8.0	130	--	8.1	.0	398	.54	--	138	46	2.4	631	8.2

## SAN JOAQUIN RIVER BASIN--Continued

11-2905. SAN JOAQUIN RIVER AT MAZE ROAD BRIDGE, NEAR MODESTO, CALIF.

LOCATION.--At Maze Road Bridge 0.2 mile downstream from gaging station, at Hetch Hetchy Crossing, 2.7 miles upstream from Stanislaus River, and 12 miles west of Modesto, Stanislaus County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by Public Utilities Commission, City and County of San Francisco.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	--	--	--	--	--	89	--	156	0	--	139	--	--	0.2	--	--	--	188	60	2.8	875	8.1
Nov. 5.....	--	--	--	--	--	94	--	132	0	--	132	--	--	.4	--	--	--	166	58	3.2	848	8.2
Dec. 9.....	1780	--	--	--	--	78	--	96	0	--	98	--	--	.3	--	--	--	132	53	3.0	659	7.9
Jan. 18, 1965....	8160	--	--	--	--	40	--	72	0	--	49	--	--	.3	--	--	--	84	25	1.9	375	7.4
Feb. 11.....	6780	--	--	--	--	34	--	52	0	--	42	--	--	.2	--	--	--	67	25	1.8	314	7.5
Mar. 5.....	5270	--	--	--	--	18	--	42	0	--	25	--	--	.1	--	--	--	47	13	1.1	191	7.5
Apr. 5.....	4780	--	--	--	--	41	--	64	0	--	52	--	--	.0	--	--	--	76	24	2.0	357	7.6
Apr. 29.....	5630	18	--	20	9.5	40	1.8	76	0	42	51	--	2.0	.2	A 223	0.30	--	89	27	1.8	366	7.5
June 2.....	2490	--	--	--	--	49	--	81	0	--	76	--	--	.2	--	--	--	102	36	2.1	458	8.1
July 8.....	1840	--	--	--	--	76	--	110	0	--	117	--	--	.1	--	--	--	150	60	2.7	669	8.2
Aug. 2.....	830	--	--	--	--	102	--	153	0	--	168	--	--	.2	--	--	--	200	75	3.1	912	8.2
Sept. 14.....	1230	27	--	39	17	84	4.0	148	0	53	125	--	6.3	.2	448	.61	--	168	47	2.8	753	8.2

A Calculated from sum of determined constituents.

SAN JOAQUIN RIVER BASIN--Continued

11-3033. STANISLAUS RIVER NEAR RIPON, CALIF.  
(Formerly reported as 11-3034. Stanislaus River near mouth, near Vernalis, Calif.)

LOCATION.--Approximately 3.7 miles downstream from gaging station at Ripon, San Joaquin County, and 0.6 mile northwest of junction of Bacon and Gates Roads.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge data furnished by California State Department of Water Resources.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	168	--	--	--	--	26	--	178	4	--	8.7	--	--	0.0	--	--	--	117	0	1.0	329	8.3
Nov. 9.....	204	--	--	--	--	11	--	110	0	--	5.6	--	--	.2	--	--	--	83	0	.5	216	7.9
Dec. 8.....	209	--	--	--	--	13	--	108	2	--	6.2	--	--	.1	--	--	--	86	0	.6	222	8.3
Jan. 5, 1965.....	2690	--	--	--	--	3.8	--	40	0	--	1.2	--	--	.1	--	--	--	36	3	.3	90	7.9
Feb. 2.....	2660	--	--	--	--	3.6	--	38	0	--	1.3	--	--	.0	--	--	--	31	0	.3	80	7.9
Mar. 2.....	1780	--	--	--	--	3.8	--	39	0	--	1.5	--	--	.0	--	--	--	31	0	.3	81	7.8
Apr. 6.....	2190	--	--	--	--	3.8	--	37	0	--	1.6	--	--	.0	--	--	--	30	0	.3	77	7.4
May 4.....	3660	18	--	8.2	1.6	2.9	1.0	36	0	3.0	.9	--	2.1	.0	56	0.08	--	27	0	.3	70	7.6
June 15.....	3780	--	--	--	--	2.2	--	24	0	--	.5	--	--	.0	--	--	--	19	0	.2	50	7.7
July 13.....	391	--	--	--	--	12	--	112	2	--	6.2	--	--	.0	--	--	--	90	0	.5	228	8.4
Aug. 13.....	350	--	--	--	--	10	--	89	1	--	6.0	--	--	.0	--	--	--	73	0	.5	188	8.3
Sept. 14.....	327	22	--	17	6.7	9.5	2.4	89	0	7.0	5.4	--	4.0	.0	119	.16	--	70	0	.5	184	7.8

SAN JOAQUIN RIVER BASIN--Continued

11-3035. SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.

LOCATION.--At gaging station at Durham Ferry highway bridge, 3 miles downstream from Stanislaus River, and 3.4 miles northeast of Vernalis, San Joaquin County.

DRAINAGE AREA.--14,010 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: March 1951 to September 1965.

Water temperatures: March 1951 to September 1965.

Sediment records: November 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 78°F July 17, Aug. 1; minimum, 43°F Feb. 7.

Sediment concentrations: Maximum daily, 1,590 ppm Dec. 25; minimum daily, 30 ppm Dec. 13.

Sediment loads: Maximum daily, 54,100 ppm Dec. 25; minimum daily, 165 ppm Dec. 13.

EXTREMES, 1951-65.--Water temperatures: Maximum, 79°F June 1, 1960; minimum, 37°F Jan. 24, 1962.

Sediment concentrations (1956-65): Maximum daily, 1,590 ppm Dec. 25, 1964; minimum daily, 9 ppm Jan. 4, 1960, Nov. 18, 1961.

Sediment loads (1956-65): Maximum daily, 54,100 ppm Dec. 25, 1964; minimum daily, 2 tons Aug. 10, 1961.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	1450	--	--	--	--	77	--	156	0	--	112	--	--	0.1	--	--	--	170	42	2.6	739	8.2
Nov. 10.....	1790	--	--	--	--	80	--	127	0	--	108	--	--	.4	--	--	--	150	46	2.8	697	7.4
Dec. 9.....	2020	--	--	--	--	64	--	99	1	--	92	--	--	.3	--	--	--	127	44	2.5	596	8.3
Jan. 5, 1965.....	15200	--	--	--	--	19	--	55	0	--	21	--	--	.1	--	--	--	55	10	1.1	213	7.6
Feb. 3.....	8620	--	--	--	--	28	--	56	0	--	35	--	--	.1	--	--	--	65	19	1.5	273	7.9
Mar. 3.....	5610	--	--	--	--	34	--	62	0	--	46	--	--	.1	--	--	--	75	24	1.7	326	7.9
Apr. 7.....	6200	--	--	--	--	34	--	65	0	--	42	--	--	.0	--	--	--	70	17	1.8	309	7.6
May 5.....	6150	20	--	15	5.5	22	1.3	60	0	17	32	3.5	.0	.0	145	0.20	--	60	11	1.2	240	7.7
June 16.....	8420	--	--	--	--	13	--	38	0	--	21	--	--	.0	--	--	--	41	10	.9	156	7.8
July 14.....	2300	--	--	--	--	58	--	104	0	--	88	--	--	.1	--	--	--	126	41	2.2	543	8.2
Aug. 11.....	1070	--	--	--	--	93	--	148	4	--	153	--	--	.2	--	--	--	198	70	2.9	853	8.4
Sept. 15.....	1360	24	--	39	17	76	3.6	144	0	51	122	--	5.5	.2	428	.58	--	167	49	2.6	736	8.2

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	66	68	68	70	70	70	70	68	64	67	67	68	68	65	70	66	64	62	63	62	64	64	62	60	62	60	62	61	62	63	63	65	
November .....	63	60	62	60	59	59	59	62	60	59	58	58	56	56	52	53	50	48	50	48	48	50	52	52	54	54	53	53	54	55	--	55	
December .....	53	54	53	52	52	50	52	52	53	53	53	49	48	45	47	49	48	48	48	49	52	55	58	58	58	48	51	50	46	46	47	51	
January.....	48	45	47	50	50	50	50	49	48	47	48	48	47	47	48	48	50	48	50	52	52	58	52	58	51	52	52	48	48	51	53	50	
February.....	48	47	48	48	50	49	43	47	47	49	48	48	51	54	52	50	50	52	52	52	53	53	50	50	52	52	53	--	--	--	--	50	
March.....	53	54	52	56	56	56	68	55	55	55	56	55	55	58	54	57	56	56	57	58	58	62	60	60	60	57	59	60	60	58	60	57	
April.....	62	62	58	59	60	59	58	58	53	56	55	55	56	57	58	59	59	60	63	62	62	60	60	62	62	62	65	64	62	62	--	60	
May.....	62	60	62	62	62	60	56	58	62	62	62	65	65	65	69	67	68	68	70	67	65	68	64	65	62	62	66	68	68	65	68	64	
June.....	68	69	66	69	65	69	65	62	66	65	65	64	70	65	63	66	65	66	72	69	72	72	--	62	69	62	--	72	67	72	--	67	
July.....	72	73	76	74	75	75	74	--	--	--	--	--	73	76	74	75	78	74	73	--	73	72	73	73	72	70	69	70	72	73	75	73	
August.....	78	72	74	76	72	74	75	72	74	71	75	72	72	75	74	74	74	74	75	74	73	75	76	73	74	74	72	73	70	74	75	71	74
September.....	69	68	72	64	65	65	65	66	66	68	68	65	68	68	67	70	60	65	60	61	64	63	65	63	65	65	64	64	63	63	--	65	

SAN JOAQUIN RIVER BASIN--Continued

11-3035. SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1410	118	449	2120	99	567	2130	66	380
2..	1480	128	511	2140	96	555	2210	54	322
3..	1420	135	518	2050	93	515	2290	44	272
4..	1390	125	469	1860	90	450	2140	49	283
5..	1410	120 B	460	1820	85	418	2170	47	275
6..	1430	130	502	1790	73	353	2150	47	273
7..	1450	122	478	1770	93	444	2020	34	185
8..	1400	119	450	1790	80	387	1930	48	250
9..	1410	123	468	1780	52	250	2020	69	376
10..	1430	119	459	1790	70	338	2020	58	316
11..	1470	108	429	1900	90	462	1990	47	253
12..	1440	98	381	2050	81	448	2020	43	235
13..	1440	102	397	2080	70	393	2040	30	165
14..	1500	99	401	2150	75	435	1940	33	173
15..	1520	92	378	2460	92	611	1840	42	209
16..	1530	95	392	3010	86	699	2060	52	289
17..	1460	99	390	2950	81	645	2130	54	311
18..	1360	127	466	2610	79	557	2120	50 S	289
19..	1290	117	408	2660	74	531	2220	52 S	309
20..	1180	77	245	3190	84	723	2310	52 K	320
21..	1140	78	240	3280	66	584	2260	52 S	315
22..	1150	86	267	3240	55	481	2200	55 S	324
23..	1140	84 B	260	3120	56 B	470	2780	78 S	596
24..	1140	77 B	240	3000	61	494	4950	502 S	7850
25..	1160	72	226	2750	65	483	14000	1590 S	54100
26..	1200	73	237	2520	58	395	19800	315 S	17000
27..	1220	78	257	2300	52	323	18700	122 S	6180
28..	1410	91	346	2180	54	318	20100	290 S	15800
29..	1780	103	495	2150	57	331	20900	293 S	16500
30..	1940	94	492	2150	54	313	20500	249 S	13800
31..	2050	100 B	550	--	--	--	19200	258 S	13300
Total	43750	--	12261	70660	--	13973	187140	--	151250
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	18200	200 K	10000	8500	60	1380	5940	40	642
2..	17800	112	5380	8750	76	1800	5740	46	713
3..	17300	60	2800	8620	60	1400	5610	40	606
4..	16600	63	2820	8120	46	1010	6050	61	996
5..	15200	79	3240	7730	60	1250	6740	69	1260
6..	14000	105 S	3960	7940	58	1240	7020	68	1290
7..	14300	160 S	6280	8720	50	1180	6780	60	1100
8..	18100	302 S	15200	9360	59	1490	6700	53	959
9..	21800	316 S	18500	9750	71	1870	7320	53	1050
10..	22000	255	15100	9870	46	1230	7700	52	1080
11..	22000	206 S	12200	9260	40	1000	7150	68	1310
12..	22700	68 S	4130	8360	47	1060	6300	63	1070
13..	22100	72	4300	7930	46	985	6090	71	1170
14..	20500	103	5700	7730	49	1020	7180	65	1260
15..	18000	102 S	4960	7970	52	1120	5990	74	1200
16..	15100	89	3630	8430	52	1180	5460	73	1080
17..	12800	94	3250	8260	44	981	5710	68	1050
18..	11500	86	2670	7790	51	1070	5780	64	999
19..	10800	92	2680	7430	47	943	5820	63	990
20..	10100	95	2590	7100	45	863	5740	70	1080
21..	9220	85	2120	6900	44	820	4860	74	971
22..	8650	85	1990	6610	46	821	4060	67	734
23..	8670	92	2150	6470	46	804	3600	64	622
24..	9220	90	2240	6890	46	856	3290	60	533
25..	9630	77	2000	7150	41	792	2920	58	457
26..	10100	72	1960	7180	39	756	2880	64	498
27..	10400	85	2390	6810	41	754	2910	67	526
28..	10500	101	2860	6340	41	702	3270	72	636
29..	10200	74	2040	--	--	--	3430	68	630
30..	9600	61	1580	--	--	--	3420	65	600
31..	8800	60	1430	--	--	--	3660	70	692
Total	445890	--	152150	221970	--	30377	165120	--	27804

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

SAN JOAQUIN RIVER BASIN--Continued

11-3035. SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	4090	68	751	6890	89	1660	3370	77	701
2..	4670	78	984	6410	82	1420	3350	79	715
3..	5240	76	1080	6290	80	1360	3830	81	838
4..	6070	68	1110	6350	87	1490	4610	85	1060
5..	6400	70	1210	6150	94	1560	5030	85	1150
6..	6390	58	1000	5800	84	1320	5970	129	2080
7..	6200	59	988	5890	67	1070	6640	116	2080
8..	6270	70	1190	5920	70	1120	6750	78	1420
9..	6780	64	1170	6320	72	1230	6830	80	1480
10..	7710	77	1600	6740	56	1020	7100	76	1460
11..	9280	87	2180	6780	62	1130	7490	70	1420
12..	11200	126	3810	6400	73	1260	7670	68	1410
13..	12700	111	3810	6200	73	1220	8010	86	1860
14..	13800	90	3350	5960	76	1220	9130	77	1900
15..	14100	71	2700	5380	77	1120	9280	72	1800
16..	14200	74	2840	4610	87	1080	8420	68	1550
17..	14500	76	2980	3980	87	935	7640	72	1490
18..	14300	57	2200	3540	88	841	6950	76	1430
19..	13800	62	2310	3580	90	870	5490	80	1190
20..	13500	58	2110	3670	84	832	4140	85	950
21..	12800	60	2070	3610	77	751	3640	86	845
22..	11500	63	1960	3740	100	1010	3340	82	739
23..	10600	72	2060	4540	102	1250	3700	85	849
24..	10800	73	2130	5890	98	1560	3930	76	806
25..	11200	60	1810	6280	77	1310	3950	71	757
26..	11100	54	1620	6140	67	1110	4370	72	850
27..	10600	72	2060	5540	71	1060	4780	72	929
28..	9730	68	1790	4520	66	805	5080	63	864
29..	8420	80	1820	3930	77	817	4840	63	823
30..	7830	107	2260	3620	84	821	4180	61	688
31..	--	--	--	3500	79	747	--	--	--
Total	295780	--	58953	164170	--	34999	169510	--	36134
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3720	68	683	1040	93	261	1180	109	347
2..	3690	70	697	1060	113	323	1290	110	383
3..	3190	84	723	1040	151	424	1300	114	400
4..	3020	82	669	1000	130	351	1320	106	378
5..	3080	70	582	955	126	325	1420	106	406
6..	2910	69	542	985	110	293	1540	102	424
7..	2850	66	508	1030	114	317	1530	100	413
8..	2860	70	541	1110	126	378	1600	112	484
9..	2740	74	547	1140	124	382	1510	102	416
10..	2590	70	490	1080	128	373	1470	115	456
11..	2500	67	452	1070	120	347	1490	115	463
12..	2320	69	432	1340	164	593	1570	114	483
13..	2300	70	435	1720	143	664	1610	106	461
14..	2300	70	435	1820	124	609	1510	96	391
15..	1920	72	373	1750	122	576	1360	102	375
16..	1760	82	390	1680	143	649	1360	101	371
17..	1600	78	337	1380	117	436	1510	85	347
18..	1440	85	330	1240	130	435	1690	86	392
19..	1220	85	280	1130	124	378	1690	82	374
20..	1200	79	256	1160	110	345	1760	81	385
21..	1120	84	254	1140	124	382	1570	72	305
22..	1080	80	233	1230	130	430	1710	86	397
23..	1100	72	214	1260	121	412	1850	86	430
24..	1080	73	213	1160	113	354	1860	87	437
25..	1120	62	187	1140	115	354	1950	88	463
26..	1100	68	202	1160	102	319	2180	94	553
27..	1110	79	237	1210	95	310	2290	81	501
28..	1100	75	223	1140	85	262	2270	85	521
29..	1080	81	236	1200	79	256	2400	80	518
30..	1050	93	264	1260	83	282	2560	85	588
31..	1010	80	218	1210	106	346	--	--	--
Total	61160	--	12183	37840	--	12166	50350	--	12862

Total discharge for year (cfs-days)..... 1,913,340  
 Total load for year (tons)..... 555,112

B Computed from estimated-concentration graph.

SAN JOAQUIN RIVER BASIN--Continued

11-3035. SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 20, 1964.....	0920	62		1190	78						91	95	100	--			S	
Nov. 19.....	1135	50		2640	72						57	72	100	--			S	
Dec. 23.....	1650	57		2970	81						78	91	96	100			V	
Dec. 25.....	0930	58		12100	2260						59	76	86	100			V	
Jan. 12, 1965.....	0900	48		22700	57						90	95	100	--			V	
Feb. 1.....	1130	49		8440	59						67	74	100	--			S	
Mar. 3.....	1035	52		5620	36						78	100	--	--			S	
Apr. 9.....	0940	53		6780	63						74	86	93	100			S	
May 11.....	1005	62		6840	62						80	91	99	100			V	
June 16.....	0935	66		8540	69						74	81	95	100			S	
July 22.....	0855	72		1100	82						95	98	100	--			S	
Aug. 30.....	0825	75		1280	78						93	100	--	--			S	

SAN JOAQUIN RIVER BASIN--Continued

11-3042. SAN JOAQUIN RIVER AT MOSSDALE, CALIF.

LOCATION.--Boat landing at Mossdale Bridge at Mossdale, San Joaquin County, opposite tidal gaging station, and 7.6 miles northeast of Tracy.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....		---		---	---	80	---	162	0	---	117		---	0.2	---	---		180	47	2.6	764	8.2
Nov. 11.....		---		---	---	80	---	132	0	---	113		---	.2	---	---		156	48	2.8	725	7.8
Dec. 10.....		---		---	---	69	---	98	4	---	100		---	.3	---	---		136	49	2.6	643	8.4
Jan. 7, 1965.....		---		---	---	18	---	58	0	---	21		---	.1	---	---		56	8	1.0	209	8.0
Feb. 3.....		---		---	---	26	---	55	0	---	32		---	.2	---	---		62	17	1.4	262	7.4
Mar. 4.....		---		---	---	30	---	58	0	---	43		---	.1	---	---		71	23	1.5	306	7.9
Apr. 8.....		---		---	---	34	---	67	0	---	43		---	.1	---	---		76	21	1.7	326	7.9
May 6.....		17		17	5.2	25	1.6	60	0	21	34		1.7	.1	153	0.21		64	15	1.4	255	8.1
June 17.....		---		---	---	13	---	40	0	---	20		---	.0	---	---		39	6	.9	153	7.8
July 15.....		---		---	---	60	---	103	2	---	99		---	.1	---	---		134	46	2.3	576	8.3
Aug. 12.....		---		---	---	93	---	152	4	---	162		---	.3	---	---		202	71	2.8	880	8.4
Sept. 16.....		25		45	14	79	3.8	146	0	48	123		5.0	.1	444	.60		172	52	2.6	739	7.9



SAN JOAQUIN RIVER BASIN--Continued

11-3048. SAN JOAQUIN RIVER AT GARWOOD BRIDGE, NEAR STOCKTON, CALIF.

LOCATION.--Boat landing at Garwood Bridge on State Highway 4, opposite tidal gaging station, and 1.8 miles west of Stockton, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....		---		---	---	82	---	168	0	---	117		---	0.2	---	---		170	32	2.7	761	8.2
Nov. 11.....		---		---	---	78	---	134	0	---	106		---	.5	---	---		150	40	2.8	692	8.1
Dec. 10.....		---		---	---	70	---	110	2	---	104		---	.4	---	---		139	46	2.6	658	8.4
Jan. 7, 1965.....		---		---	---	20	---	58	0	---	22		---	.1	---	---		54	6	1.2	218	8.0
Feb. 3.....		---		---	---	26	---	55	0	---	32		---	.1	---	---		62	17	1.4	257	7.4
Mar. 4.....		---		---	---	30	---	58	0	---	43		---	.1	---	---		73	25	1.5	310	8.1
Apr. 8.....		---		---	---	34	---	64	0	---	41		---	.1	---	---		72	20	1.7	308	7.8
May 6.....	16			17	4.7	23	1.6	60	0	19	31		1.1	.1	149	0.20		62	13	1.3	239	7.1
June 17.....		---		---	---	12	---	36	0	---	17		---	.0	---	---		36	6	.9	136	8.2
July 15.....		---		---	---	65	---	112	0	---	102		---	.1	---	---		129	37	2.5	576	8.2
Aug. 12.....		---		---	---	78	---	144	2	---	114		---	.2	---	---		138	17	2.9	672	8.4
Sept. 16.....		26		34	14	71	6.1	148	0	37	98		10	.1	378	.51		142	21	2.6	640	7.9

SAN JOAQUIN RIVER BASIN--Continued

11-3085.5 CALAVERAS RIVER ABOVE NEW HOGAN DAM, CALIF.

LOCATION.--Approximately 6 miles upstream from New Hogan Dam, Calaveras County, 1.2 miles west of San Andreas, and 5 miles east of Valley Springs.

RECORDS AVAILABLE.--Chemical analyses: January to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 2, 1964.....		--		--	--	11	--	113	0	--	16		--	0.0	--	--		131	38	0.4	326	7.9
Dec. 1.....		--		--	--	9.1	--	111	2	--	9.9		--	.2	--	--		111	17	.4	263	8.4
Jan. 5, 1965.....		--		--	--	4.3	--	46	0	--	1.8		--	.1	--	--		42	4	.3	108	7.7
Feb. 1.....		--		--	--	5.1	--	72	0	--	3.4		--	.0	--	--		66	7	.3	153	8.2
Mar. 1.....		--		--	--	5.2	--	82	0	--	4.2		--	.0	--	--		76	9	.3	174	7.7
Apr. 5.....		--		--	--	6.0	--	84	0	--	3.9		--	.0	--	--		72	3	.3	168	8.0
May 4.....	22			22	5.4	5.9	1.7	87	0	13	3.8		1.1	.0	126	0.17		77	6	.3	178	7.5
June 14.....		--		--	--	6.8	--	99	2	--	4.2		--	.2	--	--		91	7	.3	209	8.3
July 12.....		--		--	--	8.2	--	112	2	--	5.8		--	.0	--	--		100	5	.4	227	8.5
Aug. 9.....		--		--	--	8.6	--	116	3	--	7.8		--	.1	--	--		106	6	.4	244	8.4
Sept. 13.....	22			28	9.0	9.4	2.8	121	0	17	8.6		.4	.0	157	.21		107	8	.4	249	8.2

SAN JOAQUIN RIVER BASIN--Continued

11-3089. CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CALIF.  
(Formerly published as Calaveras River below New Hogan Dam)

LOCATION.--At gaging station at county road bridge, 0.5 mile upstream from Cosgrove Creek, 0.8 mile downstream from New Hogan Dam, Calaveras County, and 3.0 miles south of Valley Springs.

DRAINAGE AREA.--363 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1964 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 2, 1964.....	0	--	--	--	--	24	--	193	0	--	29	--	--	0.3	--	--	--	263	105	0.6	600	8.2
Dec. 1.....	0	--	--	--	--	23	--	193	2	--	28	--	--	.6	--	--	--	261	99	.6	614	8.3
Feb. 2, 1965.....	154	--	--	--	--	4.2	--	58	0	--	2.6	--	--	.1	--	--	--	56	8	.2	132	7.9
Mar. 1.....	64	--	--	--	--	4.1	--	60	0	--	2.9	--	--	.0	--	--	--	57	8	.2	136	8.0
Apr. 5.....	49	--	--	--	--	4.6	--	64	0	--	3.0	--	--	.0	--	--	--	61	9	.3	143	8.0
May 4.....	116	16	--	18	4.6	4.6	1.9	70	0	11	2.8	--	2.5	.1	100	0.14	--	64	7	.2	147	7.8
June 14.....	188	--	--	--	--	4.1	--	69	0	--	3.4	--	--	.1	--	--	--	62	5	.2	145	8.2
July 12.....	210	--	--	--	--	4.7	--	70	0	--	2.8	--	--	.0	--	--	--	64	7	.2	147	7.9
Aug. 9.....	201	--	--	--	--	4.5	--	73	0	--	3.0	--	--	.0	--	--	--	65	5	.2	149	8.2
Sept. 13.....	105	18	--	18	5.1	4.5	1.9	73	0	8.0	3.1	--	2.8	.0	99	.13	--	66	6	.2	152	8.2

## SAN JOAQUIN RIVER BASIN--Continued

11-3095. CALAVERAS RIVER AT JENNY LIND, CALIF.

LOCATION.--At bridge on Milton Road 70 feet upstream from gaging station, 0.2 mile south of Jenny Lind, Calaveras County, and 6.5 miles downstream from Cosgrove Creek.

DRAINAGE AREA.--393 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 16, 1964....	3.1	--	--	--	--	11	--	80	0	--	15	--	--	0.2	--	--	--	132	66	0.4	325	7.7
Dec. 1.....	.1	--	--	--	--	9.6	--	101	0	--	13	--	--	.4	--	--	--	146	63	.3	358	8.2
Jan. 11, 1965....	1420	--	--	--	--	4.6	--	58	0	--	2.0	--	--	.1	--	--	--	56	8	.3	134	7.8
Feb. 8.....	344	--	--	--	--	4.1	--	63	0	--	3.1	--	--	.0	--	--	--	62	10	.2	141	7.7
Mar. 1.....	67	--	--	--	--	5.1	--	76	0	--	4.1	--	--	.0	--	--	--	71	9	.3	166	8.1
Apr. 1.....	74	--	--	--	--	4.8	--	68	0	--	3.4	--	--	.0	--	--	--	67	11	.3	153	7.6
May 18.....	152	12	--	16	5.6	4.0	1.3	68	0	10	2.8	--	2.1	.0	90	0.12	--	63	7	.2	142	7.6
June 10.....	171	--	--	--	--	4.6	--	70	0	--	3.0	--	--	.0	--	--	--	64	7	.2	147	8.2
July 1.....	193	--	--	--	--	4.5	--	70	0	--	3.0	--	--	.0	--	--	--	64	7	.2	146	8.2
Aug. 2.....	199	--	--	--	--	4.2	--	72	0	--	3.1	--	--	.1	--	--	--	65	6	.2	148	8.2
Sept. 2.....	154	15	--	17	5.5	4.1	1.9	73	0	8.0	2.9	--	2.0	.0	99	.13	--	65	5	.2	150	7.7

SAN JOAQUIN RIVER BASIN--Continued

11-3105. CALAVERAS RIVER NEAR STOCKTON, CALIF.

LOCATION.--At gaging station at Central California Traction Railroad bridge, 3.3 miles southwest of Waterloo, and 4.6 miles northeast of Stockton, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1965.

REMARKS.--Records of discharge furnished by California State Department of Water Resources. Flow includes diversion from Stockton Diverting Canal. Stream dry most of the year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Jan. 6, 1965.....	377					5.5		44	0		3.8			0.1				39	3	0.4	112	6.5
Apr. 1.....	21					5.5		76	0		4.2			.0				71	9	.3	165	8.0
June 10.....	9.4					5.4		73	0		3.3			.1				65	5	.3	150	8.2
July 2.....	17					4.7		74	0		3.1			.0				66	5	.2	151	8.2
Aug. 2.....	7.0					5.1		77	1		3.7			.0				70	5	.3	160	8.3
Sept. 2.....	6.2	14		19	4.0	4.3	1.4	74	0	9.0	3.6		2.0	.0	95	0.13		64	3	.2	148	7.6

## SAN JOAQUIN RIVER BASIN--Continued

11-3112. STOCKTON SHIP CHANNEL NEAR RINDGE PUMP ON RINDGE TRACT, CALIF.

LOCATION.--Boat landing at ship channel downstream from confluence with Fourteen Mile Slough, downstream from tidal gaging station, and approximately 9.6 miles northwest of Stockton, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....		--		--	--	81	--	158	0	--	119		--	0.1	--	--		174	44	2.7	741	8.2
Nov. 11.....		--		--	--	68	--	126	0	--	102		--	.1	--	--		145	42	2.5	635	7.5
Dec. 10.....		--		--	--	61	--	99	3	--	88		--	.5	--	--		131	45	2.3	609	8.3
Jan. 6, 1965....		--		--	--	21	--	48	0	--	28		--	.2	--	--		78	39	1.0	272	7.4
Feb. 3.....		--		--	--	30	--	64	0	--	37		--	.2	--	--		72	20	1.5	301	8.0
Mar. 1.....		--		--	--	28	--	53	0	--	38		--	.1	--	--		65	22	1.5	278	7.7
Apr. 8.....		--		--	--	40	--	76	0	--	53		--	.0	--	--		90	28	1.8	377	7.3
May 5.....	15	--		19	5.0	26	1.8	64	0	24	35		1.7	.1	160	0.22		68	16	1.4	268	7.2
June 17.....		--		--	--	15	--	44	0	--	22		--	.0	--	--		42	6	1.0	164	8.0
July 13.....		--		--	--	38	--	76	0	--	57		--	.0	--	--		87	25	1.8	370	7.9
Aug. 12.....		--		--	--	26	--	81	0	--	37		--	.1	--	--		78	12	1.3	288	8.1
Sept. 15.....		4.7		28	13	61	4.1	129	0	31	90		.1	.2	342	.47		124	18	2.4	555	7.6

SAN JOAQUIN RIVER BASIN--Continued

11-3127. OLD RIVER AT SOUTH TIP OF FABIAN TRACT, NEAR TRACY, CALIF.

LOCATION.--At southern tip of Fabian Tract at trash rack of pump intake at end of Lammers Road, approximately 3 miles east of Bethany, and 6.1 miles north of Tracy, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....		--		--	--	139	--	216	0	--	222		--	0.4	--	--		304	127	3.5	1270	8.2
Nov. 11.....		--		--	--	94	--	149	0	--	129		--	.6	--	--		182	60	3.0	854	7.8
Dec. 10.....		--		--	--	78	--	127	0	--	110		--	.4	--	--		162	58	2.7	745	7.2
Jan. 7, 1965.....		--		--	--	24	--	60	0	--	33		--	.1	--	--		70	21	1.2	276	7.5
Feb. 3.....		--		--	--	34	--	70	0	--	44		--	.1	--	--		81	24	1.6	344	8.0
Mar. 4.....		--		--	--	34	--	64	0	--	51		--	.2	--	--		83	31	1.6	358	8.0
Apr. 8.....		--		--	--	43	--	78	0	--	58		--	.2	--	--		97	33	1.9	410	7.6
May 6.....	17	--		20	8.8	36	1.9	74	0	34	49		1.8	.1	213	0.29		86	25	1.7	358	7.6
June 17.....		--		--	--	18	--	46	0	--	32		--	.0	--	--		57	19	1.0	217	7.1
July 15.....		--		--	--	71	--	119	3	--	124		--	.2	--	--		166	64	2.4	698	8.3
Aug. 12.....		--		--	--	99	--	166	2	--	174		--	.2	--	--		228	89	2.8	939	8.3
Sept. 16.....		21		43	19	82	4.4	154	0	60	129		4.6	.1	480	.65		184	58	2.6	789	7.9

## SAN JOAQUIN RIVER BASIN--Continued

11-3129.9. DELTA-MENDOTA CANAL ABOVE TRACY PUMPING PLANT, NEAR TRACY, CALIF.

LOCATION.--At Byron Road bridge, 1.1 miles upstream from Tracy Pumping Plant, Alameda-Contra Costa County line, and 9.2 miles northwest of Tracy, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge given for Delta-Mendota Canal at Tracy Pumping Plant, near Tracy. No appreciable inflow between sampling point and gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	2523	--		--	--	38	--	107	0	--	50		--	0.1	--	--		107	19	1.6	390	7.9
Nov. 9.....	538	--		--	--	102	--	152	0	--	148		--	.4	--	--		202	77	3.1	945	8.1
Mar. 2, 1965.....	2380	--		--	--	37	--	64	0	--	50		--	.2	--	--		81	29	1.8	352	8.0
Apr. 6.....	868	--		--	--	35	--	67	0	--	44		--	.2	--	--		76	21	1.7	331	8.0
May 5.....	2909	12		17	7.2	30	1.6	59	4	32	39		0.6	.1	A 172	0.23		72	17	1.5	290	8.4
June 15.....	3491	--		--	--	16	--	41	0	--	24		--	.1	--	--		42	8	1.1	168	8.0
July 13.....	4364	--		--	--	25	--	66	0	--	32		--	.1	--	--		68	14	1.3	255	8.2
Aug. 11.....	4065	--		--	--	22	--	74	1	--	26		--	.1	--	--		68	6	1.2	247	8.3
Sept. 15.....	1728	21		42	17	77	3.2	136	4	59	122		2.4	.2	442	.60		176	58	2.5	747	8.4

A Calculated from sum of determined constituents.



SAN JOAQUIN RIVER BASIN--Continued

11-3130.1. DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT, NEAR TRACY, CALIF.

LOCATION.--At canal bridge 4.98, 0.5 mile downstream from Mountain House Road siphon, 2.9 miles downstream from Tracy Pumping Plant, and 8.5 miles northwest of Tracy, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: July 1959 to June 1963.

Water temperatures: July 1959 to September 1965.

Sediment records: July 1959 to June 1960, October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 79°F July 30, Aug. 4, 6; minimum, 47°F Feb. 2, 4.

Sediment concentrations: Maximum daily, 500 ppm Mar. 1; minimum daily, no flow on many days during December and January.

Sediment loads: Maximum daily, 3,220 tons Mar. 1; minimum, daily, 0 ton on many days during December and January.

EXTREMES, 1959-65.--Water temperatures: Maximum, 81°F July 25, 1960; minimum (1960-63, 1964-65), 41°F Jan. 21, 1961.

Sediment concentrations (1959-60, 1962-65): Maximum daily, 500 ppm Mar. 1, 1965; minimum daily, no flow on many days during 1962-65.

Sediment loads (1959-60, 1962-65): Maximum daily, 3,220 tons Mar. 1, 1965; minimum daily, 0 ton on many days during 1962-65.

REMARK.--No flow Dec. 1 to Jan. 27. Records of daily discharge data given for Delta-Mendota Canal Tracy pumping plant near Tracy.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Aver- age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	71	71	72	72	73	71	71	71	69	70	71	70	71	70	70	69	69	68	68	68	68	68	68	66	66	--	--	--	--	--	--	70
November .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52	52	52	--	53	--	52	--	--
December .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48	48	--
February .....	49	47	48	47	48	49	50	50	48	49	49	48	49	49	50	51	52	54	53	55	56	55	54	54	54	54	55	--	--	--	--	51
March .....	54	55	51	55	54	54	55	54	54	55	54	53	54	54	55	51	55	56	57	57	58	56	57	56	56	56	56	57	57	58	59	55
April .....	58	57	58	58	59	58	57	57	53	56	57	58	58	59	59	60	60	60	59	61	60	63	61	63	64	65	67	66	66	65	--	60
May .....	65	66	65	64	63	64	63	65	65	65	67	67	66	67	67	66	68	69	68	69	70	68	68	69	70	69	71	70	70	68	67	67
June .....	66	66	66	68	66	65	65	67	66	68	67	68	68	67	66	--	69	67	68	67	68	66	67	69	68	--	70	--	69	70	--	67
July .....	--	71	72	71	73	--	71	72	73	--	71	72	74	75	--	76	77	--	76	--	76	76	77	78	77	76	78	78	77	79	77	75
August .....	77	78	77	79	78	79	77	77	77	76	77	75	74	73	73	75	76	76	76	76	75	74	72	71	71	73	74	75	75	77	76	75
September .....	75	75	73	73	71	70	71	69	70	69	69	68	68	67	68	68	68	67	68	66	63	67	65	65	--	66	65	64	65	64	--	68

SAN JOAQUIN RIVER BASIN--Continued

11-3130.1. DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT, NEAR TRACY, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2750	64	475	1560	--	220			
2..	2737	66	488	716	--	50			
3..	2520	64	435	642	--	40			
4..	2522	66	449	642	--	40			
5..	2519	65	442	643	--	40			
6..	2523	64	436	536	--	40			
7..	2655	67	480	537	--	40			
8..	2993	68	550	537	--	40			
9..	2414	64	417	538	--	40			
10..	2415	58	378	536	--	40			
11..	2379	50	321	536	--	40			
12..	2302	60	373	535	--	40			
13..	2281	54	333	536	--	40			
14..	2304	50	311	716	--	50			
15..	2046	52	287	715	--	50			
16..	2043	65	359	715	--	50			
17..	1992	55	296	533	--	40			
18..	2058	50	278	525	--	40			
19..	2055	57	316	566	--	40			
20..	1990	48	258	558	--	40			
21..	1930	55	287	717	--	50			
22..	1729	67	313	716	--	50			
23..	1737	54	253	701	--	50			
24..	1737	56	263	716	27	52			
25..	1834	54	267	775	18	38			
26..	1666	50	225	789	18	38			
27..	1664	--	220	786	18	38			
28..	1661	--	220	571	20	31			
29..	1661	--	220	570	29	45			
30..	1659	--	220	499	29	39			
31..	1723	--	230	--	--	--			
Total	66499	--	10400	19662	--	1451	0	--	0
	JANUARY			FEBRUARY			MARCH		
1..	0	--	0	1520	39	160	2382	500	3220
2..	0	--	0	575	35	54	2380	110	707
3..	0	--	0	683	40	74	2522	41	279
4..	0	--	0	720	57	111	2530	78	533
5..	0	--	0	721	33	64	2551	90	620
6..	0	--	0	722	25	49	2591	55	385
7..	0	--	0	721	28	55	2273	85	522
8..	0	--	0	859	33	77	2238	78	471
9..	0	--	0	938	33	84	2243	80	484
10..	0	--	0	1081	41	120	2208	140	835
11..	0	--	0	1036	44	123	2247	72	437
12..	0	--	0	1227	130	431	2271	60	368
13..	0	--	0	1201	125	405	2134	66	380
14..	0	--	0	1206	210	684	1812	79	386
15..	0	--	0	1223	239	789	1814	148	725
16..	0	--	0	1369	65	240	1813	82	401
17..	0	--	0	1466	55	218	2343	75	474
18..	0	--	0	1670	60	271	2342	61	386
19..	0	--	0	1669	72	324	2127	49	281
20..	0	--	0	1739	96	451	1946	76	399
21..	0	--	0	1952	146	769	1946	169	888
22..	0	--	0	2020	86	469	1948	128	673
23..	0	--	0	2300	83	515	1943	97	509
24..	0	--	0	2626	80	567	1944	76	399
25..	0	--	0	2736	64	473	2269	81	496
26..	0	--	0	2846	95	730	2249	118	717
27..	0	--	0	2784	183	1380	2199	156	926
28..	114	--	10	2384	453	2920	1873	53	268
29..	1700	78	358	--	--	--	1874	66	334
30..	1733	69	323	--	--	--	1813	50	245
31..	1738	52	244	--	--	--	1820	94	462
Total	5285	--	935	41994	--	12607	66645	--	18210

B Computed from estimated-concentration graph.

## SAN JOAQUIN RIVER BASIN--Continued

11-3130.1. DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT, NEAR TRACY, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1432	50	193	2849	82	631	3073	118	979
2..	1367	26	96	3030	120	982	3281	104	921
3..	868	30	70	2850	130	1000	3287	100	887
4..	868	27	63	2849	107	823	3286	118	1050
5..	869	41	96	2909	126	990	3282	134	1190
6..	868	46	108	3064	75	620	3383	171	1560
7..	869	52	122	3061	102	843	3378	145	1320
8..	870	43	101	3125	84	709	3377	105	957
9..	726	43	84	3123	34	287	3377	92	839
10..	506	83	113	3138	75	635	3383	96	877
11..	432	87	101	3123	61	514	3390	90	824
12..	432	90	105	3069	70	580	3391	104	952
13..	432	56	65	3448	87	810	3455	97	905
14..	433	159	186	3569	96	925	3491	118	1110
15..	578	92	144	3573	96	926	3491	180	1700
16..	577	109	170	3568	86	828	3713	198	1980
17..	723	150	293	3505	150	1420	3777	187	1910
18..	723	46	90	3376	138	1260	3765	166	1690
19..	787	77	164	3378	147	1340	3958	141	1510
20..	1141	83	256	3372	123	1120	3957	111	1190
21..	1518	138	566	3064	88	728	3956	134	1430
22..	1729	149	696	3043	100	822	3767	137	1390
23..	1201	88	285	2975	93	747	3767	121	1230
24..	1667	75	338	2974	87	699	3761	110	1120
25..	1671	92	415	2690	100	726	3762	87	884
26..	1672	106	479	2764	134	1000	3764	155	1580
27..	1742	89	419	2771	130	973	3827	150	1550
28..	2248	109	662	2771	111	830	3835	154	1590
29..	2535	102	698	2918	126	993	3774	195	1990
30..	2601	90	632	2924	108	853	3646	197	1940
31..	--	--	--	2931	97	768	--	--	--
Total	34085	--	7810	95804	--	26382	107354	--	39055
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3640	155	1520	4151	136	1520	2809	72	546
2..	3701	152	1520	4152	141	1580	2599	68	477
3..	3772	144	1470	4025	117	1270	2455	91	603
4..	3762	144	1460	4221	137	1560	2456	82	544
5..	3950	156	1660	4408	118	1400	2458	83	551
6..	3885	155	1630	4408	132	1570	2459	83	551
7..	4220	148	1690	4289	117	1350	2169	76	445
8..	4322	165	1930	4291	125	1450	1956	92	486
9..	4256	159	1830	4226	125	1430	1846	95	473
10..	4343	168	1970	4167	108	1220	1535	86	356
11..	4344	142	1670	4065	108	1190	1499	81	328
12..	4305	143	1660	3867	93	971	1498	66	267
13..	4364	140	1600	3700	99	989	1503	53	215
14..	4235	140	1600	3636	93	913	1542	50	208
15..	4297	130	1510	3639	100	983	1728	62	289
16..	4301	108	1250	3635	104	1020	1735	70	328
17..	4296	111	1290	3506	104	984	1919	67	347
18..	4286	127	1470	3507	102	966	1920	57	295
19..	4285	110	1270	3503	108	1020	1812	48	235
20..	4425	117	1400	3506	99	937	1811	66	323
21..	4418	110	1310	3901	139	1460	1847	77	384
22..	4422	93	1110	3842	177	1840	1775	64	307
23..	4430	97	1160	3845	117	1210	1777	66	317
24..	4436	99	1190	3585	158	1530	1779	64	307
25..	4426	100	1200	3520	119	1130	1779	64	310
26..	4414	107	1280	3156	103	878	1813	75	367
27..	4426	112	1340	3132	113	956	1864	68	342
28..	4358	108	1270	3025	82	670	1943	50	262
29..	4198	100	1130	2878	90	699	1985	53	284
30..	4157	136	1530	2884	68	530	2017	55	300
31..	4151	122	1370	2815	72	547	--	--	--
Total	130825	--	45290	115485	--	35773	58288	--	11047
Total discharge for year (cfs-days).....								741,926	
Total load for year (tons).....								208,960	

B Computed from estimated-concentration graph.

## SAN JOAQUIN RIVER BASIN--Continued

## 11-3130.1. DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT, NEAR TRACY, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs) <u>1</u> /	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Oct. 20, 1964.....	1240	68			35						98	100						S
Feb. 1, 1965.....	1400	49			38						84	100						S
Mar. 3.....	1300	51			38						97	100						S
May 11.....	1210	67			54						90	100						S
June 15.....	1015	66			70						98	100						S
June 18.....	0540	67			169						88	100						S
July 22.....	1100	76			123						83	100						V
Aug. 30.....	1050	77			96						67	73	91	95	97	100		S

1/ Not determined.

SAN JOAQUIN RIVER BASIN--Continued

11-3130.5. DELTA-MENDOTA CANAL NEAR MENDOTA, CALIF.

LOCATION.--Approximately 1 mile upstream from control gates into Mendota Pool and 2 miles north of Mendota, Fresno County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....		--		--	--	50	--	116	0	--	66		--	0.2	--	--		127	32	1.9	501	8.2
Nov. 9.....		--		--	--	58	--	118	0	--	74		--	.2	--	--		132	35	2.2	559	8.0
Dec. 14.....		--		--	--	73	--	102	0	--	81		--	.5	--	--		136	52	2.7	630	7.9
Feb. 8, 1965....		--		--	--	33	--	61	0	--	36		--	.2	--	--		74	24	1.7	319	7.7
Mar. 8.....		--		--	--	50	--	72	0	--	70		--	.3	--	--		109	50	2.1	475	8.1
Apr. 12.....		--		--	--	70	--	100	0	--	84		--	.3	--	--		142	60	2.6	635	8.1
May 13.....	15			18	7.3	29	1.6	63	0	33	41		2.5	.2	179	0.24		75	23	1.5	305	7.6
June 14.....		--		--	--	21	--	50	0	--	29		--	.1	--	--		52	11	1.3	220	8.0
July 12.....		--		--	--	46	--	84	0	--	70		--	.1	--	--		108	39	1.9	452	8.2
Aug. 9.....		--		--	--	24	--	75	2	--	30		--	.1	--	--		75	10	1.2	274	8.5
Sept. 13.....	18			33	14	56	2.7	112	0	48	84		2.8	.1	326	.44		140	48	2.1	559	7.6

SAN JOAQUIN RIVER BASIN--Continued

11-3132. GRANT LINE CANAL AT TRACY ROAD BRIDGE, CALIF.

LOCATION.--At bridge on Tracy Road approximately 5 miles north of Tracy, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....		--		--	--	86	--	152	4	--	141		--	0.2	--	--		196	65	2.7	834	8.4
Nov. 11.....		--		--	--	78	--	126	2	--	110		--	.4	--	--		156	49	2.7	702	8.3
Dec. 10.....		--		--	--	74	--	106	3	--	101		--	.3	--	--		140	48	2.7	641	8.4
Jan. 7, 1965.....		--		--	--	19	--	56	0	--	20		--	.2	--	--		57	11	1.1	216	8.1
Feb. 3.....		--		--	--	26	--	54	0	--	32		--	.1	--	--		62	18	1.4	257	7.9
Mar. 4.....		--		--	--	32	--	56	2	--	45		--	.1	--	--		75	26	1.6	321	8.3
Apr. 8.....		--		--	--	34	--	65	0	--	42		--	.2	--	--		71	18	1.8	312	7.8
May 6.....		17		16	5.1	22	1.4	60	0	18	31		1.4	.0	A 142	0.19		61	12	1.2	240	8.0
June 17.....		--		--	--	12	--	36	0	--	18		--	.0	--	--		37	7	.9	140	8.0
July 15.....		--		--	--	73	--	127	0	--	124		--	.1	--	--		166	62	2.5	698	8.2
Aug. 12.....		--		--	--	90	--	152	4	--	154		--	.2	--	--		202	71	2.8	854	8.4
Sept. 16.....		24		38	16	73	3.6	142	0	49	113		4.4	.0	412	.56		160	44	2.5	696	7.8

A Calculated from sum of determined constituents.

SAN JOAQUIN RIVER BASIN--Continued

11-3132.5. OLD RIVER AT CLIFTON COURT FERRY, NEAR BETHANY, CALIF.  
(Formerly reported as Old River at Clifton Court Ferry)

LOCATION.--At Clifton Court Ferry Crossing, 0.3 mile downstream from tidal gaging station, 2.1 miles east of Herdlyn, and 3.6 miles north of Bethany, San Joaquin County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....		--		--	--	38	--	109	0	--	50		--	0.1	--	--		106	17	1.6	400	8.1
Nov. 11.....		--		--	--	90	--	134	0	--	126		--	.4	--	--		168	58	3.0	779	8.2
Dec. 10.....		--		--	--	66	--	106	0	--	96		--	.4	--	--		136	49	2.5	631	8.2
Jan. 7, 1965.....		--		--	--	21	--	58	0	--	24		--	.2	--	--		59	11	1.2	230	8.0
Feb. 3.....		--		--	--	30	--	62	0	--	36		--	.2	--	--		69	18	1.6	291	8.1
Mar. 4.....		--		--	--	32	--	60	0	--	46		--	.1	--	--		76	27	1.6	325	8.0
Apr. 8.....		--		--	--	31	--	62	0	--	43		--	.1	--	--		72	21	1.6	305	7.7
May 6.....	17			18	7.1	30	1.4	66	0	31	40		0.6	.1	178	0.24		74	20	1.5	300	7.9
June 17.....		--		--	--	12	--	36	0	--	19		--	.0	--	--		39	9	.8	146	7.9
July 15.....		--		--	--	19	--	63	0	--	28		--	.0	--	--		71	19	1.0	236	7.6
Aug. 12.....		--		--	--	28	--	81	1	--	40		--	.1	--	--		83	15	1.3	307	8.3
Sept. 16.....		15		24	6.8	28	1.8	83	0	28	36		3.0	.0	184	.25		88	20	1.3	313	7.7

## SAN JOAQUIN RIVER BASIN--Continued

11-3133. ITALIAN SLOUGH AT MOUTH, NEAR BYRON, CALIF.

LOCATION.--At confluence of Italian Slough and Old River, 3.6 miles east of Byron, Contra Costa County, and 12 miles northwest of Tracy.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 5, 1964.....		--		22	14	43	2.2	112	0	30	62		2.4	0.2	241	0.33		114	22	1.8	440	7.5
Dec. 3.....		--		26	15	64	3.0	108	0	53	92		2.5	.5	329	.45		126	37	2.5	613	8.2
Jan. 8, 1965.....		--		26	13	89	--	100	0	64	121		4.9	1.2	412	.56		120	38	3.5	751	7.8
Feb. 3.....		15		23	12	87	--	98	0	56	116		3.8	1.3	368	.50		108	28	3.6	653	7.5
Mar. 3.....		15		21	10	68	1.9	80	0	47	90		2.3	1.2	313	.43		94	28	3.1	531	7.9
Apr. 8.....		--		23	13	50	--	86	0	49	73		5.2	.5	280	.38		110	39	2.1	492	7.5
May 6.....		17		17	6.2	26	1.4	62	0	26	34		.5	.1	159	.22		68	17	1.4	268	8.2
June 17.....		--		11	3.0	15	1.2	39	0	11	22		3.3	.2	103	.14		40	8	1.0	165	7.4
July 15.....		--		--	--	22	--	64	0	--	32		--	.1	--	--		68	16	1.2	253	7.5
Sept. 17.....		18		26	6.8	32	2.1	88	0	30	43		3.9	.0	205	.28		93	21	1.4	345	8.1



SAN JOAQUIN RIVER BASIN--Continued

11-3133.5. INDIAN SLOUGH NEAR BRENTWOOD, CALIF.

LOCATION.--At East Contra Costa Irrigation District Pumping station on Bixler Road, 3.6 miles north of Byron, and 4.1 miles southeast of Brentwood, Contra Costa County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....		--		--	--	48	--	125	0	--	58		--	0.4	--	--		120	18	1.9	474	8.0
Nov. 18.....		--		--	--	168	--	348	0	--	171		--	2.4	--	--		322	37	4.1	1330	8.1
Dec. 1.....		--		--	--	176	--	324	28	--	190		--	2.7	--	--		354	42	4.1	1560	8.6
Jan. 7, 1965....		--		--	--	109	--	180	6	--	128		--	1.5	--	--		210	53	3.3	936	8.4
Feb. 8.....		--		--	--	82	--	127	2	--	104		--	1.2	--	--		166	59	2.8	724	8.4
Mar. 11.....		--		--	--	109	--	164	4	--	132		--	1.5	--	--		202	61	3.3	919	8.4
Apr. 12.....		--		--	--	78	--	116	0	--	100		--	.8	--	--		144	49	2.8	659	7.9
May 17.....	13			18	8.5	32	1.6	71	0	36	42	1.6	.2	A	188	0.26		80	22	1.6	327	7.2
June 10.....		--		--	--	36	--	76	0	--	47		--	.3	--	--		86	24	1.7	357	8.2
July 1.....		--		--	--	31	--	74	0	--	40		--	.1	--	--		77	16	1.5	310	8.2
Aug. 16.....		--		--	--	28	--	83	0	--	34		--	.2	--	--		74	6	1.4	293	8.0
Sept. 1.....		14		16	8.5	26	1.6	85	0	20	30	3.3	.2		168	.23		75	5	1.3	278	7.4

A Calculated from sum of determined constituents.

## SAN JOAQUIN RIVER BASIN--Continued

11-3134. OLD RIVER AT ORWOOD BRIDGE, NEAR MIDDLE RIVER, CALIF.

LOCATION.--At Atchison, Topeka and Santa Fe Railroad bridge, 1.6 miles west of Middle River, San Joaquin County, and 7.9 miles east of Brentwood.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....		--		--	--	30	--	103		--	37		--	0.1	--	--		91	7	1.4	321	7.5
Nov. 18.....		--		--	--	84	--	124		--	119		--	.4	--	--		166	64	2.8	775	8.1
Dec. 1.....		--		--	--	52	--	90		--	71		--	.3	--	--		115	41	2.1	501	8.1
Jan. 11, 1965....		--		--	--	14	--	46		--	17		--	.2	--	--		52	14	.8	185	7.7
Feb. 8.....		--		--	--	41	--	67		--	54		--	.6	--	--		97	42	1.8	406	8.0
Mar. 11.....		--		--	--	30	--	56		--	43		--	.1	--	--		75	29	1.5	317	8.0
Apr. 12.....		--		--	--	29	--	59		--	38		--	.1	--	--		69	21	1.5	284	7.6
May 17.....	14			16	6.8	24	1.5	61		28	33		1.8	.1	156	0.21		68	18	1.3	264	7.3
June 10.....		--		--	--	23	--	60		--	33		--	.1	--	--		67	18	1.2	259	8.1
July 2.....		--		--	--	18	--	58		--	24		--	.0	--	--		58	10	1.0	203	7.7
Sept. 1.....	14			16	6.6	19	1.6	80		13	22		1.4	.1	146	.20		67	1	1.0	229	7.7

SAN JOAQUIN RIVER BASIN--Continued

11-3134.2. ROCK SLOUGH NEAR KNIGHTSEN, CALIF.

LOCATION.--At Contra Costa Canal intake at the end of Tule Lane, 2 miles northeast of Knightsen, Contra Costa County, and 4.2 miles southeast of Oakley.

RECORDS AVAILABLE.--Chemical analyses; October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....		--		--	--	28	--	100	0	--	32		--	0.1	--	--		86	4	1.3	301	8.0
Nov. 11.....		--		--	--	38	--	106	0	--	48		--	.2	--	--		102	15	1.6	389	8.2
Dec. 10.....		--		--	--	75	--	116	4	--	109		--	.6	--	--		153	51	2.6	688	8.4
Jan. 7, 1965.....		--		--	--	54	--	75	0	--	68		--	.4	--	--		108	46	2.3	497	7.9
Feb. 3.....		--		--	--	70	--	98	0	--	87		--	.8	--	--		140	60	2.6	616	8.2
Mar. 4.....		--		--	--	54	--	88	0	--	73		--	.4	--	--		116	44	2.2	513	8.1
Apr. 7.....		--		--	--	50	--	79	0	--	67		--	.3	--	--		111	46	2.1	473	7.4
May 6.....	14			15	6.4	22	1.2	62	0	23	28		1.3	.1	147	0.20		64	13	1.2	243	7.4
June 17.....		--		--	--	29	--	68	0	--	38		--	.1	--	--		72	16	1.5	294	8.2
July 15.....		--		--	--	16	--	68	0	--	20		--	.0	--	--		62	6	.9	210	8.1
Aug. 12.....		--		--	--	25	--	80	2	--	30		--	.1	--	--		73	4	1.3	268	8.4
Sept. 16.....		15		18	6.3	19	1.8	84	0	17	22		1.3	.0	143	.19		71	2	1.0	236	7.9

## SAN JOAQUIN RIVER BASIN--Continued

11-3134.5. OLD RIVER AT MANDEVILLE ISLAND, CALIF.

LOCATION.--On northwest side of Mandeville Island, San Joaquin County, approximately 0.5 mile upstream from confluence with San Joaquin River, and approximately 5.5 miles southwest of Terminous.

RECORDS AVAILABLE.--Chemical analyses: December 1954 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....		--	--	--	--	22	--	95	0	--	26		--	0.1	--	--		83	5	1.1	274	8.0
Nov. 16.....		--	--	--	--	32	--	100	0	--	45		--	.1	--	--		107	25	1.3	368	8.2
Dec. 1.....		--	--	--	--	44	--	106	0	--	64		--	.3	--	--		119	32	1.8	489	8.2
Jan. 11, 1965....		--	--	--	--	26	--	55	0	--	35		--	.2	--	--		85	40	1.2	315	8.0
Feb. 8.....		--	--	--	--	28	--	62	0	--	38		--	.4	--	--		82	31	1.3	312	8.0
Mar. 11.....		--	--	--	--	28	--	60	0	--	39		--	.1	--	--		78	29	1.4	302	7.9
Apr. 1.....		--	--	--	--	26	--	60	0	--	36		--	.1	--	--		76	27	1.3	284	7.7
May 17.....	14	--	--	12	5.4	14	1.4	52	0	16	20		1.8	.1	111	0.15		52	9	.8	182	7.4
June 10.....		--	--	--	--	17	--	54	0	--	22		--	.0	--	--		56	12	1.0	200	8.1
July 2.....		--	--	--	--	12	--	58	0	--	15		--	.0	--	--		54	6	.7	168	8.1
Aug. 2.....		--	--	--	--	16	--	67	1	--	20		--	.1	--	--		58	1	.9	198	8.4
Sept. 7.....		17	--	20	4.6	17	1.8	82	0	15	19		1.0	.0	135	.18		69	2	.9	218	7.5

SAN JOAQUIN RIVER BASIN--Continued

11-3195. MOKELUMNE RIVER NEAR MOKELUMNE HILL, CALIF.

LOCATION.--Temperature recorder at gaging station at bridge, 1.2 miles northwest of Mokelumne Hill, Calaveras County, and 8 miles downstream from confluence of North and South Forks.

DRAINAGE AREA.--544 square miles.

RECORDS AVAILABLE.--Water temperatures: February 1961 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 62°F July 30, 31; minimum, 40°F Jan. 1-4.

EXTREMES, 1961-65.--Water temperatures: Maximum, 66°F June 21, 1964; minimum, 39°F Jan. 23-28, 1962, Jan. 28-30, 1963.

REMARKS.--Clocked stopped Apr. 2-14; temperature range, 43°F to 45°F.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	58	58	58	59	59	59	58	58	58	58	58	58	58	58	58	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	58
Minimum ....	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	58
November																																
Maximum ....	59	59	59	58	58	58	58	58	58	58	58	58	54	52	50	48	46	45	45	46	45	45	44	44	44	45	45	46	46	46	46	51
Minimum ....	59	59	58	58	58	58	58	58	58	58	58	54	52	50	47	46	44	44	44	45	44	44	44	44	44	44	45	46	46	46	50	
December																																
Maximum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	45	46	44	44	44	45	45	45	45	44	42	42	42	45
Minimum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	44	44	44	43	44	44	45	45	45	44	42	42	42	45
January																																
Maximum ....	42	40	41	42	42	44	44	43	42	42	43	43	43	43	42	42	42	42	43	43	43	43	44	44	44	44	43	43	43	43	43	43
Minimum ....	40	40	40	40	42	42	43	42	42	42	42	43	43	42	42	42	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43	42
February																																
Maximum ....	43	43	43	43	44	44	44	44	44	44	44	42	41	42	42	42	42	42	42	42	43	43	44	43	43	43	43	45	45	--	--	43
Minimum ....	43	43	43	43	43	44	44	44	44	44	42	41	41	41	42	42	42	42	42	42	42	43	43	43	43	43	43	45	--	--	--	43
March																																
Maximum ....	45	45	44	44	44	44	44	43	43	43	43	43	43	43	43	43	43	43	44	44	44	44	45	45	45	45	45	44	43	43	43	45
Minimum ....	45	44	44	44	44	43	43	43	43	43	43	42	43	42	42	42	43	43	43	43	44	44	45	45	45	45	44	43	43	43	43	43
April																																
Maximum ....	45	--	--	--	--	--	--	--	--	--	--	--	--	--	44	46	47	47	47	47	47	49	48	48	49	51	52	52	52	52	--	--
Minimum ....	45	--	--	--	--	--	--	--	--	--	--	--	--	--	44	44	46	47	47	47	47	48	48	48	49	51	51	51	52	52	--	--
May																																
Maximum ....	52	50	48	48	48	48	47	48	49	49	51	52	52	52	52	52	52	52	52	52	51	50	50	50	52	52	53	53	53	53	51	
Minimum ....	50	48	47	46	48	47	46	46	48	49	49	51	51	51	51	51	52	52	52	52	50	49	49	50	51	51	52	52	53	52	50	
June																																
Maximum ....	52	53	55	57	57	57	57	57	57	57	58	58	58	58	57	56	56	57	58	58	58	58	58	59	59	59	57	57	58	59	--	57
Minimum ....	52	53	53	55	57	57	57	57	56	56	57	58	58	57	56	56	56	56	58	58	58	58	58	59	59	57	57	57	58	58	--	57
July																																
Maximum ....	59	60	60	60	60	60	60	60	60	60	60	60	60	59	58	61	61	59	59	59	59	58	64	58	58	58	57	57	57	58	62	59
Minimum ....	58	59	60	60	60	60	60	60	60	60	60	60	59	58	58	57	58	59	59	59	59	58	58	57	57	57	57	57	57	57	58	58
August																																
Maximum ....	59	57	57	57	57	57	57	57	57	57	57	55	55	55	56	56	56	57	57	56	56	56	56	56	55	55	55	55	55	54	54	56
Minimum ....	54	54	54	54	54	54	54	53	54	53	53	53	53	54	54	54	54	54	54	54	54	54	54	54	54	55	56	57	57	58	58	55
September																																
Maximum ....	54	54	54	54	54	54	53	53	53	53	53	53	53	53	54	54	54	54	54	54	54	54	54	54	54	55	56	57	57	58	58	54
Minimum ....	54	54	54	54	54	54	53	53	53	53	53	53	53	53	54	54	54	54	54	54	54	54	54	54	54	55	56	57	57	58	58	54

SAN JOAQUIN RIVER BASIN--Continued

11-3235. MOKELUMNE RIVER BELOW CAMANCHE DAM, CALIF.

LOCATION.--Temperature recorder at gaging station 0.7 mile downstream from Murphy Creek, and 3.4 miles northeast of Clements, San Joaquin County.

DRAINAGE AREA.--627 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1961 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 59°F on many days during October and November.

EXTREMES, 1961-63, 1964-65.--Water temperatures: Maximum, 64°F Oct. 14-16, 1961; minimum (1961-63), 45°F Jan. 22-26, 1962.

REMARKS.--Miscellaneous chemical analyses formerly reported as 11-3210. Mokelumne River at Lancha Plana, Calif.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 16, 1964....	151	--	--	--	--	2.8	--	16	0	--	1.2	--	--	0.1	--	--	--	14	1	0.3	42	7.5
Jan. 11, 1965....	1820	--	--	--	--	3.0	--	18	0	--	.8	--	--	.1	--	--	--	15	0	.3	42	7.4
Mar. 1.....	730	--	--	--	--	2.3	--	18	0	--	1.3	--	--	.0	--	--	--	16	1	.3	43	7.5
May 18.....	2010	11	--	4.4	1.2	2.8	0.5	20	0	3.0	1.3	--	0.6	--	38	0.05	--	16	0	.3	45	7.1
July 1.....	1000	--	--	--	--	2.7	--	20	0	--	1.2	--	--	.0	--	--	--	16	0	.3	45	7.7
Sept. 2.....	400	8.4	--	5.2	1.2	2.1	.7	18	2	2.0	1.3	--	.3	.0	32	.04	--	18	2	.2	45	8.5

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	
Minimum ....	59	59	59	59	59	59	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	59	59	59	59	59	58
November																																	
Maximum ....	59	59	59	59	59	59	59	59	59	59	58	58	58	57	57	57	56	55	54	54	53	53	53	53	53	53	52	52	52	52	52	52	
Minimum ....	59	59	59	59	59	58	58	58	58	58	58	57	57	57	56	55	54	54	53	53	53	53	53	53	52	52	52	52	51	51	--	56	
December																																	
Maximum ....	52	52	52	52	52	52	52	52	52	51	51	51	52	51	51	52	51	51	51	50	51	51	50	51	--	--	--	--	--	--	--	--	
Minimum ....	51	51	51	51	50	50	50	51	50	50	50	50	50	50	50	50	50	50	50	50	50	50	49	50	--	--	--	--	--	--	--	--	
January																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46	46	46	46	46	45	46	46	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	44	44	45	44	44	45	45	--
February																																	
Maximum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	46	--	--	46	
Minimum ....	45	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	45	46	45	46	46	46	46	44	44	44	44	--	--	45	
March																																	
Maximum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	47	47	46	46	45	46	46	46	
Minimum ....	44	45	44	44	44	44	44	45	45	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	46	45	
April																																	
Maximum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	--	46	
Minimum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	--	46	
May																																	
Maximum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	47	47	48	48	48	48	48	48	48	48	48	48	48	48	49	49	49	49	47	
Minimum ....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	--	46	
June																																	
Maximum ....	49	49	49	49	49	49	49	49	49	50	50	50	50	50	51	51	51	51	51	51	51	51	51	51	51	51	51	51	52	52	52	--	50
Minimum ....	49	49	49	49	49	49	49	49	49	49	49	49	49	49	50	50	50	50	50	50	51	51	51	51	51	51	51	51	51	51	--	50	
July																																	
Maximum ....	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	53	53	53	53	53	53	53	53	53	53	52	
Minimum ....	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	53	53	53	53	52	
August																																	
Maximum ....	53	53	53	53	53	53	53	53	53	53	53	53	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
Minimum ....	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
September																																	
Maximum ....	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	55	55	55	55	55	55	55	55	55	55	55	55	55	55	56	55	--	
Minimum ....	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	--	55	

SAN JOAQUIN RIVER BASIN--Continued

11-3235. MOKELUMNE RIVER BELOW CAMANCHE DAM, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

F, pipet, S, Sieve, V, visual accumulation tube, W, in distilled water)																	
Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 3, 1964.....	1315	59		151	4	1.6											V
Dec. 10.....	1355	51		894	7	17											
Jan. 7, 1965.....	1355	50		2060	48	267				54	64	89	97	100			
Feb. 11.....	1535	46		560	6	9.1											
Mar. 18.....	1410	46		287	4	3.1											
Apr. 20.....	1715	46		1800	15	73											
May 17.....	1540	48		2010	8	43											
June 22.....	1315	51		1770	8	38											
Aug. 3.....	1335	53		450	2	2.4											
Sept. 14.....	1400	54		734	5	9.9											

## SAN JOAQUIN RIVER BASIN--Continued

11-3255. MOKELUMNE RIVER AT WOODBRIDGE, CALIF.

LOCATION.--At dam of Woodbridge Irrigation District, 0.4 mile upstream from gaging station at Woodbridge, San Joaquin County.  
DRAINAGE AREA (revised).--661 square miles upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: March 1951 to September 1963.

Water temperatures: March 1951 to September 1958, November 1960 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 69°F July 14, 15, Aug. 4; minimum, 47°F on many days during January to March.

EXTREMES, 1951-58, 1960-65.--Water temperatures: Maximum (1951-54, 1956-58, 1960-65), 83°F July 9, 1951; minimum (1951-55, 1956-58, 1961-65), 35°F Jan. 29, 30, 1954.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 12, 1964....	90	--	--	--	--	3.6	--	26	0	--	2.1	--	--	0.0	--	--	--	22	1	0.3	61	7.4
Jan. 6, 1965....	2620	--	--	--	--	2.3	--	17	0	--	1.0	--	--	.0	--	--	--	14	0	.3	43	6.9
Mar. 1.....	604	--	--	--	--	2.3	--	18	0	--	1.3	--	--	.0	--	--	--	15	0	.3	43	7.6
May 5.....	1680	11	--	6.4	0.0	2.3	0.7	20	0	3.0	1.5	--	0.3	.0	.35	0.05	--	16	0	.2	48	7.1
July 13.....	237	--	--	--	--	2.8	--	22	0	--	1.3	--	--	--	--	--	--	18	0	.3	48	7.7
Sept. 15.....	335	12	--	6.0	.4	2.2	.6	21	0	2.0	1.2	--	.6	.0	.36	.05	--	16	0	.2	46	7.2

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	64	64	66	66	67	67	68	68	68	68	68	68	68	67	67	67	66	65	65	65	64	63	62	62	62	61	60	60	59	58	58	65	
Minimum .....	63	63	64	65	66	67	67	67	68	68	68	68	67	66	66	66	65	65	65	64	63	62	62	62	61	60	60	59	58	58	58	64	
November																																	
Maximum .....	59	59	59	59	59	59	58	58	58	58	57	56	56	55	54	53	52	51	51	50	50	50	50	50	50	51	52	52	52	52	--	54	
Minimum .....	58	59	59	59	59	58	58	58	58	57	56	56	55	54	53	52	51	51	50	50	50	50	50	50	50	51	52	52	52	52	--	54	
December																																	
Maximum .....	52	52	52	52	52	52	52	52	52	52	52	52	52	52	51	51	52	52	52	51	52	54	56	56	55	55	55	53	51	49	49	52	
Minimum .....	52	52	52	52	52	52	52	52	52	52	52	52	52	51	51	51	52	52	51	51	51	52	54	55	55	55	53	51	49	49	49	52	
January																																	
Maximum .....	49	49	49	48	48	48	48	48	48	48	48	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	48	
Minimum .....	49	49	48	48	48	48	48	48	48	48	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	
February																																	
Maximum .....	47	47	47	47	47	47	47	47	48	48	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	48	48	--	--	--	47	
Minimum .....	47	47	47	47	47	47	47	47	47	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	48	48	--	--	--	47	
March																																	
Maximum .....	48	48	48	48	48	48	48	48	48	48	47	47	47	47	47	47	47	48	50	50	51	53	54	54	54	53	52	52	52	50	50	49	
Minimum .....	48	48	48	48	48	48	48	48	48	48	47	47	47	47	47	47	47	47	48	50	50	51	53	54	53	52	52	52	50	50	50	49	
April																																	
Maximum .....	50	50	50	50	50	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	--	49	
Minimum .....	50	50	50	50	50	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	--	49	
May																																	
Maximum .....	49	49	49	49	49	49	49	49	50	50	50	50	50	50	50	50	50	51	52	52	52	52	52	52	52	52	53	54	54	55	55	51	
Minimum .....	49	49	49	48	49	49	49	49	50	50	50	50	50	50	50	50	50	50	51	52	52	52	52	52	52	52	53	53	54	54	54	51	
June																																	
Maximum .....	54	54	54	54	54	54	53	53	53	53	54	55	55	55	55	55	55	56	57	57	57	57	57	57	57	58	58	58	58	63	63	--	56
Minimum .....	54	54	54	54	53	53	53	53	53	53	54	55	55	55	55	55	55	55	56	57	57	57	57	57	57	57	58	58	58	62	--	56	
July																																	
Maximum .....	62	60	60	60	60	60	60	60	60	60	61	65	67	69	69	66	65	64	65	66	66	66	67	66	67	67	67	66	66	66	67	64	
Minimum .....	60	60	59	60	60	60	60	60	60	60	60	61	65	66	65	65	65	64	63	63	63	64	65	65	65	65	66	66	66	66	66	66	
August																																	
Maximum .....	68	68	68	69	68	68	68	68	67	67	66	66	65	66	68	68	67	68	68	67	67	67	67	67	67	67	68	68	68	68	67	67	
Minimum .....	65	66	66	66	66	66	66	66	66	66	66	64	63	64	66	66	66	66	66	66	66	66	66	66	65	65	66	66	66	67	66	66	
September																																	
Maximum .....	67	66	66	66	65	64	64	63	63	63	63	64	64	63	63	63	63	63	61	61	61	61	61	62	62	62	62	62	62	62	--	63	
Minimum .....	66	65	65	64	64	63	63	62	63	63	63	63	63	63	63	63	62	61	61	61	61	61	61	62	62	62	62	62	62	62	--	62	



SAN JOAQUIN RIVER BASIN--Continued

11-3350. COSUMNES RIVER AT MICHIGAN BAR, CALIF.

LOCATION.--At gaging station at Michigan Bar, Sacramento County, 5.5 miles southwest of Latrobe, and 12 miles downstream from confluence of North and Middle Forks.

DRAINAGE AREA (revised).--536 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1963.

Water temperatures: October 1962 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 41°F Jan. 1, 2, 25.

Sediment concentrations: Maximum daily, 2,030 ppm Dec. 23; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 168,000 tons Dec. 23; minimum daily, less than 0.05 ton on several days.

EXTREMES, 1962-65.--Water temperatures (1963-65): Minimum, 40°F on several days during December 1963.

Sediment concentrations: Maximum daily, 3,070 ppm Feb. 1, 1963; minimum daily, 1 ppm on many days during 1962-65.

Sediment loads: Maximum daily, 245,000 tons Feb. 1, 1963; minimum daily, less than 0.05 ton on many days during 1962-65.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 12, 1964...	375	--	--	--	--	4.7	--	36	0	--	3.9	--	--	0.0	--	--	--	40	10	0.3	109	7.6
Jan. 12, 1965...	2110	--	--	--	--	3.2	--	32	0	--	1.6	--	--	.0	--	--	--	27	1	.3	69	7.9
Mar. 15.....	592	--	--	--	--	3.5	--	39	0	--	1.6	--	--	.0	--	--	--	32	0	.3	77	7.9
May 18.....	--	17	--	5.0	1.5	2.7	0.8	26	0	1.0	.9	--	0.8	.0	43	0.06	--	18	0	.3	50	7.2
July 1.....	137	--	--	--	--	3.6	--	38	0	--	1.6	--	--	.0	--	--	--	30	0	.3	78	8.0
Sept. 2.....	26	19	--	14	7	4.1	1.4	48	0	4.0	1.8	--	.5	.0	70	.10	--	38	0	.3	96	7.5

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Aver- age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	68	--	--	70	--	--	--	69	--	--	68	--	--	--	68	--	--	65	--	--	--	64	--	--	--	60	--	--	60	61	--	--
November .....	58	--	59	--	56	--	--	56	--	54	54	53	50	48	48	--	--	42	--	--	--	44	--	--	--	50	--	--	48	--	--	--
December .....	--	--	52	--	--	48	--	--	--	51	52	47	44	42	44	45	46	45	46	51	52	53	53	52	51	51	48	45	44	45	43	--
January.....	41	41	44	47	48	50	45	43	46	45	46	47	46	45	43	45	--	47	47	--	47	--	48	47	41	45	45	45	--	47	46	45
February.....	45	45	46	46	--	49	47	--	45	44	43	43	43	45	46	46	47	49	46	50	51	50	49	48	50	46	50	50	--	--	--	47
March.....	50	50	51	52	50	49	50	52	49	51	52	50	51	53	54	51	53	54	51	56	57	54	54	51	52	51	53	53	51	51	54	52
April.....	53	52	54	53	52	52	51	49	47	48	49	50	51	52	55	56	53	55	60	56	54	53	53	61	63	59	60	64	64	59	--	55
May.....	60	57	55	57	55	55	56	--	61	--	59	--	63	--	66	--	65	66	--	62	--	--	61	--	--	--	68	--	--	--	65	--
June.....	--	--	67	--	--	68	--	--	--	70	--	--	70	--	--	--	67	--	--	76	--	--	72	--	73	--	--	--	75	--	--	--
July.....	78	--	--	--	81	--	--	80	--	--	77	--	--	--	80	--	--	80	--	--	--	--	--	--	74	--	--	--	--	--	--	--
August.....	80	--	82	--	--	--	--	80	--	--	--	--	--	--	--	79	--	--	--	--	--	76	--	--	--	--	--	--	75	--	--	--
September .....	--	--	--	--	--	71	--	--	--	--	--	70	--	74	--	--	--	--	66	--	--	--	--	--	--	68	--	--	--	--	--	--

SAN JOAQUIN RIVER BASIN--Continued

11-3350. COSUMNES RIVER AT MICHIGAN BAR, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	6.7	10	0.2	48	3	0.4	93	--	0.8
2..	7.2	--	.2	55	--	.6	142	5 K	2.6
3..	7.6	--	.2	100	10	2.7	224	9 S	5.6
4..	9.7	6	.2	63	--	1.0	197	--	2.7
5..	10	--	.2	45	--	.7	154	--	1.2
6..	8.0	--	.1	36	--	.6	132	3	1.1
7..	8.0	--	.1	31	--	.5	114	--	.9
8..	8.0	5	.1	29	6	.5	104	--	.8
9..	7.6	--	.1	48	--	1.2	98	--	.8
10..	7.6	--	.1	130	14 S	5.6	98	3	.8
11..	7.6	2	T	231	22	14	238	15 S	30
12..	7.6	--	T	375	35 S	37	759	132 S	308
13..	7.6	--	T	395	36 S	40	380	18	18
14..	7.6	--	T	206	17	9.5	272	5	3.7
15..	7.6	3	.1	124	14	4.7	231	3	1.9
16..	7.6	--	.1	93	--	2.3	203	2	1.1
17..	8.0	--	T	79	--	1.1	177	2	1.0
18..	8.0	2	T	79	--	.6	159	2	.9
19..	8.0	--	T	61	1	.2	210	7	4.0
20..	7.2	--	T	56	--	.2	1530	110 S	587
21..	7.6	--	T	56	--	.3	3500	210 S	2570
22..	7.2	1	T	53	2	.3	9990	835 S	37800
23..	8.0	--	T	50	--	.3	28500	2030 S	168000
24..	8.0	--	T	49	--	.3	19300	1560 S	84400
25..	8.5	--	T	52	--	.3	8050	669 S	16300
26..	8.5	2	T	61	3	.5	5790	420	6570
27..	9.1	--	T	116	--	3.4	7280	560	11000
28..	10	--	.1	119	--	2.6	5660	400	6110
29..	20	2	.1	93	5	1.3	4100	155	1720
30..	53	4	.6	85	--	.7	3590	100	969
31..	68	--	.6	--	--	--	3520	88	836
Total	365.1	--	3.7	3018	--	133.4	104795	--	337247.9
	JANUARY			FEBRUARY			MARCH		
1..	2220	45	270	1280	6	21	756	4	8.2
2..	1720	25	116	1240	6	20	724	2	3.9
3..	2260	52 S	351	1200	6	19	684	2	3.7
4..	3760	142 S	1530	1150	5	16	660	2	3.6
5..	2860	93 S	926	1300	9	32	636	2	3.4
6..	14600	1580 S	68900	1760	22	105	636	3	5.2
7..	12000	867 S	33300	1480	9	36	636	3	5.2
8..	5260	250	3550	1380	5	19	606	3	4.9
9..	3640	99	973	1230	4	13	578	2	3.1
10..	2860	52	402	1120	3	9.1	564	2	3.0
11..	2380	31	199	1020	4	11	557	2	3.0
12..	2110	23	131	960	4	10	628	6	10
13..	1860	17	85	910	4	9.8	756	11	22
14..	1650	13	58	860	4	9.3	628	5	8.5
15..	1540	12	50	820	5	11	592	2	3.2
16..	1480	10	40	810	4	8.7	564	3	4.6
17..	1420	10	38	740	3	6.0	550	2	3.0
18..	1410	8	30	716	2	3.9	536	2	2.9
19..	1540	12	50	700	5	9.5	529	1	1.4
20..	1720	20	93	692	3	5.6	515	2	2.8
21..	1590	10	43	692	2	3.7	515	2	2.8
22..	1480	9	36	692	2	3.7	515	2	2.8
23..	1510	13 S	56	684	2	3.7	529	2	2.9
24..	3430	148 S	1410	660	2	3.6	536	2	2.9
25..	2420	35	229	644	2	3.5	536	2	2.9
26..	2060	21	117	636	3	5.2	550	1	1.5
27..	1810	13	64	756	5	10	1090	26 S	97
28..	1620	10	44	890	9	22	970	7 S	75
29..	1480	7	28	--	--	--	756	7	14
30..	1370	6	22	--	--	--	692	3	5.6
31..	1300	7	25	--	--	--	668	5	9.0
Total	88360	--	113166	27022	--	430.3	19692	--	322.0

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

SAN JOAQUIN RIVER BASIN--Continued

11-3350. COSUMNES RIVER AT MICHIGAN BAR, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	732	5	9.9	1450	10	39	515	--	5.6
2..	748	5	10	1300	9	32	487	--	3.9
3..	764	6	12	1170	8	25	462	3	3.7
4..	716	4	7.7	1040	6	17	450	--	3.6
5..	692	3	5.6	970	7	18	456	--	2.5
6..	732	3	5.9	900	5	12	444	2	2.4
7..	764	4	8.3	830	4	9.0	426	--	2.3
8..	764	3	6.2	772	--	8.3	400	--	2.2
9..	1120	30	108	732	5	9.9	375	--	2.0
10..	3060	120	1020	716	--	7.7	360	2	1.9
11..	2180	47	304	700	4	7.6	345	--	1.9
12..	1540	18	75	708	--	7.6	335	--	1.8
13..	1610	28	122	708	4	7.6	311	2	1.7
14..	1420	20	77	716	--	7.7	289	--	1.6
15..	1260	12	41	724	3	5.9	268	--	1.4
16..	2770	125	1240	732	--	5.9	257	--	.7
17..	2820	70	564	764	5	10	257	1	.7
18..	2240	23	139	790	5	11	261	--	.7
19..	2240	26	157	790	--	8.5	242	--	1.3
20..	2280	27	166	772	4	8.3	231	2	1.2
21..	2710	57	417	756	--	8.2	224	--	1.2
22..	2600	48	337	700	--	5.7	214	2	1.2
23..	2240	25	151	668	3	5.4	206	--	1.1
24..	2000	21	113	599	--	4.9	197	2	1.1
25..	1890	16	82	557	--	3.0	190	--	1.0
26..	1760	14	67	529	--	2.9	174	--	.9
27..	1690	13	59	515	2	2.8	171	--	.5
28..	1650	13	58	508	--	2.7	162	1	.4
29..	1590	12	52	515	--	4.2	148	--	.8
30..	1560	12	51	522	--	5.6	139	--	1.1
31..	--	--	--	522	4	5.6	--	--	--
Total	50142	--	5465.6	23675	--	309.0	8996	--	52.4
	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	137	4	1.5	39	1	0.1	25	--	0.1
2..	137	--	1.5	40	--	.1	26	--	.1
3..	137	--	1.1	38	1	.1	26	--	.1
4..	132	--	.7	42	--	.1	25	--	.1
5..	124	2	.7	41	--	.1	24	--	.1
6..	111	--	.6	39	--	.1	24	2	.1
7..	109	--	.3	35	--	.1	24	--	.1
8..	114	1	.3	28	1	.1	26	--	.1
9..	102	--	.3	28	--	.1	31	--	.1
10..	85	--	.5	26	--	.1	36	--	.1
11..	81	2	.4	28	--	.2	33	--	.1
12..	81	--	.4	41	--	.7	29	1	.1
13..	79	--	.4	107	--	3.8	28	--	.1
14..	79	--	.4	95	--	1.5	26	1	.1
15..	70	2	.4	64	--	.3	25	--	.1
16..	73	--	.4	64	1	.2	24	--	.1
17..	75	--	.4	56	--	.2	23	--	.1
18..	70	2	.4	56	--	.2	22	--	.1
19..	68	--	.4	53	--	.1	23	1	.1
20..	55	--	.1	48	--	.1	23	--	.1
21..	52	--	.1	42	--	.1	23	--	.1
22..	52	--	.1	38	1	.1	23	--	.1
23..	52	--	.1	36	--	.1	23	--	.1
24..	49	--	.1	34	--	.1	24	--	.1
25..	48	1	.1	32	--	.1	24	--	.1
26..	46	--	.1	31	--	.1	23	1	.1
27..	48	--	.1	30	--	.1	23	--	.1
28..	48	--	.1	29	--	.1	24	--	.1
29..	46	--	.1	28	2	.2	25	--	.1
30..	42	--	.1	27	--	.1	26	--	.1
31..	40	--	.1	25	--	.1	--	--	--
Total	2442	--	12.3	1320	--	9.5	761	--	3.0

Total discharge for year (cfs-days)..... 330,588.1  
 Total load for year (tons)..... 457,155.1

S Computed by subdividing day.

SAN JOAQUIN RIVER BASIN--Continued

11-3350. COSUMNES RIVER AT MICHIGAN BAR, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)																		
Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Dec. 22, 1964.....	2125	53		22000	2180		--	--	--	--	--	42	69	88	99	100		V
Dec. 23.....	0105	54		36800	2620		9	13	24	33	48	60	83	96	99	100		VPWC
Dec. 23.....	0725	53		37000	1960		--	--	--	--	--	59	82	95	100	--		V
Dec. 23.....	1030	53		35500	2560		10	15	20	32	45	64	87	96	99	100		VPWC
Dec. 23.....	1030	53		35500	2560		6	11	16	28	44	64	87	96	99	100		VPN
Dec. 24.....	0945	53		24600	1990		--	--	--	--	--	43	70	87	100	--		V
Jan. 6, 1965.....	0615	49		16500	2810		--	--	--	--	--	39	61	83	100	--		V
Jan. 7.....	1050	45		11200	619		--	--	--	--	--	36	56	83	98	100		V
Jan. 7.....	1635	45		8800	560		--	--	--	--	--	31	49	80	99	100		V
Jan. 24.....	0725	47		3990	286		--	--	--	--	--	68	79	93	100	--		S
Apr. 20.....	1520	52		2310	29		--	--	--	--	--	72	82	100	--	--		S

SAN JOAQUIN RIVER BASIN--Continued

11-3366. DELTA CROSS-CHANNEL NEAR WALNUT GROVE, CALIF.

LOCATION.--Approximately 0.2 mile downstream from control gates, 0.5 mile north of Walnut Grove, Sacramento County, and 7.5 miles south of Courtland.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....		--		--	--	8.3	--	75	0	--	4.4		--	0.0	--	--		56	0	0.5	149	8.0
Nov. 9.....		--		--	--	12	--	81	0	--	7.8		--	.1	--	--		64	0	.6	188	8.1
Dec. 9.....		--		--	--	11	--	76	0	--	6.9		--	.3	--	--		61	0	.6	176	8.2
Jan. 5, 1965.....		--		--	--	4.9	--	41	0	--	1.8		--	.0	--	--		36	2	.4	95	7.9
Feb. 4.....		--		--	--	5.5	--	59	0	--	2.8		--	.0	--	--		47	0	.4	121	8.1
Mar. 3.....		--		--	--	6.9	--	62	0	--	5.2		--	.0	--	--		50	0	.4	132	7.9
Apr. 7.....		--		--	--	8.6	--	56	0	--	5.1		--	.1	--	--		48	2	.5	128	7.9
May 4.....	16			8.8	3.6	4.2	0.8	43	0	7.0	2.3		1.1	.0	65	0.09		37	2	.3	92	7.7
June 16.....		--		--	--	11	--	68	0	--	8.4		--	.0	--	--		57	1	.6	164	8.2
July 14.....		--		--	--	9.4	--	68	0	--	6.2		--	.0	--	--		53	0	.6	148	8.0
Aug. 11.....		--		--	--	11	--	73	2	--	7.6		--	.1	--	--		56	0	.6	160	8.5
Sept. 14.....	20			17	8.1	15	1.8	98	0	12	14		1.4	.0	137	.19		76	0	.7	218	7.8

SAN JOAQUIN RIVER BASIN--Continued

11-3372. SAN JOAQUIN RIVER AT ANTIOCH, CALIF.

LOCATION.--At tidal gaging station at Antioch, Contra Costa County, and 4.5 miles from mouth.

RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....		--		--	--	80	--	98	0	--	127		--	0.1	--	--		110	30	3.3	649	8.1
Nov. 9.....		--		--	--	210	--	90	0	--	362		--	.3	--	--		178	104	6.9	1490	8.2
Dec. 9.....		--		--	--	41	--	89	0	--	60		--	.2	--	--		92	19	1.9	398	7.8
Jan. 5, 1965.....		--		--	--	15	--	49	0	--	19		--	.1	--	--		58	18	.9	202	7.1
Feb. 4.....		--		--	--	23	--	64	0	--	30		--	.1	--	--		76	24	1.1	269	7.9
Mar. 4.....		--		--	--	22	--	65	0	--	28		--	.1	--	--		68	15	1.2	247	8.0
Apr. 7.....		--		--	--	21	--	64	0	--	28		--	.0	--	--		61	9	1.2	231	7.6
May 4.....		21		12	4.9	13	1.2	51	0	14	17		2.8	.0	A 111	0.15		50	8	.8	174	7.5
June 16.....		--		--	--	18	--	58	0	--	20		--	.1	--	--		54	6	1.1	197	8.1
July 14.....		--		--	--	71	--	68	0	--	111		--	.0	--	--		90	34	3.3	545	8.0
Aug. 11.....		--		--	--	152	--	74	0	--	267		--	.2	--	--		146	85	5.5	1080	7.3
Sept. 14.....		12		23	8.4	54	3.5	84	0	23	88		.6	.0	259	.35		92	23	2.5	475	7.4

A Calculated from sum of determined constituents.

MISCELLANEOUS ANALYSES OF STREAMS IN SAN JOAQUIN RIVER BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
11-2510. SAN JOAQUIN RIVER BELOW FRIANT, CALIF.																						
Jan. 11, 1965....	48	--		--	--	9.4	--	36	0	--	6.3		--	0.0		--		29	0	0.8	104	7.9
May 10.....	98	9.8		3.8	0.7	4.3	0.5	18	0	2.0	2.5		1.0	.0	37	0.05		12	0	.5	46	6.9
July 12.....	210	--		--	--	4.0	--	16	0	--	1.8		--	.0	--	--		10	0	.5	39	7.6
Sept. 13.....	101	10		3.6	.9	3.7	.6	18	0	1.0	2.0		.7	.0	31	.04		12	0	.5	44	7.4
11-2580. FRESNO RIVER NEAR DAULTON, CALIF.																						
May 10, 1965.....		27		10	1.7	8.4	1.0	51	0	3.0	5.8		1.5	0.0	A 83	0.11		32	0	0.7	106	7.3
Sept. 2.....		22		14	2.4	21	1.9	54	0	4.0	33		.6	.0	A126	.17		45	1	1.4	206	8.0
11-2590. CHOWCHILLA RIVER AT BUCHANAN DAMSITE, NEAR RAYMOND, CALIF.																						
Dec. 28, 1964....		20		10	1.5	5.7	2.3	39	0	1.0	4.2		2.1	0.1	A 66	0.09		31	0	0.4	94	7.6
May 10, 1965.....		33		13	3.0	10	1.5	69	0	1.0	7.8		1.7	.0	A105	.14		45	0	.7	140	7.4
Sept. 2.....		37		28	4.9	30	2.9	92	0	.0	61		1.9	.0	232	.32		90	15	1.4	344	8.1
11-2700. MERCED RIVER AT MERCED FALLS, CALIF. (Formerly reported as Merced River at Exchequer, Calif.)																						
Jan. 11, 1965....	1620	--		--	--	2.4	--	22	0	--	1.1		--	0.0		--		20	2	0.2	52	7.6
May 10.....	4130	9.5		4.0	0.7	2.0	0.3	16	0	1.0	.6		3.0	.0	28	0.04		13	0	.2	35	7.2
July 12.....	1960	--		--	--	1.7	--	10	0	--	.6		--	.0	--	--		8	0	.2	24	7.4
Sept. 2.....	1480	5.8		3.4	.1	1.4	.5	11	0	1.0	.4		.0	.0	20	.03		9	0	.2	24	7.1
11-2880. TUOLUMNE RIVER ABOVE LAGRANGE DAM, NEAR LAGRANGE, CALIF.																						
Jan. 19, 1965....	2430	--		--	--	3.0	--	28	0	--	1.0		--	0.1		--		25	2	0.3	62	7.8
Apr. 30.....	3450	12		7.4	0.6	2.7	0.8	25	0	3.0	1.0		0.9	.0	42	0.06		21	1	.3	53	7.0
July 8.....	3400	--		--	--	2.5	--	20	0	--	1.1		--	.0	--	--		16	0	.3	44	7.6
Sept. 3.....	2420	5.4		3.2	.2	1.3	.4	10	0	2.0	.3		1.6	.1	20	.03		9	1	.2	24	7.3
11-2999.98. STANISLAUS RIVER AT TULLOCH DAMSITE, NEAR KNIGHTS FERRY, CALIF.																						
Jan. 11, 1965....		--		--	--	3.4	--	33	0	--	1.0		--	0.0		--		29	2	0.3	73	7.8
May 10.....		12		5.2	1.0	2.4	0.6	22	0	1.0	.2		3.6	.0	36	0.05		17	0	.2	46	7.2
July 12.....		--		--	--	2.1	--	22	0	--	.6		--	.0	--	--		17	0	2.2	44	7.8
Sept. 2.....		13		7.4	.4	2.1	1.0	26	0	1.0	.4		1.7	.0	41	.06		20	0	.2	51	7.7

A Calculated from sum of determined constituents.

MISCELLANEOUS ANALYSES OF STREAMS IN SAN JOAQUIN RIVER BASIN--Continued

Chemical analyses, in parts per million, water year October 1964 to September 1965--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
11-3360. COSUMNES RIVER AT McCONNELL, CALIF.																						
Nov. 12, 1964.....	280					5.4		38	0		4.5			0.0				34	3	0.4	100	7.7
Jan. 6, 1965.....	9460					3.4		31	0		1.4			.0				30	5	.3	77	7.6
Mar. 4.....	602					3.5		35	0		1.7			.0				29	0	.3	71	7.7
May 5.....	958	17		5.8	2.1	3.1	0.7	30	0	2.0	1.3		1.2	.0	50	0.07		23	0	.3	61	7.6
July 13.....	38					4.2		49	0		1.8			.0				39	0	.3	97	8.1
11-3368. LITTLE POTATO SLOUGH NEAR TERMINOUS, CALIF.																						
Nov. 9, 1964.....		--		--	--	14	--	85	0	--	14		--	0.1	--	--		71	1	0.7	211	8.2
Jan. 5, 1965.....		--		--	--	19	--	48	0	--	46		--	.1	--	--		96	57	.8	305	7.3
Mar. 11.....		--		--	--	8.5	--	49	0	--	13		--	.0	--	--		48	8	.5	143	7.8
May 17.....		13		8.2	2.8	5.7	0.8	30	0	4.0	12		1.7	.0	49	0.07		32	7	.4	98	7.0
July 2.....		--		--	--	11	--	58	0	--	13		--	.0	--	--		54	6	.7	160	8.1
Aug. 7.....		19		15	8.4	16	1.4	88	0	10	17		3.2	.0	127	.17		72	0	.8	214	7.5



MISCELLANEOUS ANALYSES OF STREAMS IN SAN JOAQUIN RIVER BASIN--Continued

Periodic determinations of suspended sediment discharge and particle size, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
11-2555. PANOCHÉ CREEK BELOW SILVER CREEK, NEAR PANOCHÉ, CALIF.																	
Apr. 10, 1965.....	1000	47		6.7	4060	73	67	85	98	99	99	100					SPWC
11-2628. LOS BANOS CREEK NEAR LOS BANOS, CALIF.																	
Dec. 28, 1964.....	1030	50		400	263	284						97	99	100			S
Jan. 26, 1965.....	0900	48		28	170	13						99	100				S
Feb. 16.....	1245	54		1.2	5	T						--	--				
11-3360. COSUMNES RIVER AT McCONNELL, CALIF.																	
Nov. 3, 1964.....	1445	61		38	63	6.5						--	--	--	--	--	
Dec. 10.....	1515	54		76	11	2.3						--	--	--	--	--	
Dec. 23.....	1350	59		28400	1080	82800	21	29	41	49	53	54	55	56	66	99	100
Jan. 7, 1965.....	1640	48		15400	870	36200						24	27	34	51	99	100
Feb. 11.....	1640	44		1060	66	189						--	--	--	--	--	
Mar. 18.....	1720	56		498	57	77						--	--	--	--	--	
Apr. 21.....	0915	56		2660	226	1620						32	49	83	100	--	
May 17.....	1700	72		706	42	80						41	63	96	100	--	
June 22.....	1430	77		152	19	7.8						--	--	--	--	--	

T Less than 0.05 ton.

## SACRAMENTO RIVER BASIN

11-3420. SACRAMENTO RIVER AT DELTA, CALIF.

LOCATION.--At gaging station 0.2 mile downstream from Dog Creek, 0.6 mile southeast of Delta, Shasta County, and 2.8 miles south of La Moine.

DRAINAGE AREA (revised).--425 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1953 to September 1965.

Water temperatures: June to September 1951, October 1953 to September 1957, October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 78°F July 16, 17; minimum, freezing point Dec. 18, 19, 1964.

EXTREMES, 1951, 1953-57, 1962-65.--Water temperatures: Maximum (1951, 1953-57, 1963-65), 78°F July 16, 17, 1965; minimum, freezing point Dec. 18, 19, 1964.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	162	---	---	---	---	13	---	85	0	---	8.8	---	---	0.2	---	---	---	57	0	0.8	164	8.1
Nov. 10.....	1360	---	---	---	---	5.0	---	50	0	---	3.3	---	---	.1	---	---	---	41	0	.3	102	7.8
Dec. 7.....	536	---	---	---	---	6.2	---	66	0	---	3.0	---	---	.1	---	---	---	50	0	.4	125	8.1
Jan. 12, 1965.....	2340	---	---	---	---	3.8	---	46	0	---	1.0	---	---	.0	---	---	---	36	0	.3	84	8.0
Feb. 2.....	1480	---	---	---	---	3.6	---	50	0	---	1.4	---	---	.1	---	---	---	40	0	.3	94	8.1
Mar. 2.....	790	---	---	---	---	4.8	---	58	0	---	2.1	---	---	.0	---	---	---	46	0	.3	109	8.0
Apr. 6.....	999	---	---	---	---	4.2	---	51	0	---	2.1	---	---	.1	---	---	---	42	0	.3	98	7.8
May 3.....	1750	17	---	6.4	4.9	2.8	0.0	44	0	1.0	1.2	---	0.8	.0	56	0.08	---	36	0	.2	82	7.7
June 14.....	532	---	---	---	---	6.0	---	67	0	---	3.6	---	---	.0	---	---	---	49	0	.4	118	8.2
July 13.....	282	---	---	---	---	7.6	---	73	0	---	5.5	---	---	.1	---	---	---	53	0	.5	142	8.2
Aug. 10.....	212	---	---	---	---	10	---	82	0	---	7.3	---	---	.2	---	---	---	56	0	.6	152	8.1
Sept. 14.....	202	31	---	8.8	7.8	11	1.1	79	0	2.0	7.7	---	3.7	.2	112	.15	---	54	0	.7	154	8.2

## SACRAMENTO RIVER BASIN--Continued

11-3420. SACRAMENTO RIVER AT DELTA, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October	59	61	61	62	62	62	58	59	59	59	58	58	56	57	56	55	55	56	57	57	57	57	57	55	52	53	51	52	53	57	55	57	
Maximum .....	51	51	52	52	52	52	53	50	50	50	49	49	50	47	49	47	46	47	47	48	48	48	48	48	48	50	51	51	52	53	51	50	
Minimum .....	53	53	53	50	53	53	51	49	49	47	43	44	41	40	40	40	40	41	41	40	39	42	43	42	43	44	41	43	47	47	--	45	
November	52	51	49	47	47	46	46	47	47	43	39	39	40	38	36	35	34	35	35	36	35	38	39	41	42	41	40	40	43	43	--	41	
Maximum .....	44	46	43	41	43	42	43	44	45	45	44	39	37	37	41	38	36	34	37	44	47	49	49	51	49	48	46	42	41	40	39	43	
Minimum .....	43	43	39	39	39	39	41	43	43	44	39	36	34	37	37	36	34	32	32	37	44	47	48	48	48	45	42	41	40	39	37	40	
December	39	39	39	40	44	46	45	43	44	44	46	45	46	47	48	47	47	48	46	47	46	46	46	45	42	46	47	47	49	51	49	45	
Maximum .....	35	34	34	39	40	44	42	42	43	43	43	42	41	42	43	42	43	44	44	42	44	43	45	42	40	41	42	42	44	45	44	42	
Minimum .....	47	47	50	48	48	48	47	47	46	45	45	46	44	46	46	47	48	48	48	49	47	47	46	45	45	43	47	45	--	--	--	47	
January	43	44	45	45	46	45	41	42	42	39	39	40	42	40	39	40	42	43	42	43	43	43	40	40	39	40	42	38	--	--	--	42	
February	45	46	45	45	44	45	47	49	48	50	49	48	48	49	49	47	46	47	48	51	53	53	51	50	48	47	50	51	51	49	48	48	
Maximum .....	42	40	39	41	43	42	41	42	43	45	43	44	41	41	42	43	44	41	41	42	45	47	46	45	44	45	45	47	47	46	47	43	
Minimum .....	48	46	51	53	52	45	44	41	40	43	50	52	51	45	45	48	49	48	49	49	51	55	54	58	58	59	57	60	56	57	--	50	
March	46	44	42	46	45	43	41	39	38	38	40	44	45	44	43	43	43	43	46	47	46	47	46	47	48	50	50	51	51	50	--	45	
April	53	53	56	54	50	50	54	56	57	59	60	61	61	59	59	59	61	60	59	58	56	53	56	56	56	59	61	62	63	63	64	65	58
Maximum .....	47	44	44	48	44	42	43	46	48	49	50	52	53	49	50	53	50	48	53	49	50	48	48	47	49	52	54	55	56	58	58	50	
Minimum .....	60	64	66	65	66	65	61	60	68	69	68	66	63	57	59	59	57	65	68	71	71	72	72	70	67	63	65	68	70	69	--	65	
May	53	53	56	54	50	50	54	56	57	59	60	61	61	59	59	59	61	60	59	58	56	53	56	56	56	59	61	62	63	63	64	65	58
Maximum .....	47	44	44	48	44	42	43	46	48	49	50	52	53	49	50	53	50	48	53	49	50	48	48	47	49	52	54	55	56	58	58	50	
Minimum .....	60	64	66	65	66	65	61	60	68	69	68	66	63	57	59	59	57	65	68	71	71	72	72	70	67	63	65	68	70	69	--	65	
June	53	54	58	59	60	60	58	56	55	60	62	61	55	52	50	54	53	52	59	61	63	65	65	66	60	54	56	58	61	62	--	58	
Maximum .....	70	74	74	74	75	75	75	76	76	73	72	73	73	74	76	78	77	76	73	73	74	75	75	73	73	73	72	73	74	71	69	74	
Minimum .....	61	63	65	64	64	66	66	66	65	63	62	62	62	63	64	67	68	69	67	66	64	63	63	64	65	65	62	61	61	63	65	64	
August	73	76	76	77	77	77	76	75	75	74	70	67	71	71	72	71	68	69	73	73	69	70	72	69	70	72	71	71	70	72	72	72	
Maximum .....	63	67	65	66	66	66	67	67	65	66	62	59	60	59	61	62	64	65	63	64	63	62	65	63	63	61	62	62	60	61	60	63	
Minimum .....	71	73	71	69	63	63	65	66	67	66	66	66	66	67	68	64	59	58	59	68	61	63	66	66	64	61	61	60	60	62	--	65	
September	62	63	62	60	58	55	55	57	56	57	57	56	56	56	58	59	52	48	47	48	51	52	54	56	56	55	56	52	50	51	--	55	
Maximum .....																																	
Minimum .....																																	

## SACRAMENTO RIVER BASIN--Continued

11-3455. SOUTH FORK PIT RIVER NEAR LIKELY, CALIF.

LOCATION.--At gaging station 1.3 miles downstream from West Valley Creek, and 3.5 miles east of Likely, Modoc County.

DRAINAGE AREA.--247 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1966

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	32	--	--	--	--	8.5	--	83	0	--	1.2	--	--	0.0	--	--	--	54	0	0.5	141	8.1
Nov. 12.....	36	--	--	--	--	5.6	--	64	0	--	.6	--	--	.0	--	--	--	41	0	.4	108	8.0
Dec. 9.....	94	--	--	--	--	6.6	--	65	0	--	.9	--	--	.1	--	--	--	45	0	.4	120	7.6
Jan. 20, 1965.....	93	--	--	--	--	5.4	--	63	0	--	1.0	--	--	.0	--	--	--	44	0	.3	109	7.7
Feb. 4.....	159	--	--	--	--	7.5	--	65	0	--	1.3	--	--	.0	--	--	--	44	0	.5	118	7.9
Mar. 4.....	50	--	--	--	--	5.5	--	64	0	--	.5	--	--	.0	--	--	--	45	0	.4	112	7.8
Apr. 8.....	58	--	--	--	--	6.9	--	66	0	--	.9	--	--	.0	--	--	--	45	0	.4	115	7.9
May 5.....	397	29	--	11	1.8	4.9	1.8	48	0	2.0	.9	--	1.9	.0	85	0.12	--	35	0	.4	91	7.8
June 7.....	262	--	--	--	--	4.2	--	50	0	--	.3	--	--	.1	--	--	--	36	0	.3	88	8.1
July 15.....	50	--	--	--	--	4.9	--	58	0	--	.5	--	--	.0	--	--	--	42	0	.3	99	8.1
Aug. 12.....	170	--	--	--	--	7.0	--	70	0	--	--	--	--	.0	--	--	--	46	0	.4	124	8.2
Sept. 16.....	72	32	--	12	4.6	9.0	3.1	76	0	4.0	1.2	--	1.9	.1	106	.14	--	49	0	.6	136	8.2

## SACRAMENTO RIVER BASIN--Continued

11-3485. PIT RIVER NEAR CANBY, CALIF.

LOCATION.--At gaging station, at lower end of Warm Spring Valley, 4 miles southwest of Canby, Modoc County.

DRAINAGE AREA.--1,431 square miles, approximately, excluding Goose Lake basin.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: March to September 1965.

EXTREMES, March to September 1965.--Water temperatures: Maximum, 74°F on several days during July.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	95	--	--	--	--	34	--	168	0	--	10	--	--	0.3	--	--	--	96	0	1.5	327	8.0
Nov. 12.....	84	--	--	--	--	27	--	153	2	--	7.1	--	--	.0	--	--	--	86	0	1.3	284	8.3
Dec. 9.....	246	--	--	--	--	26	--	142	2	--	6.1	--	--	.1	--	--	--	80	0	1.3	279	8.3
Jan. 19, 1965.....	1040	--	--	--	--	16	--	91	0	--	5.9	--	--	.1	--	--	--	63	0	.9	195	7.9
Feb. 4.....	1720	--	--	--	--	14	--	76	0	--	4.0	--	--	.1	--	--	--	52	0	.8	161	7.9
Mar. 4.....	385	--	--	--	--	14	--	91	0	--	3.7	--	--	.2	--	--	--	61	0	.8	189	8.2
Apr. 8.....	405	--	--	--	--	14	--	92	0	--	4.0	--	--	.0	--	--	--	64	0	.8	185	8.0
May 5.....	816	29	--	13	4.5	10	2.3	78	0	7.0	1.9	--	1.1	.0	108	0.15	--	51	0	.6	147	8.1
June 16.....	392	--	--	--	--	17	--	126	2	--	2.4	--	--	.1	--	--	--	78	0	.8	222	8.3
July 15.....	22	--	--	--	--	18	--	108	2	--	4.9	--	--	.0	--	--	--	69	0	.9	208	8.3
Aug. 12.....	136	--	--	--	--	18	--	119	0	--	4.5	--	--	.2	--	--	--	71	0	.9	221	8.2
Sept. 16.....	217	36	--	21	8.1	24	5.9	154	0	9.0	4.2	--	2.9	.1	207	.28	--	86	0	1.1	269	7.7

Temperature (°F) of water, March to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
March																																
Maximum .....	44	44	44	46	45	—	45	47	48	48	—	48	49	—	—	—	—	46	47	48	50	52	52	51	52	46	48	49	49	50	48	48
Minimum .....	38	38	38	40	40	—	40	42	42	42	—	42	42	—	—	—	—	40	41	42	43	46	46	44	44	40	42	42	44	44	43	42
April																																
Maximum .....	48	50	50	52	52	50	49	47	48	47	45	46	46	46	46	46	49	50	51	53	54	55	58	60	60	61	61	60	59	—	52	
Minimum .....	42	43	44	45	47	44	44	42	44	42	40	40	41	41	40	41	41	44	44	46	45	48	48	50	53	54	54	55	54	53	—	46
May																																
Maximum .....	57	56	54	54	54	50	48	52	54	57	59	62	62	64	63	63	62	61	60	59	58	56	55	57	62	64	66	66	69	—	59	
Minimum .....	52	49	46	48	47	43	42	44	48	50	53	56	57	55	58	58	58	57	56	54	54	52	50	50	50	53	58	60	60	61	—	53
June																																
Maximum .....	66	64	66	68	71	70	71	68	66	66	68	72	66	64	62	60	57	58	66	70	72	73	72	68	68	66	65	68	69	68	—	67
Minimum .....	60	58	56	59	62	64	64	62	61	60	60	62	60	58	56	53	51	50	58	60	66	68	67	63	62	58	60	61	64	62	—	60
July																																
Maximum .....	67	71	73	74	74	74	74	74	74	72	71	70	70	72	72	72	74	73	72	72	70	68	70	72	72	70	68	68	70	72	71	71
Minimum .....	61	63	66	68	68	69	66	68	68	66	64	65	64	66	66	67	66	68	66	66	65	64	62	64	66	67	65	62	64	64	65	65
August																																
Maximum .....	70	69	70	66	66	66	66	66	64	66	66	64	63	64	66	70	70	70	70	68	68	68	68	68	66	68	67	68	69	68	—	67
Minimum .....	65	64	64	60	60	62	62	56	54	60	62	58	58	58	60	62	63	64	64	65	62	60	60	62	60	60	62	62	61	62	—	61
September																																
Maximum .....	—	69	—	—	—	—	—	—	—	—	—	—	65	62	63	67	60	51	51	52	54	56	59	61	61	61	59	55	53	55	—	—
Minimum .....	—	61	—	—	—	—	—	—	—	—	—	—	52	54	57	58	51	43	40	39	44	44	46	48	51	51	51	50	45	47	—	—

SACRAMENTO RIVER BASIN--Continued

11-3650. PIT RIVER NEAR MONTGOMERY CREEK, CALIF.

LOCATION (revised).--At gaging station on right bank 0.5 mile upstream from Potem Creek, 1.9 miles downstream from Pit No. 7 dam and powerhouse, and 5.0 miles west of town of Montgomery Creek, Shasta County. Prior to May 21 at site 2.7 miles upstream.

DRAINAGE AREA (revised).--4,950 square miles, approximately, excluding Goose Lake basin.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: June to September 1951, October 1953 to September 1957, October 1958 to August 1959.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	2060	--	--	--	--	12	--	91	0	--	3.4	--	--	0.1	--	--	--	57	0	0.7	161	8.1
Nov. 9.....	4140	--	--	--	--	11	--	84	0	--	3.1	--	--	.0	--	--	--	55	0	.6	156	8.1
Dec. 10.....	3230	--	--	--	--	12	--	93	0	--	3.0	--	--	.1	--	--	--	55	0	.7	168	8.1
Feb. 1, 1965.....	--	--	--	--	--	9.4	--	68	0	--	2.5	--	--	.0	--	--	--	48	0	.6	132	7.9
Mar. 1.....	--	--	--	--	--	9.7	--	80	0	--	2.2	--	--	.1	--	--	--	53	0	.6	147	8.2
Apr. 5.....	--	--	--	--	--	9.4	--	79	0	--	2.3	--	--	.0	--	--	--	51	0	.6	140	8.0
May 5.....	--	29	--	13	4.3	7.8	1.5	74	0	3.0	2.0	--	1.6	.0	98	0.13	--	50	0	.5	130	8.0
June 3.....	3480	--	--	--	--	11	--	83	2	--	2.5	--	--	.1	--	--	--	55	0	.6	155	8.4
July 6.....	2260	--	--	--	--	11	--	92	0	--	2.9	--	--	.0	--	--	--	59	0	.6	164	7.9
Aug. 12.....	2480	--	--	--	--	10	--	87	0	--	--	--	--	.1	--	--	--	55	0	.6	155	8.2
Sept. 7.....	1910	32	--	13	6.2	11	2.6	92	0	4.0	3.5	--	2.3	.1	A 120	.16	--	58	0	.6	163	8.2

A Calculated from sum of determined constituents.

SACRAMENTO RIVER BASIN--Continued

11-3680. MCCLOUD RIVER ABOVE SHASTA LAKE, CALIF.

LOCATION.--At gaging station upstream from Shasta Lake, Shasta County, 0.2 mile downstream from Big Bollibokka Creek, and 11.3 miles east of La Moine.

DRAINAGE AREA (revised).--604 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: June to September 1951, October 1953 to September 1959.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	882	--		--	--	5.5	--	54	0	--	0.9		--	0.0	--	--		37	0	0.4	97	8.0
Nov. 10.....	1330	--		--	--	5.0	--	52	0	--	1.1		--	0	--	--		38	0	.4	98	8.0
Dec. 7.....	1060	--		--	--	5.2	--	58	0	--	.9		--	0	--	--		39	0	.4	102	8.1
Feb. 2, 1965.....	2280	--		--	--	4.3	--	50	0	--	.6		--	0	--	--		40	0	.3	94	7.8
Mar. 2.....	1550	--		--	--	4.0	--	52	0	--	.6		--	0	--	--		40	0	.3	96	7.5
May 3.....	2390	25		11	2.3	3.7	0.5	48	0	3.0	.6		1.1	0	71	0.10		37	0	.3	87	7.8
Aug. 10.....	1150	--		--	--	7.1	--	67	0	--	2.4		--	1	--	--		46	0	.5	124	8.2
Sept. 14.....	1050	35		8.8	3.5	5.3	1.1	54	0	1.0	.9		2.7	0	85	.12		36	0	.4	96	8.1

## SACRAMENTO RIVER BASIN--Continued

11-3705. SACRAMENTO RIVER AT KESWICK, CALIF.

LOCATION.--At gaging station 0.4 mile upstream from Middle Creek, 0.8 mile downstream from Keswick Dam, 1.6 miles downstream from Keswick, Shasta County, and 10 miles downstream from Shasta Dam.

DRAINAGE AREA (revised).--6,486 square miles, excluding Goose Lake basin.

RECORDS AVAILABLE.--Chemical analyses: December 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	5540	--	--	--	--	6.5	--	68	0	--	1.7	--	--	0.1	--	--	--	51	0	0.4	121	8.1
Nov. 9.....	4360	--	--	--	--	5.8	--	58	0	9.0	2.0	--	--	0	--	--	--	48	0	.4	123	8.0
Dec. 7.....	2860	--	--	--	--	6.0	--	66	0	7.0	1.7	--	--	0	--	--	--	50	0	.4	129	8.1
Jan. 12, 1965....	19900	--	--	--	--	6.6	--	50	0	7.0	1.5	--	--	0	--	--	--	39	0	.5	105	7.8
Feb. 1.....	21200	--	--	--	--	5.3	--	47	0	11	1.2	--	--	0	--	--	--	41	2	.4	107	7.9
Mar. 1.....	4080	--	--	--	--	4.8	--	48	0	12	.9	--	--	0	--	--	--	40	1	.3	106	8.1
Apr. 5.....	3580	--	--	--	--	5.9	--	54	0	3.0	1.8	--	--	.1	--	--	--	44	0	.4	111	7.8
May 4.....	5120	17	--	8.2	5.2	4.7	0.5	47	0	10	1.5	--	0.2	0	73	0.10	--	42	3	.3	104	8.2
June 14.....	8040	--	--	--	--	5.3	--	55	0	5.0	2.0	--	--	0	--	--	--	43	0	.4	108	8.1
July 12.....	10900	--	--	--	--	5.0	--	57	0	5.0	2.0	--	--	0	--	--	--	44	0	.3	107	8.1
Aug. 10.....	11100	--	--	--	--	4.7	--	57	0	5.0	1.8	--	--	.1	--	--	--	42	0	.3	107	8.2
Sept. 14.....	9480	18	--	10	4.1	5.0	1.2	58	0	4.0	1.4	--	1.3	0	79	.11	--	42	0	.3	107	7.9



## SACRAMENTO RIVER BASIN--Continued

11-3710. CLEAR CREEK AT FRENCH GULCH, CALIF.

LOCATION.--At gaging station 1,200 feet downstream from Right Fork, 0.3 mile south of French Gulch, Shasta County, and 15 miles northwest of Redding.

DRAINAGE AREA.--115 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1962 to September 1965.

Sediment records: October 1962 to September 1965.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	65	--	--	59	--	--	--	--	--	57	--	--	--	--	--	--	60	--	--	--	--	--	--	--	52	--	--	55	--	--	55	--	
November .....	54	54	--	--	--	--	--	51	50	49	45	--	--	--	43	--	--	--	--	--	--	42	--	41	--	45	46	50	47	--	--	--	
December .....	49	--	44	--	--	42	--	48	--	49	--	--	39	--	--	--	--	--	42	46	50	53	53	53	52	--	45	45	44	44	43	--	
January .....	--	--	--	--	46	47	--	--	--	46	--	--	--	--	--	--	49	--	48	46	--	--	47	47	45	--	--	--	--	--	46	--	
February .....	--	--	--	--	--	44	--	--	--	--	--	--	--	42	--	--	--	--	50	--	--	--	--	--	46	46	--	--	--	--	--	--	
March .....	--	--	49	--	--	45	--	--	--	--	--	--	45	--	--	--	--	--	--	45	--	--	--	--	49	--	--	47	--	--	50	--	
April .....	--	49	--	--	--	--	46	44	45	44	49	--	--	47	48	50	50	49	51	52	52	53	55	--	--	--	59	--	--	--	--	--	
May .....	54	--	--	--	--	--	--	--	56	--	--	--	--	--	--	57	--	--	--	--	--	--	61	--	--	--	--	--	--	--	59	--	--
June .....	--	--	--	--	--	64	--	--	--	69	--	--	58	--	--	--	--	--	--	64	--	--	--	--	--	--	--	62	--	--	--	--	--
July .....	--	--	--	68	--	--	--	--	--	74	--	--	--	--	--	77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68	--	--
August .....	--	--	--	--	--	--	72	--	--	--	--	--	--	65	--	--	--	--	--	--	--	--	--	--	--	--	--	67	--	--	--	--	--
September .....	--	--	--	--	--	--	--	--	--	--	--	63	--	--	--	--	--	--	62	--	--	--	--	--	--	60	--	--	--	--	--	--	--

## SACRAMENTO RIVER BASIN--Continued

11-3710. CLEAR CREEK AT FRENCH GULCH, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..				55	25	S	445	22	26
2..				83	19	S	345	9	8.4
3..				50	--		252	2	1.4
4..				37	--		193	--	1.0
5..				32	--		156	--	.8
6..				28	--		131	2	.7
7..				27	--		116	--	.6
8..				53	9	S	108	--	.6
9..				153	20		103	--	.6
10..				299	47	S	117	3	.9
11..				198	11		157	--	2.1
12..				197	--		139	--	.8
13..				134	--		124	1	.3
14..				99	--		117	--	.3
15..				79	1		111	--	.3
16..				68	--		103	--	.3
17..				60	--		96	--	.3
18..	55	--	.1				92	--	.2
19..				52	--		176	11	5.2
20..				49	--		266	8	5.7
21..				47	--		2280	433	S 3300
22..				52	1		5770	1540	S 25100
23..				50	--		3190	542	S 4900
24..				60	2		2120	248	S 1450
25..				138	--		1570	134	S 576
26..				124	2		1460	--	350
27..				112	2		1350	74	270
28..				254	19		1080	37	108
29..				268	6		875	21	50
30..				240	5		731	14	28
31..				--	--		613	10	17
Total				3153	--	109.5	24386	--	36205.5
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	519	--	9.8	373	--	2.0	148	--	1.2
2..	486	--	7.9	348	--	1.9	143	--	.8
3..	451	--	6.1	325	--	1.8	139	--	.8
4..	397	--	4.3	309	--	1.7	136	--	.7
5..	1320	216	S 900	307	--	2.5	138	--	.7
6..	1670	114	S	291	3	2.4	135	2	.7
7..	1340	73	K	272	--	2.2	131	--	.7
8..	1010	--		257	--	2.1	127	--	.7
9..	808	--		244	--	2.0	124	--	.7
10..	684	50		235	--	1.9	122	--	1.0
11..	774	--	130	225	--	1.8	120	--	1.0
12..	810	--	120	217	--	1.8	120	--	1.0
13..	757	--	86	210	--	1.7	117	3	.9
14..	722	--	70	205	3	1.7	113	--	.9
15..	760	--	72	197	--	1.6	112	--	.9
16..	790	--	81	190	--	1.5	110	--	.9
17..	747	31	63	182	--	1.5	108	--	.9
18..	704	--	32	177	--	1.4	106	--	.9
19..	677	10	18	172	3	1.4	104	--	.8
20..	631	8	14	169	--	1.4	99	3	.8
21..	570	--	12	167	--	1.4	97	--	.8
22..	510	--	8.3	164	--	.9	97	--	.8
23..	642	58	S 135	158	--	.9	95	--	1.0
24..	843	39	S 92	154	--	.8	95	--	1.0
25..	689	11	20	151	--	.8	93	5	1.3
26..	594	--	14	148	2	.8	97	--	1.0
27..	526	--	11	182	5	2.5	97	--	.8
28..	478	--	7.7	155	--	1.3	91	2	.5
29..	442	--	6.0	--	--	--	91	--	.5
30..	415	--	3.4	--	--	--	93	--	.5
31..	396	2	2.1	--	--	--	91	2	.5
Total	22162	--	3086.6	6184	--	45.7	3489	--	29.7

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

11-3710. CLEAR CREEK AT FRENCH GULCH, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	93	--	0.5						
2..	104	2	.6						
3..	97	--	.5						
4..	91	--	.5						
5..	91	--	.5						
6..	93	--	.5						
7..	93	3	.8						
8..	135	15	5.5						
9..	194	22	12						
10..	210	10	5.7						
11..	191	5	2.6						
12..	195	--	2.1						
13..	217	--	2.9						
14..	283	42 S	35						
15..	1200	308 S	1160						
16..	1660	210 S	986						
17..	978	62	164						
18..	1060	74 S	246						
19..	1640	233	1030						
20..	1350	95	346						
21..	1210	68	222						
22..	992	40	107						
23..	800	20	43						
24..	667	--	23						
25..	574	--	15						
26..	499	--	11						
27..	443	7	8.4						
28..	396	--	5.3						
29..	356	--	2.9						
30..	322	--	1.7						
31..	--	--	--						
Total	16234	--	4441.0						

Total discharge for period November 1964 to April 1965 (cfs-days)..... 75,608  
 Total load for period November 1964 to April 1965 (tons)..... 43,914.0

S Computed by subdividing day.

## SACRAMENTO RIVER BASIN--Continued

## 11-3710. CLEAR CREEK AT FRENCH GULCH, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 1, 1964.....	1740	--		9.8	3	0.1	--	--	--	--	--	--	--	--	--		V V VPWC	
Oct. 4.....	0830	--		9.8	2	.1	--	--	--	--	--	--	--	--	--			
Oct. 11.....	0830	--		10	2	.1	--	--	--	--	--	--	--	--	--			
Oct. 18.....	1600	--		10	2	.1	--	--	--	--	--	--	--	--	--			
Oct. 25.....	0900	--		13	1	T	--	--	--	--	--	--	--	--	--			
Oct. 28.....	1645	--		43	12	1.4	--	--	--	--	--	--	--	--	--			
Oct. 31.....	1425	--		29	2	.2	--	--	--	--	--	--	--	--	--			
Dec. 21.....	0800	48		1610	397	--	--	--	--	--	74	87	97	100	--			
Dec. 21.....	1600	50		3530	508	--	--	--	--	--	68	80	90	99	100			
Dec. 22.....	0745	50		7050	2420	--	24	36	51	64	73	77	86	95	100	--		
Dec. 22.....	1700	53		5760	1090	--	23	36	53	63	72	82	93	98	100	--	VPWC V V V	
Dec. 23.....	0715	53		3550	629	--	--	--	--	--	72	82	91	98	100			
Dec. 24.....	0715	52		2280	261	--	--	--	--	--	77	85	97	100	--			
Apr. 16, 1965.....	1630	50		1400	186	--	--	--	--	--	68	75	91	100	--			
May 1.....	1255	--		301	1	.8	--	--	--	--	--	--	--	--	--	--		
May 16.....	0830	--		152	1	.4	--	--	--	--	--	--	--	--	--	--		
May 31.....	0830	--		99	8	2.1	--	--	--	--	--	--	--	--	--	--		
June 6.....	1000	--		85	3	.7	--	--	--	--	--	--	--	--	--	--		
June 10.....	1420	--		76	2	.4	--	--	--	--	--	--	--	--	--	--		
June 13.....	0830	--		72	1	.2	--	--	--	--	--	--	--	--	--	--		
June 20.....	0900	--		61	1	.2	--	--	--	--	--	--	--	--	--	--		
June 27.....	1000	--		51	1	.1	--	--	--	--	--	--	--	--	--	--		
July 4.....	0900	--		38	2	.2	--	--	--	--	--	--	--	--	--	--		
July 10.....	1330	--		33	1	.1	--	--	--	--	--	--	--	--	--	--		
July 31.....	0930	--		21	1	.1	--	--	--	--	--	--	--	--	--	--		
Aug. 7.....	0930	--		16	1	T	--	--	--	--	--	--	--	--	--	--		
Aug. 14.....	0930	--		22	1	.1	--	--	--	--	--	--	--	--	--	--		
Aug. 28.....	0915	--		19	5	.3	--	--	--	--	--	--	--	--	--	--		
Sept. 12.....	0900	--		15	1	T	--	--	--	--	--	--	--	--	--	--		
Sept. 19.....	0900	--		15	1	T	--	--	--	--	--	--	--	--	--	--		
Sept. 25.....	0900	--		14	1	T	--	--	--	--	--	--	--	--	--	--		

T Less than 0.05 ton.

## SACRAMENTO RIVER BASIN--Continued

11-3720. CLEAR CREEK NEAR IGO, CALIF.

LOCATION.--At gaging station at highway bridge on Redding-Igo road, 1.0 mile northeast of Igo, Shasta County, 8 miles southwest of Redding, and 11.1 miles upstream from mouth.

DRAINAGE AREA.--228 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: March to September 1965.

EXTREMES, March to September 1965.--Water temperatures: Maximum, 66°F on several days during June and July.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	56	---	---	---	---	2.8	---	55	0	---	2.0	---	---	0.1	---	---	---	47	2	0.2	99	7.9
Nov. 13.....	140	---	---	---	---	3.9	---	46	0	---	2.6	---	---	.0	---	---	---	41	3	.3	99	7.9
Dec. 10.....	131	---	---	---	---	3.9	---	53	0	---	2.0	---	---	.0	---	---	---	43	0	.3	102	7.9
Jan. 15, 1965.....	169	---	---	---	---	4.3	---	35	0	---	1.5	---	---	.0	---	---	---	26	0	.4	73	7.7
Feb. 5.....	117	---	---	---	---	4.4	---	36	0	---	2.1	---	---	.0	---	---	---	30	0	.3	80	7.5
Mar. 5.....	76	---	---	---	---	3.8	---	40	0	---	1.7	---	---	.1	---	---	---	35	2	.3	87	8.2
Apr. 9.....	466	---	---	---	---	4.2	---	32	0	---	1.3	---	---	.0	---	---	---	26	0	.3	71	7.4
May 6.....	98	17	---	8.0	3.9	4.1	0.4	42	0	5.0	2.4	---	0.8	.0	.66	0.09	---	36	2	.3	89	7.8
June 11.....	56	---	---	---	---	3.3	---	45	0	---	2.3	---	---	.0	---	---	---	39	2	.2	91	8.2
July 12.....	51	---	---	---	---	3.2	---	47	0	---	1.7	---	---	.0	---	---	---	40	1	.2	93	8.1
Aug. 9.....	50	---	---	---	---	2.9	---	51	0	---	2.3	---	---	.1	---	---	---	43	1	.2	96	8.1
Sept. 13.....	58	13	---	4.8	7.3	3.0	.3	52	0	2.0	1.9	---	.3	.0	63	.09	---	42	0	.2	95	7.8

Temperature (°F) of water, March to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
March																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52	52	53	53	50	50	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	49	48	48	49	49	48	--	
April																																	
Maximum .....	50	50	53	56	56	51	51	49	50	53	55	57	55	51	51	55	56	54	57	58	58	60	60	62	62	63	63	64	63	61	--	56	
Minimum .....	48	48	46	48	49	49	49	47	48	49	48	49	51	51	51	49	53	54	55	55	54	53	54	54	54	55	56	56	56	--	51	--	
May																																	
Maximum .....	60	58	58	59	56	56	59	60	60	61	62	63	63	63	65	64	62	63	63	61	60	62	62	61	62	63	63	64	64	64	64	61	
Minimum .....	53	51	50	54	50	49	51	52	53	53	54	55	56	55	54	58	55	54	58	55	56	54	54	54	54	56	57	57	58	57	58	54	
June																																	
Maximum .....	63	64	65	66	66	65	64	62	64	65	65	64	62	60	62	62	64	64	65	66	66	65	64	63	61	61	62	63	63	--	64	--	
Minimum .....	56	58	59	60	60	60	58	57	56	58	59	57	54	55	54	56	57	56	58	58	59	61	61	60	58	54	55	56	57	57	--	57	--
July																																	
Maximum .....	63	64	64	64	64	64	65	64	64	63	63	63	64	65	66	66	66	66	64	64	63	63	63	--	--	--	--	--	--	--	--	--	
Minimum .....	58	59	59	59	58	59	59	59	58	58	58	58	57	58	59	60	61	60	59	59	59	59	58	58	--	--	--	--	--	--	--	--	--
August																																	
Maximum .....	--	--	--	--	64	64	64	64	64	64	64	62	62	63	63	63	62	63	65	65	64	64	64	63	62	62	62	62	60	61	61	63	
Minimum .....	--	--	--	--	60	59	60	60	59	60	58	57	58	57	58	58	59	59	60	60	58	58	59	60	58	57	57	57	55	56	56	58	--
September																																	
Maximum .....	61	61	61	61	60	59	60	60	60	60	60	59	59	60	61	61	56	56	56	57	58	58	59	59	59	59	59	58	57	56	57	59	
Minimum .....	57	57	57	57	55	54	55	55	54	55	55	54	54	54	55	55	50	51	51	51	52	53	54	54	54	54	55	53	51	52	--	54	

## SACRAMENTO RIVER BASIN--Continued

11-3740. COW CREEK NEAR MILLVILLE, CALIF.

LOCATION.--At gaging station 4.2 miles southwest of Millville, Shasta County, and 4.3 miles downstream from Little Cow Creek.

DRAINAGE AREA (revised).--425 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--Thermograph operational only intermittently from installation date in June; therefore, record not published.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	24	--	--	--	--	10	--	110	0	--	7.7	--	--	0.1	--	--	--	78	0	0.5	201	8.2
Nov. 9.....	1840	--	--	--	--	13	--	52	0	--	8.6	--	--	.1	--	--	--	53	10	.8	155	6.6
Dec. 10.....	352	--	--	--	--	8.3	--	64	0	--	7.4	--	--	.2	--	--	--	56	4	.5	154	8.0
Jan. 14, 1965.....	1300	--	--	--	--	5.7	--	51	0	--	2.5	--	--	.1	--	--	--	41	0	.4	104	7.8
Feb. 1.....	753	--	--	--	--	5.3	--	48	0	--	2.6	--	--	.3	--	--	--	41	2	.4	105	7.7
Mar. 1.....	408	--	--	--	--	6.6	--	56	0	--	2.7	--	--	.0	--	--	--	45	0	.4	117	8.2
Apr. 5.....	596	--	--	--	--	6.1	--	56	0	--	--	--	--	.0	--	--	--	46	0	.4	120	7.6
May 5.....	610	25	--	12	2.4	4.6	0.7	48	0	5.0	2.2	--	1.3	.0	77	0.10	--	40	1	.3	99	8.0
June 3.....	207	--	--	--	--	5.8	--	62	1	--	2.8	--	--	.0	--	--	--	47	0	.4	119	8.2
July 6.....	57	--	--	--	--	7.7	--	82	0	--	3.7	--	--	.1	--	--	--	60	0	.4	151	8.2
Aug. 13.....	117	--	--	--	--	8.0	--	84	0	--	5.2	--	--	.0	--	--	--	64	0	.4	163	8.4
Sept. 7.....	43	30	--	16	6.3	9.3	1.3	92	0	3.0	5.9	--	.5	.0	117	.16	--	66	0	.5	171	7.9

SACRAMENTO RIVER BASIN--Continued

11-3744. MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CALIF.

LOCATION.--At gaging station on left bank, 0.4 mile upstream from North Fork, and 7.8 miles southeast of Ono, Shasta County.

DRAINAGE AREA.--249 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1963 to September 1965.

Sediment records: October 1963 to September 1965.

Month	Temperature (°F) of water, water year October 1964 to September 1965																															Average	
	Day																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November .....	--	--	--	--	--	--	--	--	--	--	--	50	44	44	44	42	44	44	46	44	44	44	42	47	53	49	46	46	54	48	--	--	
December .....	52	46	--	44	46	42	43	--	--	--	--	--	--	--	--	44	44	36	--	43	--	--	--	54	53	--	--	44	43	42	39	38	--
January .....	--	--	--	--	42	--	--	--	43	--	--	44	--	45	--	45	--	--	--	46	--	--	--	48	42	--	--	--	--	--	--	--	
February .....	--	--	--	--	--	48	--	--	--	--	--	--	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	49	--	--	--	--	
March .....	--	--	--	--	--	--	--	--	--	56	--	--	--	--	--	--	--	--	--	52	--	--	--	--	52	--	--	--	--	--	--	--	--
April .....	52	54	--	--	--	--	49	--	48	--	--	--	--	--	49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
May .....	52	54	--	--	--	58	--	--	48	--	--	--	--	--	66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
June .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
July .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
August .....	--	--	--	80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	85	--	--	
September .....	78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

## SACRAMENTO RIVER BASIN--Continued

11-3744. MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..				--	--	--	626	196 S	349
2..				--	--	--	520	83	117
3..				--	--	--	383	--	44
4..				--	--	--	264	19	14
5..				--	--	--	204	12	6.6
6..				--	--	--	166	9	4.0
7..				--	--	--	142	6	2.3
8..				--	--	--	124	--	1.3
9..				--	--	--	122	--	1.0
10..				--	--	--	126	6 K	2.6
11..				--	--	--	245	53 K	37
12..				334	64 S	64	184	--	8.4
13..				189	25	13	149	--	2.8
14..				110	13	3.9	132	--	1.4
15..				78	7	1.5	124	--	1.0
16..				65	5	.9	110	2	.6
17..				55	3	.4	99	2	.5
18..				49	3	.4	92	--	.5
19..				44	3	.4	156	51 S	25
20..				41	2	.2	211	60 K	36
21..				40	2	.2	3930	3100 K	53000
22..				61	6	1.0	11000	10000	297000
23..				53	4	.6	7500	6000	122000
24..				52	2	.3	3640	4700	46200
25..				107	19 S	6.8	2800	--	26000
26..				128	--	9.3	2610	3100 K	23000
27..				100	19	5.1	2530	1900	13000
28..				277	82 S	93	1840	1220	6060
29..				383	85 S	97	1340	820	2970
30..				309	40 S	44	1190	670	2150
31..				--	--	--	1040	500	1400
Total				2475	--	342.0	43599	--	593435.0
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	910	--	810						
2..	871	--	710						
3..	964	--	1300						
4..	936	--	1500						
5..	3070	3010 S	30500						
6..	2500	--	6400						
7..	1880	--	5100						
8..	1270	--	2700						
9..	1090	550	1620						
10..	1030	--	780						
11..	1110	--	1200						
12..	1130	435	1330						
13..	1090	--	1200						
14..	1030	380	1060						
15..	1050	--	1100						
16..	1090	410	1210						
17..	1070	--	1200						
18..	1080	--	1300						
19..	1110	--	1400						
20..	1090	510	1500						
21..	1000	--	1400						
22..	907	--	1100						
23..	1240	849 S	3910						
24..	2020	1850	10100						
25..	1280	--	3100						
26..	1070	--	2300						
27..	922	--	1700						
28..	805	--	1300						
29..	754	--	1000						
30..	775	--	840						
31..	775	--	630						
Total	36919	--	91300						

Total discharge for period November 1964 to January 1965 (cfs+days)..... 82,993  
 Total load for period November 1964 to January 1965 (tons)..... 685,077.0

S Computed by subdividing day.

K Computed from estimated concentration graph and subdividing day.



## SACRAMENTO RIVER BASIN--Continued

## 11-3744. MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 12, 1964.....	1550	50		259	52	--	--	--	--	--	94	97	98	100	--	--	S	
Dec. 1.....	1500	52		660	190	--	--	--	--	--	85	88	91	96	99	100	S	
Dec. 23.....	1105	--	D	7500	3670	--	33	38	51	66	84	90	99	100	--	--	VPWC	
Dec. 23.....	1520	54	D	7500	9670	--	11	14	23	30	38	44	68	83	89	98	100	VPWC
Dec. 24.....	1520	53		3440	3720	--	21	26	41	53	64	73	87	96	100	--	--	VPWC
Dec. 27.....	1415	44		2500	1570	--	19	27	39	48	58	67	78	92	98	100	--	VPWC
Dec. 28.....	1620	40		1640	1170	--	--	--	--	--	--	65	77	92	100	--	--	V
Dec. 29.....	1200	42		1350	800	--	23	29	42	51	58	64	76	91	96	98	100	VPWC
Jan. 5, 1965.....	1400	39		5120	6970	--	25	30	41	48	57	64	83	96	99	100	--	VPWC
Jan. 9.....	1540	43		1070	461	--	--	--	--	--	--	61	70	87	100	--	--	V
Jan. 24.....	1500	42		1810	1650	--	--	--	--	--	46	57	75	98	100	--	--	V
Feb. 6.....	1435	--		492	150	199	--	--	--	--	--	--	--	--	--	--	--	
Feb. 6.....	1735	--		488	156	206	--	--	--	--	--	--	--	--	--	--	--	
Feb. 13.....	1720	--		316	78	67	--	--	--	--	--	--	--	--	--	--	--	
Feb. 28.....	1500	--		270	29	21	--	--	--	--	--	--	--	--	--	--	--	
Mar. 10.....	1820	--		198	7	3.7	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19.....	1145	--		156	10	4.2	--	--	--	--	--	--	--	--	--	--	--	
Mar. 24.....	1015	--		145	4	1.6	--	--	--	--	--	--	--	--	--	--	--	
Apr. 1.....	1440	--		147	4	1.6	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2.....	1330	--		185	14	7.0	--	--	--	--	--	--	--	--	--	--	--	
Apr. 7.....	1000	--		147	7	2.8	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9.....	1315	48		772	356	742	--	--	--	--	--	56	70	86	100	--	--	V
Apr. 15.....	1040	--		590	158	252	--	--	--	--	--	--	--	--	--	--	--	
May 6.....	0850	--		288	33	26	--	--	--	--	--	--	--	--	--	--	--	
May 6.....	1700	--		286	21	16	--	--	--	--	--	--	--	--	--	--	--	
May 15.....	1205	--		195	10	5.3	--	--	--	--	--	--	--	--	--	--	--	
June 16.....	0910	--		81	2	.4	--	--	--	--	--	--	--	--	--	--	--	
Aug. 4.....	1115	--		20	2	.1	--	--	--	--	--	--	--	--	--	--	--	
Aug. 29.....	1620	--		16	1	T	--	--	--	--	--	--	--	--	--	--	--	
Sept. 1.....	1230	--		14	1	T	--	--	--	--	--	--	--	--	--	--	--	

T Less than 0.05 ton.

## SACRAMENTO RIVER BASIN--Continued

11-3758. COTTONWOOD CREEK NEAR ONO, CALIF.

LOCATION.--Approximately 1 mile downstream from North Fork, and approximately 8 miles southeast of Ono, Tehama County.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--Records of discharge for gaging stations at Middle Fork Cottonwood Creek near Ono and North Fork Cottonwood Creek near Igo are combined to give the flow at this station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	--	--	--	--	--	12	--	155	2	--	24	--	--	0.1	--	--	--	143	13	0.4	328	8.3
Nov. 13.....	322	--	--	--	--	11	--	113	2	--	12	--	--	.0	--	--	--	113	17	.5	273	8.3
Dec. 10.....	235	--	--	--	--	9.8	--	126	0	--	8.3	--	--	.1	--	--	--	112	9	.4	258	8.2
Jan. 15, 1965....	1618	--	--	--	--	5.6	--	111	1	--	1.9	--	--	.0	--	--	--	95	2	.2	203	8.3
Feb. 5.....	637	--	--	--	--	6.4	--	117	0	--	3.4	--	--	.0	--	--	--	101	5	.3	223	8.1
Mar. 1.....	353	--	--	--	--	6.1	--	126	0	--	3.1	--	--	.0	--	--	--	112	9	.3	236	8.2
Apr. 9.....	1687	--	--	--	--	--	--	88	0	--	2.7	--	--	.1	--	--	--	80	8	--	188	7.9
May 6.....	468	22	--	27	9.4	6.5	0.7	118	3	14	2.8	--	1.0	.0	140	0.19	--	106	4	.3	225	8.3
June 11.....	149	--	--	--	--	6.5	--	118	8	--	4.4	--	--	.0	--	--	--	111	1	.3	235	8.5
July 12.....	59	--	--	--	--	7.7	--	134	3	--	7.1	--	--	.0	--	--	--	117	2	.3	254	8.5
Aug. 9.....	27	--	--	--	--	9.4	--	149	4	--	10	--	--	.1	--	--	--	129	0	.4	280	8.4
Sept. 13.....	20.0	20	--	29	15	10	1.5	161	0	6.0	12	--	3.7	.0	166	.23	--	136	4	.4	297	8.2

## SACRAMENTO RIVER BASIN--Continued

11-3758.2. SOUTH FORK COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--At bridge on Evergreen Road, approximately 1 mile upstream from confluence with Cottonwood Creek, and 3.5 miles southwest of Cottonwood, Shasta County.

DRAINAGE AREA.--218 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1965.

Sediment records: October 1962 to September 1964.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 13, 1964....		--		--	--	26	--	131	0	--	45		--	0.2	--	--		152	45	0.9	427	8.2
Dec. 10.....		--		--	--	21	--	144	0	--	31		--	.1	--	--		146	28	.8	394	8.2
Jan. 14, 1965....		--		--	--	11	--	145	2	--	6.2		--	.1	--	--		132	10	.4	297	8.3
Feb. 5.....		--		--	--	9.3	--	128	4	--	6.6		--	.0	--	--		122	10	.4	275	8.4
Mar. 1.....		--		--	--	9.9	--	126	4	--	7.2		--	.0	--	--		120	10	.4	271	8.4
Apr. 5.....		--		--	--	14	--	154	0	--	14		--	.0	--	--		141	15	.5	326	8.2
May 6.....	14			42	8.8	11	0.7	150	4	28	7.4		0.7	.1	193	0.26		141	11	.4	318	8.4
June 11.....		--		--	--	11	--	124	9	--	10		--	.0	--	--		125	9	.4	285	8.6
July 12.....		--		--	--	13	--	148	2	--	16		--	.1	--	--		135	10	.5	323	8.3
Aug. 9.....		--		--	--	15	--	152	6	--	18		--	.1	--	--		146	12	.5	342	8.6
Sept. 13.....		16		40	13	15	1.5	168	0	20	22		3.9	.1	211	.29		155	17	.5	366	7.7

## SACRAMENTO RIVER BASIN--Continued

11-3760. COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--At gaging station 2 miles east of Cottonwood, Shasta County, and 2.4 miles upstream from mouth.

DRAINAGE AREA.--922 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: October 1962 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 84°F on several days during July; minimum, 33°F Jan. 14, 15, 18-20.

Sediment concentrations: Maximum daily, 4,520 ppm Dec. 22; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 597,000 tons Dec. 22; minimum daily, 0.1 ton Oct. 1, 6.

EXTREMES, 1962-65.--Water temperatures (1962-63, 1964-65): Maximum (1964-65), 84°F on several days during July 1965; minimum, freezing point on several days during 1963-64.

Sediment concentrations: Maximum daily, 4,520 ppm Dec. 22, 1964; minimum daily, 1 ppm on many days during 1963-65.

Sediment loads: Maximum daily, 597,000 tons Dec. 22, 1964; minimum daily, 0.1 ton Sept. 30, Oct. 1, 6, 1964.

REMARKS.--Where no maximum or minimum is shown, temperature is once-daily reading.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	59	--	--	--	--	8.0	--	98	2	--	2.7	--	--	0.1	--	--	--	75	0	0.4	178	8.3
Nov. 9.....	349	--	--	--	--	12	--	83	0	--	20	--	--	.0	--	--	--	92	24	.5	253	8.1
Dec. 10.....	392	--	--	--	--	13	--	123	4	--	15	--	--	.0	--	--	--	126	19	.5	305	8.4
Jan. 14, 1965.....	2710	--	--	--	--	7.7	--	118	1	--	3.3	--	--	.1	--	--	--	102	4	.3	228	8.3
Feb. 1.....	1970	--	--	--	--	5.1	--	116	0	--	3.5	--	--	.0	--	--	--	100	5	.2	217	8.0
Mar. 1.....	718	--	--	--	--	8.5	--	118	6	--	5.5	--	--	.1	--	--	--	116	9	.3	248	8.6
Apr. 5.....	452	--	--	--	--	11	--	136	2	--	10	--	--	.0	--	--	--	126	11	.4	283	8.3
May 6.....	948	18	--	30	9.5	8.2	0.7	128	2	19	4.6	1.2	.0	.0	155	0.21	--	114	6	.3	250	8.3
June 11.....	354	--	--	--	--	8.3	--	133	0	--	6.7	--	--	.1	--	--	--	111	2	.3	248	8.0
July 12.....	135	--	--	--	--	8.3	--	130	3	--	7.2	--	--	.0	--	--	--	112	0	.3	252	8.4
Aug. 9.....	82	--	--	--	--	7.3	--	118	2	--	5.7	--	--	.1	--	--	--	98	0	.3	218	8.4
Sept. 13.....	75	21	--	18	12	8.7	--	122	0	6.0	5.8	--	.2	.0	133	.18	--	94	0	.4	217	7.8

## SACRAMENTO RIVER BASIN--Continued

11-3760. COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October	64	--	--	66	--	63	--	63	--	--	61	--	59	--	60	--	--	60	--	57	--	57	--	--	55	--	59	--	59	--	--	--	--
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November	56	57	51	--	50	--	--	50	53	--	--	--	49	42	46	44	41	44	44	45	45	47	46	49	51	50	50	49	49	48	--	48	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December	49	50	47	45	44	45	46	49	49	51	50	44	41	43	45	41	42	--	44	47	47	46	48	47	46	44	40	40	44	43	40	45	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January	38	37	35	35	40	40	39	37	35	36	35	34	34	33	33	35	34	33	33	33	35	34	40	44	39	43	45	45	45	48	46	38	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	48	48	46	46	--	--	--	45	--	45	--	46	--	45	--	45	--	48	--	47	--	47	--	45	--	47	--	47	--	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March	--	54	--	55	--	54	--	--	54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May	--	--	--	--	--	59	--	--	--	--	--	--	--	--	--	--	--	--	65	--	65	--	66	--	65	--	--	--	--	--	--	--	--
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June	--	--	--	--	--	--	--	--	76	79	79	75	69	70	73	73	70	75	79	79	79	79	80	79	76	75	78	80	80	80	--	--	
Maximum .....	--	--	--	--	--	--	--	--	67	70	73	69	66	64	65	66	68	66	70	72	71	71	72	72	70	67	70	71	73	73	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum .....	82	83	84	84	84	84	84	83	82	81	81	81	82	82	83	84	84	83	82	80	81	81	82	82	80	79	80	80	81	78	75	82	
Minimum .....	73	75	77	77	76	77	76	76	74	73	73	73	74	73	74	76	76	75	75	72	72	72	72	73	74	74	73	72	72	74	73	74	
August	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum .....	81	82	82	82	83	82	81	81	79	76	74	76	78	78	80	79	77	77	78	78	76	78	77	77	78	77	78	77	77	78	77	79	
Minimum .....	72	75	74	75	75	75	75	74	74	72	70	69	70	70	72	72	73	72	72	72	70	72	70	70	70	70	70	71	69	70	70	72	
September	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum .....	77	77	76	76	73	73	74	74	74	74	74	--	--	--	74	73	68	69	70	71	71	72	73	73	72	71	70	70	69	72	--	73	
Minimum .....	71	71	71	69	68	67	67	67	67	67	67	--	--	--	69	64	60	63	63	64	65	65	66	67	67	67	67	64	64	64	--	66	

## SACRAMENTO RIVER BASIN--Continued

11-3760, COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	52	1	0.1	180	17	8.3	1540	266	1110
2..	52	--	.3	403	113	S 126	1380	84	313
3..	53	--	.4	282	12	9.1	1190	52	167
4..	52	3	.4	182	--	2.0	872	20	47
5..	50	--	.3	147	3	1.2	685	11	20
6..	54	1	.1	125	--	1.0	552	7	10
7..	56	--	.2	109	--	.9	474	6	7.7
8..	59	1	.2	123	7	2.3	414	5	5.6
9..	66	--	.2	349	57	S 62	386	4	4.2
10..	65	--	.4	1680	--	480	392	4	4.2
11..	68	2	.4	1690	--	480	667	36	S 69
12..	73	--	.2	2180	--	1100	625	14	24
13..	70	1	.2	830	66	148	498	5	6.7
14..	71	--	.2	522	19	27	438	4	4.7
15..	70	2	.4	372	9	9.0	403	4	4.4
16..	66	--	.4	289	8	6.2	372	2	2.0
17..	73	--	.4	232	7	4.4	337	3	2.7
18..	82	3	.7	200	5	2.7	308	--	2.5
19..	70	--	.8	175	5	2.4	680	194	S 492
20..	66	4	.7	161	4	1.7	718	58	S 117
21..	70	--	.8	150	3	1.2	6940	343	S 11400
22..	62	4	.7	178	5	2.4	40200	4520	S 597000
23..	64	--	.7	195	3	1.6	26600	3350	S 250000
24..	75	--	.8	173	3	1.4	14300	2610	S 103000
25..	85	4	.9	247	10	S 8.8	10000	2120	S 58900
26..	96	--	1.0	426	19	22	9070	2090	S 52900
27..	105	5	1.4	340	6	5.5	7580	1890	S 39400
28..	130	--	2.5	603	83	S 201	5520	1300	S 19500
29..	187	12	S 8.1	1210	135	S 451	4500	720	S 8820
30..	256	--	15	872	30	71	4070	478	S 5280
31..	197	--	9.6	--	--	--	3720	427	S 4320
Total	2595	--	48.5	14625	--	3240.1	145431	--	1152933.7
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3150	330	S 2800	1970	--	430	718	--	87
2..	2960	409	S 3270	1850	75	375	664	13	23
3..	4240	838	S 9890	1770	190	908	632	--	15
4..	4060	1010	S 11200	1670	195	879	605	8	13
5..	13700	1940	S 93500	1700	--	690	585	--	13
6..	8590	1110	S 28000	1650	--	530	600	9	15
7..	5320	1130	S 17000	1550	--	420	615	--	17
8..	3730	550	5540	1410	90	343	580	--	16
9..	3150	330	2810	1280	--	280	555	10	15
10..	2910	270	2120	1210	75	245	550	--	15
11..	3090	410	3420	1150	--	220	545	--	15
12..	3020	280	2280	1090	65	191	550	--	15
13..	2840	280	2150	1020	--	96	580	--	18
14..	2710	250	1830	992	26	70	540	--	15
15..	2700	270	1970	950	--	64	515	--	13
16..	2730	370	2730	896	27	65	502	--	12
17..	2720	350	2570	854	--	58	492	--	11
18..	2750	490	3640	802	24	52	479	--	10
19..	2850	760	5850	770	--	62	461	--	10
20..	2840	640	4910	748	37	75	452	--	9.0
21..	2660	480	3450	748	--	71	434	--	9.0
22..	2390	490	3160	736	34	68	430	--	8.0
23..	2460	2280	S 15900	715	--	42	430	--	8.0
24..	4320	3090	36000	685	15	28	430	--	8.0
25..	3110	1100	9240	640	--	26	421	--	7.0
26..	2580	--	3500	611	15	25	417	--	7.0
27..	2280	356	2190	814	90	K 220	466	--	10
28..	2090	285	1610	872	118	278	452	--	9.0
29..	2000	274	1480	--	--	--	417	--	7.0
30..	2010	246	1340	--	--	--	417	--	7.0
31..	2030	127	696	--	--	--	434	--	9.0
Total	107990	--	286046	31153	--	6811	15968	--	446

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

11-3760, COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	452	13	16	1600	--	720	430	--	10
2..	550	--	15	1410	--	300	425	--	9.0
3..	550	--	15	1320	--	240	422	--	9.0
4..	470	--	10	1120	--	140	406	--	7.0
5..	452	--	9.0	1000	--	100	394	--	7.0
6..	575	--	17	948	34	87	390	--	7.0
7..	535	--	14	933	--	50	394	--	7.0
8..	4120	--	7800	884	--	66	394	--	7.0
9..	7080	--	35000	842	--	55	382	--	6.0
10..	3610	--	5000	779	--	46	362	--	5.0
11..	2240	--	1200	737	--	38	354	--	5.0
12..	1670	--	470	718	--	36	346	--	5.0
13..	1520	--	360	700	--	33	334	--	4.0
14..	1740	--	560	688	--	31	326	--	4.0
15..	2100	--	980	676	--	29	326	--	4.0
16..	3740	--	6000	654	--	27	314	5	4.2
17..	2890	--	2700	642	--	27	302	--	4.0
18..	3830	--	6200	637	--	26	302	--	4.0
19..	5460	--	19000	615	15	25	286	--	3.0
20..	4630	--	11000	605	--	21	298	--	3.0
21..	7560	--	3600	605	13	21	314	--	4.0
22..	4260	--	8000	620	--	23	302	--	3.0
23..	3950	--	4200	580	16	25	290	--	3.0
24..	2750	--	2200	545	--	21	269	--	3.0
25..	2400	--	1500	520	11	15	272	--	3.0
26..	2200	--	1100	502	--	14	276	--	2.0
27..	2090	--	980	484	--	12	227	--	2.0
28..	2010	--	860	452	--	10	216	--	2.0
29..	1960	--	800	448	--	10	202	--	2.0
30..	1830	--	640	438	--	10	196	--	2.0
31..	--	--	--	438	--	10	--	--	--
Total	78624	--	120246	23140	--	2268	9751	--	140.2
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	192	--	2.0	90	--	1.2	78	11	2.3
2..	188	--	2.0	89	--	1.2	81	--	2.2
3..	182	--	2.0	92	--	1.2	79	11	2.3
4..	178	--	2.0	85	5	1.1	81	--	2.6
5..	171	--	2.0	84	--	1.8	77	--	2.3
6..	150	--	2.0	82	11	2.4	77	9	1.9
7..	141	--	2.0	81	--	2.4	79	--	1.9
8..	141	--	1.0	79	--	2.1	84	10	2.3
9..	129	--	1.0	82	9	2.0	82	--	2.4
10..	123	--	1.0	84	--	2.0	77	11	2.3
11..	126	--	2.0	93	13	3.3	74	--	2.2
12..	135	--	2.0	115	--	5.0	77	--	2.1
13..	129	--	2.0	120	14	4.5	75	10	2.0
14..	129	--	2.0	110	--	3.9	72	--	1.7
15..	126	--	2.0	92	--	3.0	72	9	1.7
16..	126	--	2.0	85	11	2.5	75	--	1.8
17..	115	--	2.0	84	--	2.5	70	8	1.5
18..	118	--	2.0	118	13	4.1	69	--	1.5
19..	108	--	2.0	141	--	4.6	68	--	1.5
20..	95	--	2.0	135	10	3.6	68	8	1.5
21..	95	--	2.0	129	--	3.1	70	--	1.7
22..	100	--	4.0	102	--	2.2	71	10	1.9
23..	100	--	4.0	105	8	2.3	71	--	1.9
24..	102	--	4.0	100	--	2.2	77	10	2.1
25..	102	--	4.0	105	10	2.8	75	--	2.0
26..	102	--	4.0	112	--	3.3	79	--	2.1
27..	98	--	3.0	105	12	3.4	78	--	2.1
28..	100	--	3.0	84	--	2.9	77	--	2.1
29..	100	--	3.0	87	--	3.1	74	--	2.0
30..	92	--	2.0	89	15	3.6	77	--	2.1
31..	93	--	2.0	85	--	3.2	--	--	--
Total	3886	--	72	3044	--	86.5	2264	--	60.0
Total discharge for year (cfs-days).....									438,471
Total load for year (tons).....									1,572,398

## SACRAMENTO RIVER BASIN--Continued

11-3760. COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

F, pipet; S, sieve; v, visual accumulation tube; w, in distilled water)																	
Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 2, 1964.....	0830	57		382	123		--	--	--	--	--	99	100	--			S
Nov. 13.....	1400	49		802	59		--	--	--	--	--	49	51	57	80	100	S
Dec. 1.....	0830	49		1480	280		--	--	--	--	--	99	100	--			S
Dec. 29.....	1600	44		4450	701		35	41	51	69	85	85	96	100			VPWC
Jan. 4, 1965.....	0830	35		3740	997		28	39	58	73	86	94	99	100			VPWC
Jan. 20.....	1200	47		2850	641		--	--	--	--	--	90	95	100			V
Jan. 27.....	0830	45		2310	369		--	--	--	--	--	89	98	100			V
Feb. 28.....	1155	47		866	116		--	--	--	--	--	97	100	--			S



## SACRAMENTO RIVER BASIN--Continued

11-3765.5. BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CALIF.

LOCATION (revised).--At gaging station on right bank 3.7 miles downstream from Spring Branch, 5.7 miles upstream from mouth, and 7.0 miles east of Cottonwood, Shasta County.

DRAINAGE AREA.--358 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1965.

## Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	222	--	--	--	--	8.1	--	88	0	--	1.9	--	--	0.0	--	--	--	58	0	0.5	153	8.1
Nov. 9.....	1300	--	--	--	--	4.4	--	28	0	--	2.1	--	--	.1	--	--	--	28	5	.4	80	7.3
Dec. 10.....	395	--	--	--	--	7.1	--	74	0	--	1.4	--	--	.0	--	--	--	48	0	.4	132	8.0
Jan. 14, 1965.....	827	--	--	--	--	5.3	--	54	0	--	1.1	--	--	.0	--	--	--	38	0	.4	98	8.2
Feb. 1.....	685	--	--	--	--	5.8	--	60	0	--	1.0	--	--	.0	--	--	--	40	0	.4	106	8.2
Mar. 1.....	540	--	--	--	--	5.7	--	57	4	--	1.0	--	--	.0	--	--	--	43	0	.4	113	8.5
Apr. 5.....	515	--	--	--	--	6.2	--	66	0	--	1.3	--	--	.0	--	--	--	45	0	.4	115	7.9
May 6.....	645	37	--	9.6	3.6	5.3	2.1	54	0	1.0	1.1	--	1.4	.0	A	88	0.12	39	0	.4	99	8.0
June 14.....	498	--	--	--	--	5.8	--	52	4	--	1.2	--	--	.0	--	--	--	41	0	.4	107	8.6
July 12.....	371	--	--	--	--	7.1	--	72	0	--	1.3	--	--	.0	--	--	--	46	0	.5	123	8.2
Aug. 13.....	328	--	--	--	--	7.4	--	72	1	--	1.7	--	--	.0	--	--	--	51	0	.4	130	8.3
Sept. 13.....	277	48	--	8.8	7.8	8.3	2.0	84	0	3.0	2.0	--	.2	.0	124	.17	--	54	0	.5	142	8.1

A Calculated from sum of determined constituents.

## Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment												Method of analysis
							Percent finer than size indicated, in millimeters												
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000		
Nov. 13, 1964.....	1615	47		440	6	7.1						--	--	--	--			VPWC V S	
Dec. 17.....	0930	42		375	4	4.1						--	--	--	--				
Dec. 22.....	1045	53		9340	722	18200	24	29	48	63	76	87	96	99	100				
Dec. 29.....	1620	42		1250	72	243						48	64	84	99	100			
Jan. 19, 1965.....	1605	47		748	19	38						86	100	--	--				
Feb. 28.....	1035	46		585	7	11						--	--	--	--				
Apr. 1.....	1100	49		530	15	21						--	--	--	--				
May 6.....	1305	52		645	12	21						--	--	--	--				
June 16.....	1415	61		455	10	12						--	--	--	--				
Aug. 3.....	1530	69		264	5	3.6						--	--	--	--				
Sept. 1.....	0900	61		291	5	3.9						--	--	--	--				

## SACRAMENTO RIVER BASIN--Continued

11-3772. SACRAMENTO RIVER AT BEND, CALIF.

LOCATION.--At highway bridge at Bend, Tehama County, approximately 7.9 miles upstream from gaging station near Red Bluff, 0.3 mile upstream from Spring Creek, and approximately 9 miles north of Red Bluff.

DRAINAGE AREA (revised).--9,022 square miles, excluding Goose Lake basin, upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: May 1955 to September 1965.

Water temperatures: May 1955 to June 1963.

REMARKS.--Records of discharge given for Sacramento River near Red Bluff. No appreciable inflow between sampling point and gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 8, 1964.....	5610	--	--	--	--	6.5	--	71	--	--	2.0	--	2.0	0.1	--	--	--	51	0	0.4	124	8.1
Nov. 9.....	9490	--	--	--	--	7.1	--	61	--	--	4.4	--	4.1	0	--	--	--	50	0	0.4	133	8.0
Dec. 10.....	4350	--	--	--	--	8.4	--	75	--	--	4.0	--	1.2	0	--	--	--	58	0	0.5	157	8.1
Jan. 14, 1965.....	25800	--	--	--	--	6.4	--	59	--	--	2.3	--	1.8	0	--	--	--	48	0	0.4	122	7.8
Feb. 1.....	25000	--	--	--	--	5.5	--	59	--	--	1.2	--	1.2	0	--	--	--	45	0	0.4	116	8.1
Mar. 1.....	6440	--	--	--	--	5.9	--	63	--	--	2.4	--	1.3	0	--	--	--	52	0	0.4	133	8.1
Apr. 5.....	6270	--	--	--	--	7.0	--	64	--	--	3.4	--	0.8	0	--	--	--	53	1	0.4	135	7.9
May 6.....	8050	22	--	11	6.0	6.4	0.9	64	--	10	2.8	--	0.6	0	96	0.13	--	52	0	0.4	133	8.0
June 14.....	9150	--	--	--	--	6.0	--	60	--	--	2.8	--	1.2	0	--	--	--	48	0	0.4	121	8.1
July 12.....	11600	--	--	--	--	5.9	--	61	--	--	2.1	--	2.2	0	--	--	--	45	0	0.4	117	8.2
Aug. 9.....	11600	--	--	--	--	5.1	--	59	--	--	2.2	--	2.4	0.1	--	--	--	44	0	0.3	112	8.2
Sept. 13.....	9490	21	--	10	4.9	5.4	1.2	59	--	5.0	2.0	--	2.3	0	83	0.11	--	45	0	0.3	115	7.7

## SACRAMENTO RIVER BASIN--Continued

11-3775. PAYNES CREEK NEAR RED BLUFF, CALIF.

LOCATION.--At gaging station, 0.4 mile upstream from mouth, and 6.5 miles northeast of Red Bluff, Tehama County.

DRAINAGE AREA.--92.7 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 12, 1964....	275	--	--	--	--	7.8	--	72	0	--	4.4	--	--	0.2	--	--	--	46	0	0.5	128	7.9
Dec. 9.....	28	--	--	--	--	15	--	105	0	--	10	--	--	.3	--	--	--	71	0	.8	200	8.2
Jan. 14, 1965....	143	--	--	--	--	7.0	--	58	0	--	2.5	--	--	.1	--	--	--	42	0	.5	110	8.2
Feb. 4.....	60	--	--	--	--	10	--	78	0	--	5.8	--	--	.2	--	--	--	54	0	.6	150	8.2
Mar. 4.....	32	--	--	--	--	12	--	64	13	--	7.0	--	--	.2	--	--	--	60	0	.7	172	8.8
Apr. 8.....	210	--	--	--	--	3.9	--	42	0	--	1.1	--	--	.0	--	--	--	30	0	.3	76	7.6
May 6.....	25	46	--	13	6.4	11	1.4	85	0	2.0	6.0	--	1.7	.2	A 130	0.18	--	59	0	.6	162	8.2
June 2.....	9.4	--	--	--	--	13	--	88	2	--	8.6	--	--	.2	--	--	--	62	0	.7	178	8.4
July 15.....	.1	--	--	--	--	13	--	88	2	--	12	--	--	.2	--	--	--	66	0	.7	191	8.4
Aug. 12.....	.8	--	--	--	--	17	--	105	4	--	16	--	--	.4	--	--	--	75	0	.9	225	8.5
Sept. 8.....	.4	45	--	12	10	16	1.1	91	8	1.0	13	--	--	.4	159	22	--	72	0	.8	208	8.6

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

11-3780. SACRAMENTO RIVER NEAR RED BLUFF, CALIF.

LOCATION.--Temperature recorder at gaging station at lower end of Iron Canyon, 0.5 mile downstream from Sevenmile Creek, and 4.6 miles northeast of Red Bluff, Tehama County.

DRAINAGE AREA (revised).--9,022 square miles, excluding Goose Lake basin.

RECORDS AVAILABLE.--Water temperatures November 1960 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 58°F on several days during October; minimum, 41°F Jan. 3.

EXTREMES, 1960-65.--Water temperatures: Maximum (1961-63, 1964-65), 60°F Oct. 3-7, 1961; minimum, 39°F Jan. 22, 23, 1962.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	57	57	57	58	58	58	58	58	58	58	58	58	58	57	57	57	57	57	56	56	56	56	56	56	55	55	55	55	55	55	55	57
Minimum .....	57	57	57	57	58	58	58	58	58	58	58	58	57	57	57	57	56	56	56	56	55	55	55	55	55	55	55	55	55	55	55	56
November																																
Maximum .....	55	55	55	55	55	55	54	54	54	54	51	51	51	51	51	50	50	50	50	50	50	51	51	51	51	51	50	50	50	--	52	
Minimum .....	55	55	55	55	55	54	54	54	53	51	51	51	51	51	50	50	50	50	50	50	50	51	51	51	51	50	50	50	50	--	52	
December																																
Maximum .....	51	51	51	50	49	48	48	49	50	50	50	50	48	46	47	47	46	45	45	46	49	50	50	50	50	50	48	48	48	48	49	
Minimum .....	50	51	51	49	48	48	48	48	49	49	50	48	46	46	46	47	46	45	45	46	46	49	50	50	50	50	48	48	48	48	48	
January																																
Maximum .....	48	47	45	44	45	46	47	47	47	47	47	47	47	47	47	47	48	48	48	48	48	48	48	48	48	47	47	48	48	48	47	
Minimum .....	47	45	41	42	44	45	46	47	47	47	47	47	47	47	47	47	47	48	48	48	48	48	48	48	47	47	47	48	48	48	47	
February																																
Maximum .....	48	48	48	48	48	48	47	48	48	48	48	48	48	48	49	49	49	49	49	50	49	49	49	49	49	48	48	48	--	--	48	
Minimum .....	48	48	48	48	48	47	47	47	47	48	48	48	48	48	48	48	48	49	49	49	49	49	49	49	48	48	48	48	--	--	48	
March																																
Maximum .....	48	48	48	49	50	50	50	50	50	50	51	51	51	51	51	51	51	51	51	51	52	53	53	53	53	52	52	52	52	51	50	51
Minimum .....	48	48	48	48	49	50	50	50	50	50	50	51	51	51	51	51	51	50	50	50	51	52	53	53	52	52	51	51	51	50	50	
April																																
Maximum .....	50	50	50	52	52	52	51	51	51	50	51	53	54	54	53	53	53	53	54	54	55	56	56	57	58	58	59	59	59	--	54	
Minimum .....	50	50	50	50	52	51	51	50	50	50	50	51	53	53	53	53	53	53	53	54	55	56	56	57	57	58	58	58	58	--	53	
May																																
Maximum .....	58	56	55	55	55	54	53	52	52	52	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	54	55	55	55	55	54	
Minimum .....	56	55	55	55	54	53	52	52	52	52	52	53	53	53	53	53	53	53	53	53	52	52	53	53	53	53	54	55	55	55	55	53
June																																
Maximum .....	55	55	56	56	56	56	56	55	55	55	55	55	54	54	54	54	54	54	54	55	55	55	55	55	55	54	54	54	54	--	55	
Minimum .....	55	55	55	56	56	56	56	55	54	55	55	55	54	53	54	54	53	54	54	55	55	55	55	55	55	54	54	54	54	--	55	
July																																
Maximum .....	54	53	53	53	53	53	53	53	53	53	52	52	52	52	52	52	53	53	53	53	53	53	53	53	53	54	54	54	54	54	53	
Minimum .....	53	53	53	53	53	53	53	53	53	53	52	52	52	52	52	52	53	53	53	53	53	53	53	53	53	53	54	54	54	54	53	
August																																
Maximum .....	54	54	54	54	54	54	55	55	55	55	55	55	55	55	55	54	54	55	55	55	55	54	54	54	54	54	54	54	54	54	54	
Minimum .....	52	54	54	54	54	54	54	55	55	55	54	54	55	55	55	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
September																																
Maximum .....	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	53	53	53	53	53	53	53	53	53	53	53	53	--	54	
Minimum .....	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	53	53	53	53	53	53	53	53	53	53	53	53	53	53	--	54

## SACRAMENTO RIVER BASIN--Continued

11-3785, SACRAMENTO RIVER AT RED BLUFF, CALIF.

LOCATION.--At U.S. Highway 99E bridge at Red Bluff, Tehama County, approximately 5 miles downstream from gaging station near Red Bluff.

DRAINAGE AREA.--9,300 square miles, approximately, excluding Goose Lake basin, upstream from gaging station.

RECORDS AVAILABLE.--Water temperatures: October 1957 to September 1965.

Sediment records: October 1957 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 62°F Apr. 26, 27, 29; minimum, 44°F Jan. 2, 3.

Sediment concentrations: Maximum daily, 2,920 ppm Dec. 22; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 876,000 tons Dec. 22; minimum daily, 12 tons Dec. 8-10, 14, 15.

EXTREMES, 1957-65.--Water temperatures: Maximum, 66°F June 1, 1960; minimum, 38°F Jan. 22, 1962.

Sediment concentrations: Maximum daily, 2,920 ppm Dec. 22, 1964; minimum daily, 1 ppm on many days in 1964.

Sediment loads: Maximum daily, 876,000 tons Dec. 22, 1964; minimum daily, 12 tons Dec. 8-10, 14, 15, 1964.

REMARKS.--Records of daily discharge data given for Sacramento River near Red Bluff. No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	58	--	59	--	60	--	60	--	59	--	59	--	58	--	58	--	58	--	57	--	56	--	56	--	56	--	57	--	57	--	57	--	
November .....	--	56	--	55	--	55	--	55	55	51	50	50	49	49	49	48	48	48	47	49	49	50	51	53	52	50	50	50	52	--	51	--	
December .....	51	52	50	49	46	47	49	51	51	52	49	45	46	48	47	46	45	47	50	50	54	51	55	53	53	50	47	47	47	47	49	--	
January .....	45	44	44	45	47	50	47	46	47	49	49	48	47	46	47	47	47	47	48	47	48	47	47	47	45	45	47	47	47	47	47	47	
February .....	47	46	47	47	46	47	46	47	46	45	45	46	47	46	47	46	47	47	48	49	49	49	48	47	48	48	49	49	--	--	47	--	
March .....	48	50	50	50	50	50	50	50	52	50	51	50	51	51	52	51	51	51	51	51	53	53	53	54	52	51	51	54	53	52	52	51	--
April .....	51	51	51	54	54	51	49	49	48	49	50	55	54	57	51	54	54	54	57	57	58	58	59	59	60	62	62	--	62	--	--	55	--
May .....	58	--	56	--	53	--	53	--	55	--	55	--	56	--	57	--	57	--	56	--	54	--	55	--	56	--	59	--	60	--	60	--	--
June .....	--	59	--	60	--	59	--	57	--	60	--	60	--	56	--	57	--	56	--	60	--	60	--	59	--	59	--	59	--	58	--	--	--
July .....	--	59	--	59	--	60	--	59	--	59	--	58	--	59	--	60	--	59	--	57	--	57	--	58	--	56	--	57	--	58	--	--	--
August .....	57	--	55	--	59	--	59	--	59	--	59	--	58	--	58	--	60	--	58	--	58	--	58	--	57	--	57	--	58	--	57	--	--
September .....	56	58	--	57	--	57	--	56	--	57	--	56	--	56	--	59	--	54	--	53	--	55	--	56	--	56	--	54	--	55	--	--	--

## SACRAMENTO RIVER BASIN--Continued

11-3785. SACRAMENTO RIVER AT RED BLUFF, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	8100	16	350	5770	--	93	10000	4	108
2..	7380	--	220	5930	1	16	8700	4	94
3..	6640	8	143	6030	--	16	7460	2	40
4..	5980	--	97	5660	1	15	6000	1	16
5..	5660	6	92	5500	--	15	5260	1	14
6..	5610	--	76	5300	1	14	4890	1	13
7..	5590	5	75	5100	--	14	4660	1	13
8..	5610	--	76	5210	1	14	4500	1	12
9..	5660	6	92	9490	10	S 296	4350	1	12
10..	5680	--	92	12600	22	S 782	4350	1	12
11..	5700	5	77	9290	68	S 1980	5890	3	48
12..	5680	--	77	14700	431	S 21000	5410	2	29
13..	5570	6	90	7510	5	101	4790	1	13
14..	5500	--	130	6220	2	34	4540	1	12
15..	5520	11	164	5750	1	16	4440	1	12
16..	5540	--	120	5450	1	15	4360	2	24
17..	5480	6	89	5370	1	14	4230	8	91
18..	5480	--	150	5150	1	14	4140	7	78
19..	5430	14	205	5080	1	14	10900	182	S 6580
20..	5390	--	250	5000	1	14	9640	282	S 7500
21..	5410	17	248	4980	1	13	19200	732	S 42000
22..	5390	--	170	5000	1	14	106000	2920	S 876000
23..	5390	7	102	5020	1	14	100000	1490	S 414000
24..	5410	--	88	4980	1	13	66800	1580	S 288000
25..	5450	6	88	5450	1	15	58800	666	S 107000
26..	5570	--	90	6750	1	18	69200	583	S 110000
27..	5640	6	91	6030	2	33	71000	558	S 110000
28..	5860	--	110	9010	6	S 197	63600	226	S 39200
29..	6100	9	148	11300	8	S 267	50400	168	S 22800
30..	6170	--	170	7590	2	41	45800	143	S 17700
31..	6030	10	163	--	--	--	43800	127	S 15100
Total	179620	--	4133	202220	--	25102	813110	--	2056521
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	28200	117	S 8860	25000	64	4320	6440	20	348
2..	25700	111	S 7700	24400	54	3560	6220	18	302
3..	37700	264	S 27600	21600	50	2920	6170	16	267
4..	41600	206	S 24100	20900	46	2600	6120	15	248
5..	74000	1510	S 382000	22200	61	3660	6100	14	231
6..	96600	806	S 231000	23600	76	4840	6080	14	230
7..	70400	338	S 64900	21200	42	2400	6100	13	214
8..	62900	177	30100	20600	36	2000	6300	15	255
9..	59000	162	25800	19500	34	1790	6270	15	254
10..	40900	122	13500	19100	34	1750	5960	14	225
11..	33900	120	11000	16800	30	1360	5930	14	224
12..	29900	126	10200	14800	34	1360	6340	16	274
13..	26500	98	7010	14200	25	959	6170	16	267
14..	25800	88	6130	14100	23	876	5640	14	213
15..	25600	92	6360	14100	23	876	5520	14	209
16..	25400	101	6930	13000	24	842	5450	14	206
17..	25500	114	7850	11800	24	765	5410	13	190
18..	25400	103	7060	11700	22	695	5340	13	187
19..	25400	118	8090	11600	19	595	5300	14	200
20..	23400	136	8590	10300	20	556	5300	14	200
21..	22800	105	6460	9750	16	421	5300	14	200
22..	21400	81	4680	9720	16	420	5280	13	185
23..	20300	78	4280	9690	15	392	5210	16	225
24..	30300	497	40700	8620	13	303	5480	16	237
25..	28000	200	15100	8400	14	318	5410	16	234
26..	27600	118	8790	7510	14	284	5430	20	293
27..	26700	81	5840	7320	19	376	7480	56	S 1230
28..	26100	76	5360	6900	27	503	6720	47	853
29..	25700	92	6380	--	--	--	5820	17	267
30..	25300	60	4100	--	--	--	5610	14	212
31..	25200	70	4760	--	--	--	5540	12	179
Total	1083200	--	1001230	418410	--	41741	181440	--	8859

S Computed by subdividing day.

## SACRAMENTO RIVER BASIN--Continued

11-3785. SACRAMENTO RIVER AT RED BLUFF, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	5590	14	211	9040	40	976	9350	--	450
2..	9260	78	2060	8700	--	750	9320	24	604
3..	7400	44	879	8370	27	610	9320	--	450
4..	6320	22	375	8080	--	550	9320	16	403
5..	6270	20	339	7830	24	507	9370	--	480
6..	11200	162	6580	8050	--	610	9350	23	581
7..	9150	86	2120	11900	73	2350	9320	--	500
8..	15600	269	13600	12000	--	1400	9350	18	454
9..	32800	809	74800	11700	36	1140	9350	--	430
10..	17800	230	11100	11700	--	1100	9320	16	403
11..	13400	115	4160	11600	34	1060	9260	--	330
12..	9890	52	1390	11400	--	980	9210	11	274
13..	8840	38	907	11800	30	956	9210	--	300
14..	8870	37	886	11800	--	960	9150	15	371
15..	9600	55	1430	11800	32	1020	9150	--	400
16..	17300	245	11400	11800	--	960	9090	15	368
17..	12600	140	4760	12300	28	930	9370	--	380
18..	15100	165	8400	12600	--	1100	9780	20	528
19..	21200	380	22400	12600	37	1260	10200	--	610
20..	15900	260	11200	12600	--	1200	10200	23	633
21..	21700	969	64200	12700	32	1100	10400	--	650
22..	18000	220	10700	11800	--	860	10400	23	646
23..	12100	130	4250	11600	24	752	10400	--	560
24..	10500	99	2810	11500	--	680	10300	19	528
25..	9630	71	1850	10700	20	578	10300	--	530
26..	9070	60	1470	10300	--	530	10300	19	528
27..	8730	51	1200	9690	17	445	10200	--	500
28..	8430	--	1200	9400	--	430	10300	17	473
29..	8510	53	1220	9350	17	429	10200	--	470
30..	9150	--	1200	9370	--	400	9780	18	475
31..	--	--	--	9370	16	405	--	--	--
Total	369910	--	269097	333450	--	27028	290570	--	14309
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	10600	--	520	11600	14	438	10300	7	195
2..	10700	18	520	11500	--	430	1660	11	287
3..	10600	--	540	11500	15	466	9630	--	210
4..	10600	21	601	11500	--	500	9600	14	363
5..	10600	--	740	11500	16	497	9630	--	360
6..	10500	26	737	11500	--	590	9600	13	337
7..	10600	--	540	11500	20	621	9600	--	290
8..	10600	14	401	11500	--	430	9580	11	285
9..	11000	--	420	11600	11	345	9600	--	340
10..	11200	--	480	11600	--	380	9600	14	363
11..	11500	--	560	11700	14	442	9550	--	280
12..	11600	20	626	12000	--	550	9520	9	231
13..	11500	--	650	11900	18	578	9490	--	260
14..	11500	21	652	11800	--	450	9490	11	282
15..	11500	--	650	11700	12	379	9490	--	310
16..	11500	20	621	11700	--	320	9460	11	281
17..	11500	--	590	11700	10	316	9460	--	230
18..	11500	17	528	11900	--	350	9490	9	231
19..	11500	--	500	12100	12	392	9490	--	230
20..	11500	14	435	11900	--	390	9520	10	257
21..	11500	--	500	12000	11	356	9490	--	260
22..	11500	19	590	12000	--	320	9490	9	231
23..	11500	--	560	11900	10	321	9400	--	300
24..	11500	16	497	11900	--	320	8950	14	338
25..	11500	--	370	11900	10	321	8900	--	240
26..	11500	11	342	11600	--	470	8870	9	216
27..	11500	--	400	10900	21	618	8810	--	240
28..	11500	17	528	10800	--	520	8760	11	260
29..	11500	--	680	10700	16	462	8670	--	230
30..	11500	24	745	10700	--	430	8650	9	210
31..	11500	--	500	10700	13	376	--	--	--
Total	348600	--	17023	358800	--	13378	281750	--	8147

Total discharge for year (cfs-days)..... 4,861,080  
 Total load for year (tons)..... 3,486,568

S Computed by subdividing day.

## SACRAMENTO RIVER BASIN--Continued

## 11-3785. SACRAMENTO RIVER AT RED BLUFF, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Nov. 11, 1964.....	1620	51		8480	67		---	---	---	---	---	94	96	100	---	---		S
Dec. 20.....	0800	50		9980	308		---	---	---	---	---	98	99	100	---	---		V
Dec. 21.....	0800	50		10600	713							98	99	100	---	---		S
Dec. 21.....	1445	53		16000	462							98	99	100	---	---		S
Dec. 21.....	1645	53		20500	469		---	---	---	---	---	72	90	97	99	100		V
Dec. 22.....	0745	55		72300	2750		---	---	---	---	---	61	70	83	98	100		V
Dec. 23.....	0630	51		114000	1380							92	98	100	---	---		V
Dec. 23.....	1145	51		94800	1550		29	30	41	61	78	89	97	99	100	---		VPWC
Dec. 23.....	1800	52		78200	1440		30	32	44	62	78	91	99	100	---	---		VPWC
Dec. 25.....	0730	53		57800	715		---	---	---	---	---	88	95	99	100	---		V
Dec. 27.....	1640	49		67100	350		---	---	---	---	---	76	85	91	100	---		V
Dec. 29.....	0815	47		50600	170		---	---	---	---	---	86	95	98	100	---		V
Dec. 30.....	1715	48		44600	120		---	---	---	---	---	90	98	99	100	---		V
Jan. 1, 1965.....	0815	45		27900	121		---	---	---	---	---	90	100	---	---	---		S
Jan. 2.....	1230	44		25200	101		---	---	---	---	---	87	100	---	---	---		S
Jan. 3.....	0830	44		37200	335		---	---	---	---	---	67	86	98	100	---		V
Jan. 8.....	0745	46		63700	179		---	---	---	---	---	80	92	98	100	---		V
Jan. 10.....	1630	49		34500	109		---	---	---	---	---	87	100	---	---	---		S
Jan. 21.....	1545	48		22900	102		---	---	---	---	---	78	84	90	95	100		V
Feb. 9.....	0800	46		19500	35		---	---	---	---	---	77	100	---	---	---		S
Apr. 2.....	1335	50		11400	103		---	---	---	---	---	59	85	96	98	100		S
Apr. 9.....	0715	48		36400	1280		---	---	---	---	---	75	91	99	100	---		V



## SACRAMENTO RIVER BASIN--Continued

11-3788. RED BANK CREEK NEAR RED BLUFF, CALIF.

LOCATION.--At gaging station on road bridge, 0.1 mile downstream from unnamed tributary, 1.8 miles southeast of Red Bank, and approximately 13 miles west of Red Bluff, Tehama County.

DRAINAGE AREA.--93.5 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1959 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 12, 1964...	196					11		149	0		8.1			0.1				150	28	0.4	332	8.1
Dec. 10.....	7.6					21		257	3		22			.1				277	61	.5	589	8.3
Jan. 14, 1965...	156					15		237	12		5.1			.0				246	32	.4	487	8.6
Feb. 3.....	39					15		246	7		5.6			.0				245	32	.4	491	8.5
Mar. 2.....	11					16		260	8		9.7			.0				264	38	.4	532	8.4
Apr. 6.....	18					16		246	8		9.1			.1				254	39	.4	519	8.4
May 5.....	35	15		54	30	16	0.8	261	10	52	5.5		1.8	.0	310	0.42		257	27	.4	517	8.4
June 17.....	4.1					17		224	4		11			.1				218	28	.5	462	8.4

## SACRAMENTO RIVER BASIN--Continued

11-3790. ANTELOPE CREEK NEAR RED BLUFF, CALIF.

LOCATION.--At gaging station 1.8 miles upstream from diversion dam of Los Molinos Mutual Water Co., 6.5 miles east of Red Bluff, Tehama County, and 9.7 miles upstream from mouth.

DRAINAGE AREA.--123 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	34	--	--	--	--	12	--	86	2	--	8.4	--	--	0.1	--	--	--	62	0	0.7	168	8.3
Nov. 13.....	214	--	--	--	--	5.6	--	47	0	--	2.8	--	--	.1	--	--	--	38	0	.4	98	8.0
Dec. 9.....	59	--	--	--	--	9.5	--	78	0	--	5.4	--	--	.2	--	--	--	54	0	.6	148	8.2
Jan. 14, 1965.....	271	--	--	--	--	4.5	--	43	0	--	1.8	--	--	.0	--	--	--	30	0	.4	80	8.0
Feb. 4.....	152	--	--	--	--	5.1	--	48	0	--	2.6	--	--	.0	--	--	--	34	0	.4	91	8.0
Mar. 4.....	93	--	--	--	--	6.0	--	61	0	--	3.3	--	--	.0	--	--	--	41	0	.4	110	8.2
Apr. 8.....	376	--	--	--	--	3.5	--	42	0	--	1.1	--	--	.0	--	--	--	33	0	.3	78	7.6
May 6.....	177	28	--	8.8	1.9	4.4	0.9	44	0	2.0	2.2	--	1.1	.0	A 71	0.10	--	30	0	.3	81	7.8
June 2.....	92	--	--	--	--	6.5	--	53	3	--	3.9	--	--	.0	--	--	--	40	0	.4	107	8.5
July 12.....	41	--	--	--	--	11	--	75	0	--	7.2	--	--	.0	--	--	--	50	0	.7	142	8.2
Aug. 9.....	38	--	--	--	--	10	--	75	3	--	7.9	--	--	.1	--	--	--	53	0	.6	150	8.4
Sept. 13.....	39	34	--	12	6.1	10	1.1	80	0	.0	7.6	--	.0	.1	113	.15	--	55	0	.6	153	8.2

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

11-3791. ANTELOPE CREEK NEAR MOUTH, NEAR LOS MOLINOS, CALIF.

LOCATION.--At U.S. Highway 99E bridge, 0.2 mile northwest of Lassen View Union School, and approximately 6 miles north of Los Molinos, Tehama County.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....		--	--	--	--	19	--	102	0	--	21	--	--	0.6	--	--	--	81	0	0.9	258	8.0
Nov. 13.....		--	--	--	--	6.1	--	54	0	--	4.5	--	--	.1	--	--	--	50	6	.4	127	7.3
Dec. 9.....		--	--	--	--	8.2	--	86	0	--	5.7	--	--	.1	--	--	--	67	0	.4	166	8.1
Jan. 14, 1965....		--	--	--	--	6.2	--	67	0	--	3.6	--	--	.0	--	--	--	56	1	.4	130	8.2
Feb. 4.....		--	--	--	--	7.4	--	80	1	--	5.3	--	--	.1	--	--	--	68	1	.4	164	8.3
Mar. 4.....		--	--	--	--	8.0	--	88	2	--	5.5	--	--	.1	--	--	--	75	0	.4	184	8.4
Apr. 8.....		--	--	--	--	3.8	--	43	0	--	1.4	--	--	.0	--	--	--	34	0	.3	83	7.3
May 6.....	29	--	--	10	3.2	6.8	1.7	44	0	10	4.6	--	2.1	.1	90	0.12	--	38	2	.5	110	7.9
June 2.....		--	--	--	--	9.4	--	74	2	--	8.3	--	--	.2	--	--	--	72	8	.5	189	8.3
July 12.....		--	--	--	--	12	--	75	0	--	9.9	--	--	.3	--	--	--	68	6	.6	200	8.1
Aug. 9.....		--	--	--	--	15	--	74	0	--	16	--	--	.4	--	--	--	64	3	.8	207	8.1
Sept. 13.....		36	--	16	8.8	16	3.2	86	0	17	17	--	.5	.5	169	.23	--	76	5	.8	227	7.9

## SACRAMENTO RIVER BASIN--Continued

11-3795. ELDER CREEK NEAR PASKENTA, CALIF.

LOCATION.--At gaging station 2.5 miles downstream from South Fork, 8 miles northeast of Flounroy, and 11 miles north of Paskenta, Tehama County.

DRAINAGE AREA (revised).--92.9 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: October 1962 to September 1963.

Sediment records: October 1962 to September 1963.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	0.4	--	--	--	--	225	--	130	4	--	610	--	--	0.3	--	--	--	490	377	4.4	2420	8.4
Nov. 12.....	277	--	--	--	--	11	--	145	4	--	16	--	--	.1	--	--	--	141	16	.4	323	8.5
Dec. 10.....	36	--	--	--	--	20	--	182	8	--	29	--	--	.0	--	--	--	181	19	.6	425	8.4
Jan. 14, 1965....	275	--	--	--	--	6.7	--	145	5	--	4.8	--	--	.0	--	--	--	133	6	.3	270	8.6
Feb. 3.....	184	--	--	--	--	6.2	--	120	4	--	5.9	--	--	.0	--	--	--	111	6	.3	233	8.4
Mar. 2.....	86	--	--	--	--	8.1	--	145	4	--	12	--	--	.0	--	--	--	136	11	.3	289	8.4
Apr. 6.....	66	--	--	--	--	10	--	151	5	--	12	--	--	.1	--	--	--	142	10	.4	307	8.5
May 5.....	135	17	--	23	18	7.0	0.5	146	5	12	6.3	--	1.1	.0	164	0.22	--	132	4	.3	276	8.3
June 17.....	24	--	--	--	--	13	--	192	12	--	23	--	--	.0	--	--	--	189	12	.4	399	8.7
July 15.....	13	--	--	--	--	26	--	188	16	--	47	--	2.4	.0	--	--	--	200	20	.8	479	8.8
Aug. 12.....	9.0	--	--	--	--	30	--	210	12	--	57	--	--	.1	--	--	--	218	26	.9	537	8.7
Sept. 16.....	3.9	13	--	38	34	54	1.3	208	8	11	112	--	2.9	.2	411	.56	--	233	49	1.5	697	8.6

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 10, 1964.....	1155	53		492	357	474	--	--	--	--	--	90	93	96	100	--	S	
Nov. 11.....	1045	49		144	32	12	--	--	--	--	--	--	--	--	--	--		
Dec. 15.....	1200	46		30	1	.1	--	--	--	--	--	--	--	--	--	--		
Dec. 22.....	1435	54		8100	13800	302000	12	25	37	51	67	76	92	98	99	100	VPWC	
Dec. 28.....	1215	41		477	1540	1980	18	28	40	55	67	75	82	88	98	100	VPWC	
Jan. 21, 1965.....	1200	46		280	386	292	--	--	--	--	--	61	67	77	98	100	V	
Feb. 27.....	1400	55		106	98	28	--	--	--	--	--	--	--	--	--	--		
Mar. 31.....	1630	52		55	3	.4	--	--	--	--	--	--	--	--	--	--		
May 5.....	0910	47		138	15	5.6	--	--	--	--	--	--	--	--	--	--		
June 15.....	1235	72		26	1	.1	--	--	--	--	--	--	--	--	--	--		
Aug. 3.....	1330	88	D	6.8	4	.1	--	--	--	--	--	--	--	--	--	--		
Aug. 31.....	1530	85		5.1	1	T	--	--	--	--	--	--	--	--	--	--		

D Daily mean discharge.

T Less than 0.05 ton.

## SACRAMENTO RIVER BASIN--Continued

11-3805. ELDER CREEK AT GERBER, CALIF.

LOCATION.--At U.S. Highway 99W bridge, 1,200 feet upstream from gaging station, 1.2 miles west of Gerber, Tehama County, and 3.7 miles upstream from mouth.

DRAINAGE AREA.--136 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 13, 1964....	137	--	--	--	--	14	--	150	5	--	11	--	--	0.1	--	--	--	149	18	0.5	343	8.5
Dec. 9.....	40	--	--	--	--	6.8	--	97	5	--	4.6	--	--	.1	--	--	--	96	8	.3	215	8.4
Jan. 14, 1965....	272	--	--	--	--	7.8	--	154	4	--	5.6	--	--	.0	--	--	--	140	7	.3	288	8.6
Feb. 5.....	206	--	--	--	--	8.2	--	134	2	--	6.4	--	--	.0	--	--	--	119	6	.3	253	8.5
Mar. 5.....	68	--	--	--	--	9.5	--	154	8	--	12	--	--	.0	--	--	--	148	9	.3	319	8.5
Apr. 9.....	2110	--	--	--	--	4.2	--	88	0	--	1.8	--	--	.0	--	--	--	74	2	.2	159	8.0
May 6.....	140	18	--	34	12	7.5	1.0	149	5	12	6.8	--	1.4	.0	171	0.23	--	136	6	.3	282	8.5
June 2.....	36	--	--	--	--	12	--	184	12	--	16	--	--	.0	--	--	--	178	7	.4	365	8.7
July 12.....	4.8	--	--	--	--	12	--	203	14	--	26	--	--	.0	--	--	--	204	15	.4	442	8.6
Aug. 9.....	1.4	--	--	--	--	19	--	232	11	--	24	--	--	.1	--	--	--	214	6	.6	464	8.6
Sept 8.....	1.5	22	--	43	33	21	1.5	267	10	17	26	--	.5	.0	305	.41	--	244	9	.6	519	8.4

## SACRAMENTO RIVER BASIN--Continued

11-3816.2. MILL CREEK AT MOUTH, NEAR LOS MOLINOS, CALIF.

LOCATION.--At bridge on U.S. Highway 99, 0.8 mile upstream from confluence with Sacramento River, and 4.7 miles downstream from gaging station near Los Molinos, Tehama County.

DRAINAGE AREA.--131 square miles upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of daily discharge data given for Mill Creek near Los Molinos. Considerable diversion between gaging station and sampling point.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 13, 1964....	222	--	--	--	--	13	--	46	0	--	15	--	--	0.5	--	--	--	50	12	0.8	181	8.0
Dec. 9.....	193	--	--	--	--	16	--	52	0	--	16	--	--	.6	--	--	--	54	11	1.0	197	8.0
Jan. 14, 1965....	515	--	--	--	--	8.5	--	47	0	--	8.0	--	--	.3	--	--	--	46	7	.5	131	8.0
Feb. 4.....	310	--	--	--	--	9.0	--	41	0	--	7.7	--	--	.5	--	--	--	36	2	.7	122	8.0
Mar. 4.....	250	--	--	--	--	10	--	43	0	--	10	--	--	.3	--	--	--	41	6	.7	141	8.0
Apr. 8.....	800	--	--	--	--	7.6	--	46	0	--	6.2	--	--	.2	--	--	--	38	0	.5	117	7.2
May 6.....	410	30	--	9.2	2.7	7.4	1.4	34	0	15	6.3	--	0.9	.2	90	0.12	--	34	6	.5	111	7.8
June 2.....	445	--	--	--	--	7.4	--	32	0	--	5.8	--	--	.1	--	--	--	33	7	.6	111	8.2
July 12.....	216	--	--	--	--	9.9	--	39	0	--	8.7	--	--	.3	--	--	--	41	9	.7	142	8.1
Aug. 9.....	146	--	--	--	--	13	--	62	0	--	16	--	--	.2	--	--	--	60	9	.7	193	8.2
Sept. 8.....	125	34	--	14	6.3	15	2.4	65	0	20	17	--	.4	.5	143	.19	--	61	8	.8	199	7.0

## SACRAMENTO RIVER BASIN--Continued

11-3820. THOMES CREEK AT PASKENTA, CALIF.

LOCATION.--At gaging station 0.25 mile upstream from Digger Creek, and 0.3 mile upstream from highway bridge at Paskenta, Tehama County.

DRAINAGE AREA.--194 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: October 1961 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 93°F July 15; minimum, 34°F Jan. 1.

Sediment concentrations: Maximum daily, 57,900 ppm Dec. 22; minimum daily, no flow Oct. 4.

Sediment loads: Maximum daily, 5,070,000 tons Dec. 22; minimum daily, 0 ton Oct. 4.

EXTREMES, 1961-65.--Water temperatures: Maximum, 93°F July 15, 1965; minimum, 33°F on several days during January 1962, Feb. 27, 1962, Jan. 11-13, 1963.

Sediment concentrations (1962-65): Maximum daily, 57,900 ppm Dec. 22, 1964; minimum daily, no flow Oct. 4, 1964.

Sediment loads (1962-65): Maximum daily, 5,070,000 tons Dec. 22, 1964; minimum daily, 0 ton Oct. 4, 1964.

REMARKS.--Where no maximum or minimum is shown, temperature is once-daily reading.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	0.3	--	--	--	--	24	--	105	2	--	23	--	--	--	--	--	--	167	78	0.8	457	8.3
Nov. 12.....	340	--	--	--	--	7.4	--	92	0	--	7.2	--	0.1	--	--	--	--	90	15	.3	212	8.0
Dec. 10.....	330	--	--	--	--	4.5	--	70	0	--	2.1	--	--	--	--	--	--	63	6	.3	142	8.1
Jan. 14, 1965....	973	--	--	--	--	5.2	--	102	0	--	1.3	--	0.4	.0	--	--	--	100	16	.2	214	8.0
Feb. 3.....	920	--	--	--	--	3.8	--	87	0	--	.8	--	.8	.1	--	--	--	86	15	.2	185	8.1
Mar. 2.....	434	--	--	--	--	3.8	--	88	0	--	1.8	--	.8	.0	--	--	--	86	14	.2	184	8.0
Apr. 6.....	274	--	--	--	--	4.5	--	98	0	--	2.2	--	--	.0	--	--	--	95	15	.2	200	8.1
May 4.....	441	10	--	27	5.5	4.1	0.4	96	0	16	1.7	--	.7	.0	117	0.16	--	90	11	.2	192	8.0
June 17.....	72	--	--	--	--	5.8	--	128	7	--	4.5	--	.0	.0	--	--	--	144	28	.2	294	8.5
July 15.....	30	--	--	--	--	9.2	--	171	3	--	7.8	--	2.2	.0	--	--	--	194	49	.3	398	8.5
Aug. 12.....	32	--	--	--	--	10	--	156	6	--	14	--	1.2	.2	--	--	--	210	72	.3	444	8.4
Sept. 16.....	9.0	11	--	54	26	14	1.9	174	3	95	18	--	3.4	.1	326	.44	--	242	94	.4	511	8.4

## SACRAMENTO RIVER BASIN--Continued

11-3820. THOMES CREEK NEAR PASKENTA, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	71	73	74	74	75	75	73	71	71	71	70	69	68	68	67	64	63	63	63	64	64	64	64	62	61	61	61	58	58	60	59	66
Minimum ....	65	63	65	66	68	68	68	66	66	66	66	65	62	60	61	61	57	58	59	60	59	58	58	56	56	57	58	57	58	55	55	61
November	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	58	57	57	56	58	57	57	56	55	52	49	48	46	44	43	43	43	43	44	44	44	46	47	48	44	46	46	46	46	46	--	49
Minimum ....	57	55	51	52	52	52	53	55	52	49	47	47	43	41	38	37	38	38	38	38	39	43	42	44	44	45	44	46	45	45	--	46
December	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	47	47	45	42	44	43	45	47	47	47	47	43	41	42	44	43	41	41	47	45	48	51	51	--	--	--	--	--	--	--	--	--
Minimum ....	46	45	42	41	41	40	43	45	45	45	43	40	38	40	42	39	37	39	41	43	45	48	50	--	--	--	--	--	--	--	--	--
January	34	35	36	38	42	41	38	38	41	44	45	--	--	46	44	41	43	45	44	43	43	45	45	42	41	41	44	45	44	49	46	42
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	42	43	47	44	45	44	45	46	42	46	42	46	42	41	44	44	44	46	44	45	50	42	42	43	44	41	47	46	--	--	--	44
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March	45	40	50	44	47	46	--	43	51	45	45	46	46	46	50	51	50	42	46	44	47	49	47	47	44	47	54	53	46	47	48	47
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April	--	45	--	49	--	48	--	43	43	47	--	53	--	47	--	--	--	47	47	51	49	53	--	51	--	61	--	60	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May	47	--	47	--	53	--	59	--	54	--	--	55	--	53	--	62	--	56	--	58	--	51	--	60	--	61	--	56	--	--	67	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June	--	60	--	--	70	--	73	--	65	--	69	--	65	--	63	67	--	76	--	79	--	83	--	82	--	68	--	66	--	76	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July	84	--	86	--	68	--	87	--	73	--	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	91	93	92	92	92	90	87	88	89	89	91	88	86	88	89	92	85	77	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	64	66	70	69	68	65	64	64	63	63	64	67	63	62	62	64	66	68	--
August	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	89	90	90	92	92	90	89	89	90	80	79	86	86	88	89	88	85	85	88	86	84	82	85	83	86	85	87	85	87	87	87	87
Minimum ....	64	66	66	67	66	66	66	65	66	64	64	61	62	62	63	66	67	68	66	64	64	63	62	62	62	64	63	64	62	62	62	64
September	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	85	87	85	84	79	81	81	82	83	82	82	82	81	84	84	68	70	70	74	78	78	80	82	81	80	77	68	75	73	79	--	79
Minimum ....	63	64	62	62	59	58	58	58	59	58	58	58	58	58	58	60	49	45	49	51	50	54	54	56	57	57	58	54	53	55	--	56



## SACRAMENTO RIVER BASIN--Continued

11-3820. THOMES CREEK AT PASKENTA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	0.6	--	T	66	247	S 87	1410	913	S 3820
2..	.3	--	T	62	40	S 6.7	780	318	670
3..	.3	--	T	58	22	S 3.4	470	140	178
4..	0	--	0	28	7	S .5	345	70	65
5..	.6	--	T	19	--	S .2	205	35	19
6..	.3	--	T	14	4	S .2	160	20	8.6
7..	.3	--	T	18	--	S .1	130	11	3.9
8..	.6	1	T	80	100	S 45	117	9	2.8
9..	.8	--	T	318	651	S 690	241	65	42
10..	.8	--	T	459	542	S 1290	330	121	S 313
11..	.8	--	T	254	326	S 388	1010	742	S 2430
12..	.8	--	T	340	300	S 289	422	110	125
13..	1.1	--	T	148	65	S 26	275	40	30
14..	1.4	4	T	80	--	S 4.8	218	22	13
15..	4.7	--	.1	55	8	S 1.2	196	20	11
16..	6.1	--	.1	42	--	S .5	163	17	7.5
17..	6.1	--	.1	37	--	S .2	134	10	3.6
18..	6.1	--	T	33	2	S .2	117	10	3.2
19..	6.1	--	T	30	--	S .2	134	15	5.4
20..	6.1	--	T	28	1	S .1	500	249	S 461
21..	6.1	1	T	33	--	S .1	8630	8100	S 258000
22..	6.1	--	T	42	--	S .1	29800	57900	S 5070000
23..	6.1	--	T	39	1	S .1	15600	46300	S 2110000
24..	6.6	--	T	42	--	S .1	9300	36500	S 1020000
25..	7.0	--	T	378	369	S 561	5030	25500	348000
26..	7.5	--	T	232	65	S 41	4300	22300	259000
27..	9.0	2	T	148	22	S 8.8	3230	15500	135000
28..	19	3	S .2	--	--	--	2050	11000	60900
29..	.80	226	S 60	595	360	S 723	1550	10700	44800
30..	48	66	S 8.6	315	78	S 66	1340	9430	34100
31..	22	10	S .5	--	--	--	1070	7950	23000
Total	261.3	--	70.0	4479	--	5563.5	89257	--	9369012
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	860	7000	16300	1200	5200	16800	490	850	1120
2..	880	6700	15900	1070	5050	14600	434	630	738
3..	930	7000	17600	920	4100	10200	420	540	612
4..	780	5200	11000	880	3650	8670	371	515	516
5..	2080	11900	S 70600	1040	4900	13800	371	420	421
6..	1270	8620	S 29800	962	3400	8830	427	600	692
7..	951	6900	17700	810	2700	5900	378	540	550
8..	770	4800	9980	695	2400	4500	344	485	450
9..	780	4950	10400	626	2050	3460	326	418	368
10..	951	6550	16800	562	1660	2520	332	410	S 370
11..	1150	8800	27300	522	1780	2510	338	422	385
12..	1100	8500	25000	490	1600	2120	371	504	505
13..	995	6600	B 18000	469	1220	1540	350	350	331
14..	973	5550	14600	462	1050	1310	302	275	224
15..	1150	6500	20200	434	910	1070	284	288	221
16..	1220	7100	23400	413	920	1030	284	295	226
17..	1270	6950	23800	399	880	948	279	300	226
18..	1420	8150	31200	406	780	855	257	255	177
19..	1580	8450	36000	427	880	1010	252	275	187
20..	1500	7250	29400	462	1000	1250	235	330	209
21..	1260	5980	20300	490	1000	1320	240	315	204
22..	1030	5500	15300	490	990	1310	290	435	341
23..	2120	15400	S 156000	448	850	1030	296	410	328
24..	2750	14400	S 119000	406	600	658	296	408	326
25..	1470	8300	32900	385	580	603	262	330	233
26..	1150	6900	21400	378	520	531	279	385	290
27..	962	6150	16000	755	3340	S 7830	302	380	310
28..	870	5350	12600	554	1600	2390	257	268	186
29..	900	5150	12500	--	--	--	240	259	168
30..	1170	5950	18800	--	--	--	257	282	196
31..	1290	5950	20700	--	--	--	274	302	223
Total	37582	--	910480	17155	--	118595	9838	--	11333

S Computed by subdividing day.

T Less than 0.05 ton.

B Computed from estimated-concentration graph.

## SACRAMENTO RIVER BASIN--Continued

11-3820. THOMES CREEK AT PASKENTA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	284	--	250	594	1350	2170	246	--	73
2..	320	455	393	506	--	1400	223	98	59
3..	279	--	290	462	850	1060	214	--	52
4..	279	344	259	441	--	770	201	--	38
5..	290	--	220	434	485	568	196	52	28
6..	274	220	163	448	--	450	192	--	27
7..	284	--	230	462	310	387	184	54	27
8..	1010	4110 S	12800	455	--	420	156	--	19
9..	702	1720 S	3640	462	355	443	141	36	14
10..	434	660 S	773	476	--	490	127	--	11
11..	357	--	510	514	--	580	123	31	10
12..	427	610	703	538	445	646	114	--	8.9
13..	448	--	970	578	--	700	97	26	6.8
14..	476	700	900	572	390	602	91	--	5.9
15..	892	2800 K	11000	564	--	560	91	22	5.4
16..	1290	--	17000	572	318	491	77	20	4.2
17..	900	--	7800	580	--	470	72	--	3.3
18..	1910	9060 S	52600	519	266	373	77	15	3.1
19..	3560	1 700	103000	498	--	340	72	--	2.5
20..	2530	7900	54000	484	248	324	67	14	2.5
21..	2180	6700	39400	458	--	280	69	--	3.0
22..	1360	4600	16900	404	178	194	69	25	4.7
23..	1080	--	11000	355	--	130	69	21	3.9
24..	1010	3300	9000	325	117	103	67	--	3.1
25..	995	--	8600	300	--	89	62	13	2.2
26..	1020	2850	7850	285	119	92	60	--	1.8
27..	1020	--	8800	290	--	110	53	10	1.4
28..	951	2600	6680	295	180	143	51	--	1.4
29..	830	--	5800	295	--	130	51	11	1.5
30..	695	--	4100	285	--	100	53	--	1.6
31..	--	--	--	270	110	80	--	--	--
Total	28087	--	385631	13721	--	14695	3365	--	425.2
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	53	12	1.7	18	--	0.3	9.8	--	0.2
2..	48	--	1.3	18	6	.3	9.8	9	.2
3..	46	7	.9	16	4	.2	9.0	--	.3
4..	46	--	.9	15	4	.2	9.0	12	.3
5..	42	8	.9	14	--	.2	9.0	--	.2
6..	41	--	.8	13	--	.1	8.2	4	.1
7..	33	6	.5	12	4	.1	9.0	--	.1
8..	30	--	.5	13	--	.1	9.0	5	.1
9..	28	7	.5	12	3	.1	8.2	--	.2
10..	28	--	.4	13	--	.1	9.0	10	.2
11..	28	4	.3	23	17	1.1	9.8	--	.2
12..	27	--	.3	32	24	2.1	9.8	6	.2
13..	28	4	.3	22	13	.8	10	--	.1
14..	30	--	.2	18	--	.3	9.0	5	.1
15..	30	3	.2	15	2	.1	9.0	--	.2
16..	28	--	.2	14	--	.1	9.0	9	.2
17..	24	3	.2	14	2	.1	8.2	--	.2
18..	19	--	.2	18	--	.2	9.0	6	.1
19..	16	3	.1	16	7	.3	9.0	--	.1
20..	15	--	.1	16	--	.3	8.2	4	.1
21..	15	3	.1	15	10	.4	8.2	--	.1
22..	14	--	.1	18	--	.3	8.2	6	.1
23..	16	3	.1	18	6	.3	8.2	--	.2
24..	18	--	.1	15	--	.2	8.2	8	.2
25..	18	4	.2	15	2	.1	8.2	--	.1
26..	18	--	.2	15	--	.2	7.5	4	.1
27..	18	7	.3	14	5	.2	8.2	--	.1
28..	16	--	.2	14	--	.1	9.8	4	.1
29..	15	3	.1	13	2	.1	9.0	--	.1
30..	15	--	.2	12	--	.1	7.5	3	.1
31..	16	6	.3	10	2	.1	--	--	--
Total	819	--	12.4	491	--	9.2	264.0	--	4.6

Total discharge for year (cfs-days)..... 205,319.3  
 Total load for year (tons)..... 10,815,830.9

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

## 11-3820. THOMES CREEK AT PASKENTA, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 29, 1964.....	0840	58		77	304		--	--	--	--	--	100	--	--	--	--	S	
Nov. 10.....	0940	49		440	478		53	62	79	90	98	98	99	100	--	--	SPWC	
Dec. 20.....	1300	44		512	305		--	--	--	--	--	74	81	90	100	--	V	
Dec. 21.....	1105	45		7550	11700		25	30	37	48	60	67	86	94	98	100	VPWC	
Dec. 21.....	1410	47		12600	12600		20	26	31	42	55	62	84	94	98	100	VPWC	
Dec. 23.....	1330	51		12800	44100		16	21	27	39	50	56	72	87	95	97	100	SPWC
Dec. 26.....	0925	48		3880	22000		16	20	29	41	52	60	72	84	96	100	--	SPWC
Dec. 28.....	1020	41		1990	11600		22	29	34	52	65	74	88	95	99	100	--	VPWC
Dec. 31.....	1715	38		1020	7820		18	23	37	51	62	72	83	90	99	100	--	VPWC
Jan. 5, 1965.....	1420	42		3700	12900		17	22	31	40	50	57	76	89	98	100	--	VPWC
Jan. 21.....	1025	43		1330	6030		13	23	34	45	56	65	79	90	96	100	--	VPWC
Jan. 23.....	1830	44		3980	40300		18	25	35	45	57	67	80	92	97	99	100	SPWC
Feb. 27.....	1220	47		830	3230		18	24	35	47	58	64	82	96	100	--	--	VPWC
May 5.....	1150	53		392	486		18	22	41	49	65	74	83	93	100	--	--	VPWC

## SACRAMENTO RIVER BASIN--Continued

11-3821. THOMES CREEK NEAR MOUTH, NEAR CORNING, CALIF.

LOCATION.--At U.S. Highway 99W bridge, 2.6 miles upstream from mouth, and 3.5 miles north of Corning, Tehama County.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965.

REMARKS. No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Cal- cium (Ca)	Mag- ne- sium (Mg)	Sodium (Na)	Po- tas- sium (K)	Bi- car- bon- ate (HCO <sub>3</sub> )	Car- bon- ate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluo- ride (F)	Ni- trate (NO <sub>3</sub> )	Bo- ron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		So- dium ad- sorp- tion ratio	Specific con- duct- ance (micro- mhos at 25°C)	pH
															Parts per million	Tons per acre- foot	Tons per day	Cal- cium, Mag- ne- sium	Non- car- bon- ate			
Nov. 13, 1964....						7.8		111	0		7.2			0.1				111	20	0.3	257	8.2
Dec. 10.....						19		193	3		28			.0				185	22	.6	454	8.3
Jan. 14, 1965....						5.5		110	0		--			.0				106	16	.2	230	8.1
Feb. 5.....						4.3		94	0		4.9			.3				91	14	.2	196	8.2
Mar. 5.....						4.4		108	0		2.0			.0				100	11	.2	215	8.2
Apr. 9.....						4.0		82	0		1.3			.0				80	13	.2	166	7.5
May 6.....		13		32	7.8	4.5	0.9	110	3	22	2.0		1.4	.0	140	0.19		112	17	.2	234	8.4
June 2.....						5.2		127	4		2.6			.0				130	19	.2	265	8.5
July 12.....						6.8		137	1		5.4			.0				138	24	.3	290	8.4
Aug. 9.....						7.8		187	5		6.8			.1				182	20	.3	367	8.4

## SACRAMENTO RIVER BASIN--Continued

11-3838. SACRAMENTO RIVER NEAR HAMILTON CITY, CALIF.

LOCATION.--At gaging station on State Highway 32 bridge, 1.3 miles northeast of Hamilton City, Glenn County, and 2.4 miles upstream from Pine Creek.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by California State Department of Water Resources.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	5490	--	--	--	--	7.5	--	74	0	--	2.6	--	--	0.2	--	--	--	53	0	0.5	134	8.1
Nov. 11.....	15060	--	--	--	--	7.4	--	52	0	--	7.2	--	--	.1	--	--	--	52	9	.4	142	7.8
Dec. 10.....	5419	--	--	--	--	9.7	--	79	0	--	5.8	--	--	.0	--	--	--	64	0	.5	174	7.6
Jan. 13, 1965.....	32750	--	--	--	--	6.1	--	64	0	--	2.4	--	--	.0	--	--	--	52	0	.4	130	8.1
Feb. 2.....	28100	--	--	--	--	5.8	--	64	0	--	2.0	--	--	.0	--	--	--	51	0	.4	124	7.9
Mar. 1.....	8067	--	--	--	--	7.2	--	75	0	--	4.3	--	--	.1	--	--	--	67	5	.4	157	8.0
Apr. 5.....	6834	--	--	--	--	7.8	--	67	0	--	4.3	--	--	.0	--	--	--	61	6	.4	151	7.6
May 3.....	8567	14	--	14	5.6	6.7	1.2	61	3	11	3.4	--	1.8	.0	95	0.13	--	58	3	.4	145	8.5
June 16.....	7495	--	--	--	--	6.2	--	60	2	--	3.0	--	--	.0	--	--	--	52	0	.4	125	8.3
July 14.....	8928	--	--	--	--	6.1	--	62	0	--	2.4	--	--	.0	--	--	--	47	0	.4	122	8.1
Aug. 11.....	9481	--	--	--	--	5.4	--	61	0	--	2.5	--	--	.1	--	--	--	45	0	.3	117	8.2
Sept. 15.....	8125	21	--	11	4.7	5.8	1.4	62	0	6.0	2.5	--	2.2	.0	A 86	.12	--	47	0	.4	120	7.7

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

11-3840. BIG CHICO CREEK NEAR CHICO, CALIF.

LOCATION.--At gaging station 1.8 miles upstream from golf clubhouse in Bidwell Park, 2.6 miles upstream from Lindo Channel, and 7 miles northeast of Chico, Butte County.

DRAINAGE AREA (revised).--72.2 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	21	--	--	--	--	15	--	110	2	--	12	--	--	0.2	--	--	--	80	0	0.7	225	8.3
Nov. 12.....	302	--	--	--	--	5.2	--	46	0	--	3.0	--	--	.1	--	--	--	35	0	.4	96	7.5
Dec. 9.....	480	--	--	--	--	10	--	82	0	--	7.4	--	--	.1	--	--	--	60	0	.6	163	8.1
Jan. 13, 1965....	443	--	--	--	--	3.8	--	40	0	--	1.6	--	--	.1	--	--	--	31	0	.3	77	8.0
Feb. 2.....	209	--	--	--	--	5.0	--	50	0	--	2.1	--	--	.1	--	--	--	38	0	.4	96	7.9
Mar. 1.....	111	--	--	--	--	6.0	--	66	0	--	3.8	--	--	.0	--	--	--	49	0	.4	123	8.0
Apr. 5.....	97	--	--	--	--	7.7	--	68	0	--	3.9	--	--	.1	--	--	--	50	0	.5	128	8.1
May 3.....	134	32	--	11	4.7	6.0	0.4	65	0	1.0	2.8	--	1.3	.0	91	0.12	--	47	0	.4	118	7.8
June 16.....	42	--	--	--	--	10	--	82	4	--	6.6	--	--	.0	--	--	--	66	0	.5	171	8.5
July 14.....	30	--	--	--	--	12	--	95	2	--	8.1	--	--	.1	--	--	--	70	0	.6	190	8.4
Aug. 12.....	51	--	--	--	--	12	--	92	4	--	8.2	--	--	.0	--	--	--	72	0	.6	193	8.4
Sept. 16.....	25	38	--	16	8.3	14	1.1	106	0	5.0	10	--	.1	.1	145	.20	--	74	0	.7	201	8.2

## SACRAMENTO RIVER BASIN--Continued

11-3842. BIG CHICO CREEK AT CHICO, CALIF.

LOCATION.--At gaging station at intersection of Bidwell Way and Rose Avenue, and approximately 1 mile west of Chico, Butte County.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965.

REMARKS.--Records of discharge furnished by California State Department of Water Resources.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	2.3	--	--	--	--	15	--	118	0	--	13	--	--	0.2	--	--	--	78	0	0.7	236	8.1
Nov. 12.....	5.2	--	--	--	--	8.1	--	62	0	--	5.8	--	--	.1	--	--	--	48	0	.5	134	7.9
Dec. 10.....	32	--	--	--	--	10	--	84	0	--	7.2	--	--	.1	--	--	--	59	0	.6	167	8.0
Jan. 13, 1965....	66.1	--	--	--	--	4.9	--	48	0	--	2.2	--	--	.0	--	--	--	36	0	.3	93	8.0
Feb. 2.....	7.3	--	--	--	--	5.9	--	59	0	--	2.9	--	--	.1	--	--	--	44	0	.4	112	8.0
Mar. 2.....	16.4	--	--	--	--	7.2	--	70	0	--	4.6	--	--	.0	--	--	--	52	0	.4	133	8.0
Apr. 5.....	87.2	--	--	--	--	8.4	--	69	0	--	3.9	--	--	.1	--	--	--	50	0	.5	130	8.1
May 3.....	131	32	--	11	4.7	6.0	0.4	65	0	1.0	3.3	--	0.8	.1	A	91	0.12	47	0	.4	119	7.9
June 16.....	24.4	--	--	--	--	11	--	88	1	--	7.2	--	--	.1	--	--	--	66	0	.6	174	8.4
July 14.....	11.5	--	--	--	--	13	--	97	3	--	8.9	--	--	.1	--	--	--	73	0	.7	198	8.5
Aug. 12.....	33.3	--	--	--	--	15	--	105	0	--	11	--	--	.0	--	--	--	74	0	.8	207	8.1
Sept. 15.....	6.8	36	--	17	8.6	14	9	110	0	5.0	10	--	.3	.2	150	.20	--	78	0	.7	209	8.2

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

11-3870. STONY CREEK NEAR FRUTO, CALIF.

LOCATION.--At gaging station 0.3 mile downstream from Grindstone Creek, and 6.5 miles northwest of Fruto, Glenn County.

DRAINAGE AREA.--599 square miles.

RECORDS AVAILABLE.--Chemical analyses: March 1964 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 1, 1964.....	3.0	--	--	--	--	21	--	190	7	--	24	--	--	0.3	--	--	--	174	7	0.7	421	8.5
Nov. 2.....	23	--	--	--	--	40	--	152	4	--	96	--	--	.3	--	--	--	244	113	1.1	689	8.3
Dec. 1.....	595	--	--	--	--	5.1	--	58	0	--	4.4	--	--	.0	--	--	--	58	10	.3	140	7.4
Jan. 4, 1965.....	3290	--	--	--	--	10	--	99	1	--	11	--	--	.0	--	--	--	106	23	.4	262	8.3
Feb. 1.....	690	--	--	--	--	6.1	--	94	0	--	4.3	--	--	.1	--	--	--	93	16	.3	208	8.1
Mar. 1.....	317	--	--	--	--	8.4	--	111	0	--	7.4	--	--	.0	--	--	--	115	24	.3	260	8.1
Apr. 1.....	550	--	--	--	--	9.8	--	116	0	--	10	--	--	.0	--	--	--	119	24	.4	273	7.8
May 3.....	1050	12	--	32	6.8	7.7	0.5	110	0	26	5.4	--	0.2	.1	148	0.20	--	108	18	.3	242	7.9
June 1.....	290	--	--	--	--	10	--	116	8	--	10	--	.0	.1	--	--	--	125	17	.4	279	8.5
July 1.....	340	--	--	--	--	13	--	151	1	--	11	--	2.4	.1	--	--	--	144	19	.5	329	8.4
Aug. 2.....	405	--	--	--	--	11	--	145	5	--	12	--	1.1	.3	--	--	--	126	0	.4	289	8.6
Sept. 1.....	356	14	--	32	15	14	1.4	164	4	8.0	14	--	3.4	.3	A 187	.25	--	141	0	.5	321	8.5

A Calculated from sum of determined constituents.



SACRAMENTO RIVER BASIN--Continued

11-3880. STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CALIF.  
(Formerly reported as Stony Creek at Black Butte Damsite, near Orland, Calif.)

LOCATION (revised).--At gaging station on left bank 200 feet downstream from road bridge, 0.6 mile downstream from Black Butte Dam, and 8.1 miles northwest of Orland, Glenn County.

DRAINAGE AREA (revised).--741 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	57	--	--	--	--	20	--	180	6	--	23	--	--	0.3	--	--	--	161	4	0.7	384	8.5
Jan. 14, 1965....	1680	--	--	--	--	9.0	--	100	2	--	9.2	--	1.1	.1	--	--	--	93	8	.4	222	8.4
Apr. 6.....	3.8	--	--	--	--	12	--	134	0	--	14	--	--	.1	--	--	--	122	12	.5	287	8.0
May 4.....	550	11	--	29	8.6	12	1.1	124	0	16	12	--	1.9	.1	153	0.21	--	108	6	.5	264	8.0
June 17.....	166	--	--	--	--	11	--	123	7	--	12	--	1.3	.1	--	--	--	121	9	.4	286	8.5
July 15.....	612	--	--	--	--	11	--	135	3	--	12	--	2.7	.1	--	--	--	126	10	.4	293	8.4
Aug. 12.....	734	--	--	--	--	11	--	146	5	--	13	--	1.5	.2	--	--	--	132	4	.4	301	8.5
Sept. 16.....	102	9.2	--	36	14	14	1.5	170	2	14	14	--	2.8	.2	192	.26	--	146	3	.5	331	8.3

## SACRAMENTO RIVER BASIN--Continued

11-3890. SACRAMENTO RIVER AT BUTTE CITY, CALIF.

LOCATION.--At highway bridge downstream from gaging station, and 0.5 mile south of Butte City, Glenn County.

DRAINAGE AREA.--12,096 square miles.

RECORDS AVAILABLE.--Chemical analyses: May 1955 to September 1965.

Water temperatures: May 1955 to September 1958, October 1959 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 66°F on several days during June and July; minimum, 43°F Jan. 4.

EXTREMES, 1955-58, 1959-65.--Water temperatures: Maximum, 75°F June 2, 3, 5, 7, 1960; minimum (1955-57, 1959-62, 1963-65), freezing point Jan. 2-5, 1960.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	5560	--	--	--	--	6.7	--	77	0	--	2.3	--	--	0.0	--	--	--	56	0	0.4	145	7.8
Nov. 11.....	21400	--	--	--	--	5.7	--	47	0	--	3.6	--	--	0.1	--	--	--	44	5	.4	117	7.6
Dec. 9.....	5360	--	--	--	--	9.3	--	82	0	--	5.9	--	--	.1	--	--	--	66	0	.5	177	7.9
Jan. 13, 1965....	40800	--	--	--	--	6.6	--	67	0	--	3.1	--	--	.1	--	--	--	57	2	.4	140	8.2
Feb. 2.....	31400	--	--	--	--	6.4	--	65	0	--	2.1	--	--	.1	--	--	--	54	1	.4	135	7.8
Mar. 1.....	8900	--	--	--	--	7.5	--	80	0	--	4.3	--	--	.0	--	--	--	66	.0	.4	164	7.7
Apr. 5.....	7360	--	--	--	--	7.5	--	72	0	--	4.3	--	--	.1	--	--	--	61	2	.4	134	8.0
May 3.....	8900	21	--	14	6.6	7.0	0.9	73	0	11	3.6	--	--	.1	--	0.14	--	62	2	.4	152	7.8
June 16.....	7160	--	--	--	--	6.9	--	64	2	--	3.0	--	3.4	.2	104	--	--	54	0	.4	136	8.5
July 14.....	8900	--	--	--	--	6.9	--	64	0	--	2.5	--	--	.0	--	--	--	48	0	.4	126	8.2
Aug. 11.....	9580	--	--	--	--	6.2	--	64	0	--	2.4	--	--	.0	--	--	--	48	0	.4	121	8.2
Sept. 15.....	8460	20	--	11	5.2	6.0	.9	65	0	4.0	2.6	--	.6	.0	83	.11	--	49	0	.4	124	7.7

## SACRAMENTO RIVER BASIN--Continued

11-3890. SACRAMENTO RIVER AT BUTTE CITY, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	62	62	62	63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58	58	58	--	
Minimum ....	60	60	61	62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	57	57	57	--		
November																																	
Maximum ....	57	56	56	56	--	--	--	--	56	55	53	53	51	50	50	48	48	48	49	50	50	53	53	52	52	52	52	52	51	51	--	52	
Minimum ....	56	55	55	56	--	--	--	--	55	53	51	50	50	50	48	47	48	47	47	48	47	48	49	50	52	51	52	51	51	51	--	51	
December																																	
Maximum ....	51	51	51	51	50	49	49	51	55	57	56	51	49	49	49	52	53	52	47	50	49	52	53	55	55	55	54	53	51	48	47	46	51
Minimum ....	51	51	51	50	49	48	48	49	50	52	51	49	48	48	48	47	47	45	45	47	48	49	52	53	55	54	53	51	48	47	46	46	49
January																																	
Maximum ....	46	46	45	44	46	47	47	46	47	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	46	46	46	47	47	47	
Minimum ....	46	45	44	43	44	46	46	46	46	47	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	46	45	45	46	46	47	47	
February																																	
Maximum ....	47	47	47	47	47	47	46	46	46	46	46	46	46	46	46	47	47	48	48	49	49	50	50	50	49	49	50	50	50	--	--	48	
Minimum ....	47	47	47	47	47	46	46	46	46	46	46	45	45	46	46	46	46	47	47	48	48	49	49	48	48	48	49	50	50	--	--	47	
March																																	
Maximum ....	51	51	52	52	52	52	52	52	53	53	53	52	52	53	54	54	54	55	55	54	55	56	58	58	58	58	56	55	54	54	54	54	54
Minimum ....	50	50	51	52	52	52	52	52	52	53	52	52	52	52	53	54	54	54	53	53	53	54	56	57	57	56	55	54	54	54	54	54	53
April																																	
Maximum ....	54	54	54	55	55	55	54	52	51	50	51	53	54	54	54	53	53	53	54	55	56	57	59	60	62	63	64	65	65	64	--	56	
Minimum ....	53	53	53	53	54	54	52	51	50	50	50	51	53	54	53	53	53	53	54	55	56	56	57	58	59	60	61	63	63	62	--	55	
May																																	
Maximum ....	64	63	60	60	60	59	57	58	58	60	60	61	61	60	61	62	61	61	60	59	59	58	58	59	60	62	62	63	63	64	64	64	61
Minimum ....	61	58	56	57	57	55	55	56	56	56	57	57	58	58	57	58	58	58	58	58	57	56	56	56	57	57	59	60	61	61	61	61	58
June																																	
Maximum ....	63	63	63	64	65	65	63	63	62	63	65	65	65	63	62	63	63	63	63	65	66	66	66	65	65	63	63	64	64	64	--	64	
Minimum ....	60	60	61	61	62	62	61	60	59	61	62	63	62	61	57	59	61	60	60	62	63	63	63	63	63	62	60	60	60	61	62	--	61
July																																	
Maximum ....	65	66	66	66	66	66	66	66	66	65	64	63	64	64	64	64	65	65	65	64	64	64	64	64	64	63	63	63	63	62	61	64	
Minimum ....	62	63	63	63	63	63	63	63	62	62	61	60	60	60	61	61	62	62	62	62	61	61	61	61	61	61	61	60	60	60	60	59	61
August																																	
Maximum ....	61	62	64	64	64	64	64	64	64	64	63	61	62	63	64	63	63	62	62	63	63	62	62	62	62	62	62	61	62	62	62	63	
Minimum ....	58	59	60	61	62	62	62	62	62	62	62	61	59	59	61	61	61	61	60	60	61	61	60	60	60	60	60	60	60	60	60	60	
September																																	
Maximum ....	62	62	63	63	63	61	60	61	61	62	61	61	61	61	60	60	60	59	57	56	56	57	58	59	59	59	59	58	57	59	--	60	
Minimum ....	60	60	61	61	60	59	58	59	59	60	59	59	58	58	58	58	58	56	55	54	54	55	56	57	57	58	58	58	56	56	--	58	

## SACRAMENTO RIVER BASIN--Continued

11-3895. SACRAMENTO RIVER AT COLUSA, CALIF.

LOCATION.--At gaging station at north end of Jimeno Grant, downstream from highway bridge at Colusa, Colusa County, and at mile 89.4 upstream from Sacramento.  
 DRAINAGE AREA.--12,110 square miles.  
 RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	5920	--	--	--	--	7.5	--	76	0	--	3.0	--	--	0.1	--	--	--	56	0	0.4	142	7.8
Nov. 11.....	20800	--	--	--	--	5.6	--	44	0	--	4.9	--	--	0	--	--	--	44	8	.4	114	7.4
Dec. 9.....	5770	--	--	--	--	9.8	--	82	0	--	6.4	--	--	0	--	--	--	67	0	.5	179	8.2
Jan. 13, 1965....	33200	--	--	--	--	6.2	--	66	0	--	2.9	--	--	0	--	--	--	55	1	.4	137	8.2
Feb. 2.....	30400	--	--	--	--	6.2	--	68	0	--	2.7	--	--	.1	--	--	--	55	0	.4	135	8.0
Mar. 1.....	9540	--	--	--	--	7.6	--	80	0	--	4.2	--	--	0	--	--	--	68	2	.4	163	8.2
Apr. 5.....	8170	--	--	--	--	7.2	--	66	0	--	--	--	--	0	--	--	--	56	2	.4	143	7.6
May 3.....	9080	20	--	15	6.1	6.5	1.2	65	3	11	3.3	--	1.5	0	104	0.14	--	62	4	.4	150	8.4
June 16.....	7080	--	--	--	--	7.2	--	70	0	--	3.8	--	--	0	--	--	--	56	0	.4	140	8.2
July 14.....	8410	--	--	--	--	6.7	--	64	0	--	2.7	--	--	.1	--	--	--	49	0	.4	127	8.1
Aug. 11.....	9280	--	--	--	--	5.7	--	65	0	--	2.6	--	--	.1	--	--	--	48	0	.4	123	8.2
Sept. 15.....	8450	20	--	14	3.4	7.0	1.6	65	0	5.0	2.4	--	1.4	0	87	.12	--	49	0	.4	125	8.0

## SACRAMENTO RIVER BASIN--Continued

11-3900. BUTTE CREEK NEAR CHICO, CALIF.

LOCATION.--At gaging station 0.7 mile downstream from Little Butte Creek, and 7.5 miles east of Chico, Butte County.

DRAINAGE AREA.--147 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: November 1961 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 38°F Nov. 19.

EXTREMES, 1961-65.--Water temperatures: Maximum (1961-64), 73°F July 13, 25, 26, 29, Aug. 8, 1964; minimum, 35°F Jan. 23, 24, 1962, Jan. 13, 14, 1963, Jan. 15, 1964.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	115	--	--	--	--	3.7	--	67	0	--	0.5	--	--	0.0	--	--	--	50	0	0.2	111	7.8
Nov. 12.....	504	--	--	--	--	4.4	--	54	0	--	.6	--	--	.0	--	--	--	40	0	.3	93	7.9
Dec. 9.....	210	--	--	--	--	4.1	--	61	0	--	.6	--	--	.0	--	--	--	45	0	.3	103	8.1
Jan. 14, 1965....	1060	--	--	--	--	3.0	--	36	0	--	.8	--	--	.0	--	--	--	28	0	.2	65	8.0
Feb. 2.....	762	--	--	--	--	2.6	--	37	0	--	.4	--	--	.0	--	--	--	28	0	.2	68	7.7
Mar. 1.....	487	--	--	--	--	2.6	--	40	0	--	.9	--	--	.0	--	--	--	32	0	.2	73	7.8
Apr. 5.....	474	--	--	--	--	2.9	--	41	0	--	.4	--	--	.0	--	--	--	32	0	.2	73	7.6
May 3.....	676	21	--	7.2	2.4	2.4	0.4	37	0	0.0	.8	--	2.1	.0	A 54	0.07	--	28	0	.2	66	7.5
June 16.....	293	--	--	--	--	3.1	--	43	2	--	.6	--	--	.0	--	--	--	36	0	.2	82	8.3
July 14.....	197	--	--	--	--	3.7	--	55	0	--	--	--	--	.0	--	--	--	41	0	.2	95	8.2
Aug. 12.....	306	--	--	--	--	4.6	--	60	0	--	.8	--	--	.0	--	--	--	46	0	.3	105	8.2
Sept. 15.....	144	21	--	12	3.9	3.5	.5	62	1	.0	.6	--	.1	.0	79	.11	--	46	0	.2	104	8.3

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

11-3900. BUTTE CREEK NEAR CHICO, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum	60	60	60	60	62	62	62	61	59	58	58	58	58	58	57	57	56	55	55	55	55	55	54	53	53	52	52	53	53	53	53	57
Minimum	57	57	57	58	58	58	59	59	57	56	55	55	56	55	54	54	54	53	53	53	53	53	53	52	51	51	52	52	53	53	52	55
November																																
Maximum	52	52	52	50	50	50	49	50	51	51	48	48	48	45	42	41	42	40	39	40	40	41	42	43	44	46	45	45	45	45	46	
Minimum	51	52	50	49	48	48	49	48	49	48	47	47	45	42	41	39	39	39	38	39	39	40	41	42	43	44	44	44	45	45	45	
December																																
Maximum	--	--	--	--	--	--	--	46	47	48	49	47	43	43	43	44	43	42	45	47	50	50	51	50	50	50	47	45	44	43	--	
Minimum	--	--	--	--	--	--	--	45	46	47	47	43	40	41	43	41	40	41	41	44	47	50	50	50	50	49	47	45	42	43	41	--
January																																
Maximum	41	42	43	46	47	48	47	46	48	48	48	47	47	47	47	47	48	49	48	48	48	47	48	47	45	44	44	44	45	46	46	
Minimum	40	40	40	43	46	47	45	44	45	47	47	45	45	45	46	46	46	48	47	47	47	46	47	45	44	43	43	43	44	45	45	
February																																
Maximum	45	45	45	46	46	43	45	45	45	42	42	43	43	44	43	44	46	47	47	48	48	48	46	45	46	45	48	46	--	--	45	
Minimum	44	44	44	44	44	43	41	42	42	41	41	41	42	43	42	42	42	44	45	45	46	46	43	43	43	44	45	43	--	--	43	
March																																
Maximum	46	46	46	47	49	48	48	48	47	47	48	47	48	47	47	47	47	47	47	47	49	50	50	48	48	46	46	47	48	48	47	
Minimum	43	42	43	45	46	47	46	45	45	45	46	45	46	44	43	44	45	43	43	43	44	46	46	46	45	45	44	43	44	46	46	
April																																
Maximum	49	48	48	51	49	48	47	46	45	46	--	--	49	48	49	49	49	50	53	52	53	--	--	--	--	--	54	55	54	54	--	
Minimum	46	46	45	46	47	46	45	45	45	44	--	--	48	47	47	48	47	48	50	51	50	--	--	--	--	--	52	53	53	52	--	
May																																
Maximum	53	50	51	54	52	50	51	53	53	54	55	56	56	58	58	59	59	59	58	57	55	55	57	57	58	59	60	61	61	61	56	
Minimum	50	48	47	49	49	47	46	48	49	49	50	51	53	53	53	54	55	55	55	55	53	52	52	51	52	53	55	56	56	57	52	
June																																
Maximum	62	62	64	65	--	--	--	--	--	--	--	66	68	68	69	69	67	66	65	66	68	69	69	70	70	70	70	68	69	--	--	
Minimum	57	57	59	60	--	--	--	--	--	--	--	61	63	64	64	63	61	60	60	62	63	63	63	64	65	64	65	64	64	--	--	
July																																
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
August																																
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	71	70	70	68	68	68	68	66	66	66	67	67	67	
Minimum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	65	66	65	65	64	63	63	62	62	62	61	61	61	62	
September																																
Maximum	67	68	68	67	64	62	63	64	64	64	64	63	62	63	63	63	60	59	58	58	59	60	61	62	62	59	58	58	58	--	62	
Minimum	62	63	63	62	60	60	58	58	59	59	59	58	58	58	58	59	56	54	53	53	54	55	56	57	58	58	57	55	53	54	--	58

## SACRAMENTO RIVER BASIN--Continued

11-3906.5. SACRAMENTO RIVER ABOVE COLUSA TROUGH, AT KNIGHTS LANDING, CALIF.

LOCATION.--Approximately 200 yards upstream from State Highway 24 bridge at Knights Landing, Yolo County, and approximately 0.3 mile upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: July 1960 to September 1965.

REMARKS.--Records of daily discharge data given for Sacramento River at Knights Landing. Considerable inflow between sampling point and gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	6610	--	--	--	--	7.5	--	78	0	--	2.8	--	--	0.0	--	--	--	57	0	0.4	144	8.1
Nov. 11.....	19200	--	--	--	--	8.5	--	53	0	--	5.3	--	--	0	--	--	--	47	4	.5	136	7.7
Dec. 9.....	6990	--	--	--	--	9.2	--	84	0	--	6.2	--	--	.1	--	--	--	68	0	.5	180	8.2
Jan. 13, 1965.....	25600	--	--	--	--	8.4	--	72	0	--	4.6	--	--	0	--	--	--	60	1	.5	158	8.2
Feb. 2.....	24800	--	--	--	--	7.7	--	72	0	--	4.3	--	--	.1	--	--	--	59	0	.4	150	7.9
Mar. 1.....	11200	--	--	--	--	7.3	--	80	0	--	3.8	--	--	.1	--	--	--	67	1	.4	166	8.2
Apr. 5.....	11200	--	--	--	--	7.5	--	65	0	--	4.7	--	--	0	--	--	--	54	1	.4	141	7.7
May 3.....	9420	18	--	16	7.5	11	1.2	74	5	13	6.4	1.7	.1	.1	120	0.16	--	71	2	.6	187	8.5
June 16.....	6420	--	--	--	--	13	--	85	0	--	7.1	--	--	0	--	--	--	70	0	.7	192	8.2
July 14.....	7660	--	--	--	--	9.2	--	70	0	--	3.7	--	--	0	--	--	--	54	0	.5	146	8.2
Aug. 11.....	8680	--	--	--	--	9.0	--	72	0	--	4.6	--	--	.1	--	--	--	54	0	.5	150	8.2
Sept. 15.....	10500	21	--	14	7.8	13	1.2	88	0	11	6.3	--	1.6	0	122	.17	--	67	0	.7	186	8.2

## SACRAMENTO RIVER BASIN--Continued

11-3907. COLUSA TROUGH NEAR COLUSA, CALIF.

LOCATION.--At gaging station 3 miles west of Colusa, Colusa County, on State Highway 20, and 6 miles northeast of Williams.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Records of discharge furnished by California State Department of Water Resources. This water is the drainage from Colusa basin passing down the Back Barrow Pit and entering the Sacramento River just upstream from Knights Landing gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	208	--	--	--	--	45	--	217	5	56	26	--	--	0.2	--	--	--	172	0	1.5	528	8.3
Nov. 11.....	1642	--	--	--	--	58	--	137	0	81	32	--	--	.2	--	--	--	114	2	2.4	510	8.2
Dec. 9.....	180	--	--	--	--	133	--	292	12	208	87	--	--	.3	--	--	--	284	25	3.4	1140	8.5
Jan. 13, 1965....	1607	13	--	30	23	89	3.4	188	0	129	56	0.7	3.3	.3	442	0.60	--	168	14	3.0	732	7.7
Feb. 2.....	211	17	--	60	51	188	2.1	308	24	305	129	--	2.5	.4	940	1.28	--	360	68	4.3	1460	8.6
Mar. 1.....	128	13	--	58	54	224	2.1	382	16	277	154	--	2.8	.7	A 990	1.35	--	368	29	5.1	1540	8.6
Apr. 5.....	378	28	--	21	20	50	1.5	147	4	71	32	--	3.6	.3	A 303	.41	--	133	6	1.9	487	8.4
May 3.....	133	17	--	32	25	88	1.8	175	0	148	55	--	5.7	.3	468	.64	--	184	40	2.8	716	8.0
June 16.....	246	16	--	31	21	90	1.4	186	6	118	46	--	2.9	.2	437	.59	--	162	0	3.1	694	8.4
July 14.....	374	21	--	27	21	64	1.1	192	8	68	30	--	2.3	.3	367	.50	--	152	0	2.3	557	8.5
Aug. 11.....	743	19	--	34	20	56	1.6	222	6	60	28	--	2.2	.1	341	.46	--	168	0	1.9	547	8.6
Sept. 15.....	1173	16	--	29	22	51	1.6	232	0	49	26	--	.7	.2	320	.44	--	162	0	1.7	517	8.0

A Calculated from sum of determined constituents.



SACRAMENTO RIVER BASIN--Continued

11-3911. SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CALIF.

LOCATION.--At gaging station on levee near Reclamation District 1,500 pumping plant, 1 mile upstream from mouth, and 5.4 miles southeast of Knights Landing, Yolo County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--This water is entire outflow of the Sutter Bypass area and the Reclamation District 1,500. No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....						46		251	0		65			0.1				212	6	1.4	632	8.2
Dec. 9.....						25		197	0		18			.0				140	0	.9	373	8.2
Apr. 5, 1965.....						11		114	0		9.9			.0				90	0	.5	221	7.8
June 16.....						28		166	12		28			.1				148	0	1.0	394	8.6
July 14.....						38		219	0		43			.1				176	0	1.2	496	8.0
Aug. 11.....						38		210	10		42			.1				176	0	1.2	494	8.6
Sept. 15.....		28		29	22	28	2.1	218	0	9.0	25		5.6	.1	244	0.33		162	0	1.0	420	8.2

## SACRAMENTO RIVER BASIN--Continued

11-3915. BIG GRIZZLY CREEK NEAR PORTOLA, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank 500 feet upstream from small tributary, 4.3 miles upstream from mouth, and 4.5 miles north of Portola, Plumas County.

DRAINAGE AREA.--45.5 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 76°F Aug. 6; minimum, freezing point on many days during winter months.

EXTREMES, 1962-65.--Water temperatures: Maximum, 78°F July 12-14, 1963; minimum, freezing point on many days during winter months.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	59	58	58	58	57	60	58	58	58	56	55	56	56	54	54	57	53	51	50	50	50	50	49	48	45	45	45	45	47	50	44	53	
Minimum .....	50	49	49	50	50	50	51	52	50	49	48	48	49	46	46	50	46	43	41	41	42	41	39	38	38	38	41	44	44	43	40	45	
November																																	
Maximum .....	42	43	45	42	45	44	39	40	40	35	33	33	33	33	33	33	33	33	33	33	33	32	32	32	34	34	33	33	35	33	--	36	
Minimum .....	41	40	37	37	37	36	36	38	35	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	33	33	33	33	33	--	34	
December																																	
Maximum .....	33	33	33	33	32	32	33	32	33	34	34	32	32	32	32	32	32	32	32	32	33	34	38	40	43	41	40	35	35	35	35	34	
Minimum .....	33	33	33	32	32	32	32	32	32	33	32	32	32	32	32	32	32	32	32	32	32	33	34	38	40	39	35	35	35	35	35	33	
January																																	
Maximum .....	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
Minimum .....	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
February																																	
Maximum .....	35	35	36	36	36	36	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	33	34	33	33	33	33	33	--	--	34	
Minimum .....	35	35	35	36	36	36	35	35	35	35	35	35	35	34	34	34	34	34	33	32	32	32	32	32	33	33	33	32	32	--	--	--	34
March																																	
Maximum .....	33	34	34	34	34	35	36	35	34	3	36	34	35	36	36	36	35	36	36	37	36	35	34	34	35	36	37	39	39	38	36	35	
Minimum .....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	34	34	34	32
April																																	
Maximum .....	37	37	40	39	38	39	36	38	37	38	42	43	39	43	43	36	40	39	38	38	40	46	51	56	57	60	60	56	56	--	--	44	
Minimum .....	34	34	34	34	35	34	34	34	33	33	34	36	36	37	37	34	35	36	36	35	35	35	34	36	36	37	38	40	40	40	--	36	
May																																	
Maximum .....	53	51	52	52	51	47	43	47	52	53	55	57	57	56	57	58	61	58	57	54	53	47	54	53	58	62	60	61	62	63	57	55	
Minimum .....	38	37	37	44	38	38	36	38	43	45	45	48	49	47	48	50	50	50	51	47	47	46	44	46	48	52	52	53	53	54	54	46	
June																																	
Maximum .....	55	61	65	66	66	66	66	63	66	70	71	67	61	58	56	57	56	61	68	71	68	72	70	70	66	67	68	69	66	67	--	65	
Minimum .....	50	51	55	56	56	56	54	58	53	58	61	57	56	53	50	52	52	51	55	57	60	60	60	59	58	57	56	56	57	57	--	56	
July																																	
Maximum .....	66	69	71	72	72	72	71	71	70	68	68	70	73	73	74	74	70	69	71	70	71	71	71	72	68	73	71	72	73	69	70	71	
Minimum .....	54	57	58	60	59	59	57	56	56	52	52	54	57	55	58	63	60	59	59	58	59	55	56	57	61	58	57	54	54	59	61	57	
August																																	
Maximum .....	75	73	72	74	74	76	74	74	73	71	65	68	70	68	71	64	63	68	70	68	66	67	69	68	69	60	67	67	69	69	69	69	
Minimum .....	61	60	57	57	59	59	57	55	55	61	62	60	56	61	59	60	60	60	58	56	56	54	55	54	54	54	52	53	53	54	56	57	
September																																	
Maximum .....	69	67	69	68	61	57	63	61	65	65	64	64	63	65	66	63	58	57	57	58	58	63	64	64	60	62	59	56	57	57	59	--	62
Minimum .....	56	55	58	54	53	54	51	51	52	52	50	49	49	50	53	54	46	45	43	43	46	48	50	50	50	50	49	51	47	45	45	--	50

## SACRAMENTO RIVER BASIN--Continued

## 11-3915. BIG GRIZZLY CREEK NEAR PORTOLA, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 14, 1964 A...	1445	33		1.5	2	T						--	--	--				V
Dec. 18 A.....	1320	32		2.1	7	T						--	--	--				
Dec. 18 A.....	1800	32		2.1	4	T						--	--	--				
Jan. 22, 1965.....	1245	35		48	350	45						26	55	87	100			
Mar. 1 A.....	1620	33		53	116	17						--	--	--				
Apr. 3.....	1000	35		93	16	4.0						--	--	--				
May 5.....	1100	38		194	23	12						--	--	--				S
May 7.....	1730	43		144	9	3.5						--	--	--				
May 12.....	0820	48		128	11	3.8						--	--	--				
June 17 A.....	1500	55		49	22	2.9						84	90	100				
Aug. 5.....	1300	74		2.5	3	T						--	--	--				
Sept. 2.....	1100	60		5.5	11	.2						--	--	--				

A Sample collected at bridge on U.S. Highway 40A about 4 miles downstream from gage.  
 T Less than 0.05 ton.

## 11-3925. MIDDLE FORK FEATHER RIVER NEAR CLIO, CALIF.

DRAINAGE AREA.--686 square miles

RECORDS AVAILABLE.--Water temperatures: October 1963 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 74°F July 24, Aug. 5, 6; minimum, 33°F on many days during January and February.

EXTREMES, 1963-65.--Water temperatures: Maximum, 74°F July 21, Aug. 3, 5; minimum, 33°F on many days during January and February.

REMARKS.--Record for period Apr. 23-30 questionable and not published.

Month	Day																																	Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
October	58	58	58	58	58	58	58	58	58	57	56	56	54	54	53	55	54	51	51	52	51	51	51	49	49	49	51	50	50	49	49	54		
Maximum .....	52	52	52	52	54	54	54	54	51	50	50	50	50	48	47	50	46	45	44	44	45	46	43	42	42	42	46	49	49	48	44	48		
Minimum .....	46	47	46	46	46	45	44	46	44	41	39	38	39	38	36	35	34	34	35	36	35	36	36	40	41	41	40	41	41	40	--	40		
November	44	43	42	42	42	40	44	41	39	38	38	37	36	35	34	33	33	33	34	34	35	35	36	39	40	38	39	40	39	--	38			
Maximum .....	41	41	40	39	39	38	38	39	40	42	42	40	38	37	38	38	37	35	35	38	39	40	44	44	43	40	37	35	35	35	39			
Minimum .....	40	40	39	38	38	38	38	39	40	40	38	36	36	37	37	35	35	35	35	38	39	39	44	44	43	40	37	35	35	35	38			
December	35	35	35	35	34	33	33	33	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	33	33	34	35	34	34	34	34			
Maximum .....	35	35	35	34	33	33	33	33	34	34	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33		
Minimum .....	34	34	34	35	36	36	34	34	34	34	34	34	35	35	35	37	39	40	40	40	40	39	37	39	39	39	39	38	--	--	--	36		
January	33	33	33	34	35	34	34	33	34	33	33	33	33	34	34	34	36	37	38	39	39	37	36	37	37	37	38	37	--	--	--	35		
Maximum .....	39	38	39	39	39	40	41	41	42	42	40	43	43	42	44	46	46	44	43	44	46	46	46	44	43	43	44	45	46	46	46	43		
Minimum .....	38	37	36	37	38	39	40	39	40	39	40	43	43	40	42	43	43	40	39	40	42	43	43	41	42	41	40	41	43	44	45	40		
February	45	45	45	46	46	45	44	43	42	42	43	44	44	46	46	46	44	46	47	46	46	47	--	--	--	--	--	--	--	--	--	--	--	
Maximum .....	44	43	43	43	45	44	43	41	40	41	40	42	43	43	44	43	41	43	45	44	43	43	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	55	54	51	56	54	51	49	49	54	58	60	61	60	61	62	62	62	61	60	58	57	53	53	56	56	59	61	62	63	63	63	57	58	
May	52	51	46	50	51	49	47</																											

## SACRAMENTO RIVER BASIN--Continued

11-3945. MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CALIF.

LOCATION.--At gaging station 400 feet downstream from bridge on Milsap Bar Road, 500 feet downstream from Little North Fork, 4.5 miles southeast of Merrimac, Butte County, and 20 miles northeast of Oroville.

DRAINAGE AREA.--1,062 square miles.

RECORDS AVAILABLE.--Chemical analyses: July 1963 to September 1965.

Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 72°F Aug. 6.

EXTREMES, 1962-65.--Water temperatures: Maximum (1964-65), 72°F Aug. 6, 1964; minimum (1962-64), 35°F on several days during January 1963.

REMARKS.--Temperature recorder destroyed Dec. 22 by flood; replaced Feb. 1. Recorder not working Mar. 4 to May 21.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	127	--		--	--	7.0	--	80	2	--	3.2		--	0.1	--	--		68	0	0.4	161	8.3
Nov. 19.....	273	--		--	--	5.8	--	72	0	--	1.7		--	.1	--	--		55	0	.3	138	8.1
Dec. 3.....	980	--		--	--	3.4	--	47	0	--	.9		1.3	.0	--	--		39	0	.2	92	7.8
Jan. 15, 1965....	3500	--		--	--	4.7	--	43	0	--	1.8		.4	.0	64	0.09		32	0	.4	82	8.0
Jan. 26.....	5250	--		--	--	3.5	--	37	0	--	.9		.8	.1	62	.08		28	0	.3	72	7.9
Feb. 9.....	2600	--		--	--	4.0	--	46	0	--	1.0		.8	.1	60	.08		33	0	.3	83	8.0
Mar. 12.....	1840	--		--	--	3.6	--	46	0	--	1.2		.6	.1	66	.09		37	0	.3	89	7.9
Apr. 1.....	2310	--		--	--	5.1	--	52	0	--	1.4		.5	.0	71	.10		40	0	.4	98	7.9
May 13.....	3050	16		9.6	2.2	3.3	0.4	42	0	3.0	.8		.5	.0	60	.08		33	0	.2	79	7.7
June 11.....	1620	--		--	--	3.4	--	42	0	--	.8		1.0	.1	58	.08		34	0	.3	80	8.1
July 8.....	536	--		--	--	4.3	--	62	0	--	1.4		2.5	.0	80	.11		49	0	.3	114	8.2
Aug. 6.....	271	--		--	--	5.9	--	78	0	--	1.8		--	.0	--	--		63	0	.3	142	8.2
Sept. 3.....	235	14		19	4.5	6.4	1.5	82	0	7.0	2.7		.5	.0	97	.13		66	0	.3	155	7.9

## SACRAMENTO RIVER BASIN--Continued

11-3945. MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	59	59	59	59	59	60	59	59	58	57	57	57	56	55	54	54	53	52	51	51	51	50	50	50	50	50	50	49	49	49	49	54
Minimum ....	58	58	58	59	59	59	59	58	57	57	57	56	55	54	54	53	52	51	51	51	50	50	50	50	50	50	49	49	49	49	49	54
November																																
Maximum ....	49	49	49	49	49	49	49	49	49	49	48	48	48	48	46	45	44	44	43	43	43	43	43	43	43	43	43	43	43	43	46	
Minimum ....	49	49	49	49	49	49	49	49	49	48	48	47	48	46	45	44	44	43	43	43	43	43	43	43	43	43	43	43	43	43	46	
December																																
Maximum ....	43	43	43	43	42	42	41	42	42	43	43	43	41	39	40	40	40	39	38	41	42	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	43	43	43	42	42	41	41	41	42	42	43	41	38	38	39	40	39	38	38	38	41	41	--	--	--	--	--	--	--	--	--	--
January																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																
Maximum ....	--	42	43	43	45	44	42	41	41	39	38	38	40	41	41	41	42	43	44	45	45	45	44	43	43	44	45	44	--	--	42	
Minimum ....	--	42	42	42	43	42	40	40	38	38	38	37	38	40	40	40	41	42	43	44	44	44	43	42	42	43	44	44	--	--	41	
March																																
Maximum ....	44	44	45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	44	44	44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50	51	51	52	53	54	55	55	56	55	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	49	49	50	50	52	53	54	54	55	53	--
June																																
Maximum ....	53	56	57	59	60	59	59	58	59	62	63	62	61	58	57	57	57	57	62	64	66	66	66	66	65	63	62	64	64	65	--	61
Minimum ....	52	53	56	57	58	58	58	57	56	59	61	61	58	56	55	56	56	55	58	62	63	64	64	64	63	61	60	62	62	63	--	59
July																																
Maximum ....	65	66	67	68	68	68	68	68	68	67	66	66	67	67	68	69	70	70	68	68	68	67	68	68	69	69	68	68	68	67	68	68
Minimum ....	63	64	65	66	66	66	66	66	66	65	64	64	64	65	65	67	68	68	68	66	65	65	65	65	66	68	67	66	66	65	66	66
August																																
Maximum ....	70	70	70	70	71	72	71	70	70	69	68	66	66	66	69	70	69	69	69	68	68	67	66	67	66	64	65	64	65	65	65	68
Minimum ....	67	68	68	68	68	69	68	68	67	67	65	65	62	66	67	68	68	68	69	66	66	65	65	64	64	63	63	63	63	63	63	66
September																																
Maximum ....	67	66	67	66	64	62	62	62	62	62	63	62	62	62	62	--	56	55	55	55	57	58	59	61	62	61	60	58	56	56	--	61
Minimum ....	64	64	65	63	62	60	60	60	60	60	61	60	60	59	60	--	54	53	53	53	55	56	57	59	59	60	58	55	55	55	--	59

SACRAMENTO RIVER BASIN--Continued

11-3963.5. SOUTH FORK FEATHER RIVER BELOW PONDEROSA DAM, CALIF.

LOCATION.--At gaging station 1,000 feet upstream from Sucker Run, 1,800 feet downstream from Ponderosa Dam, Butte County, and 2.8 miles northwest of Forbestown.

DRAINAGE AREA.--108 square miles.

RECORDS AVAILABLE.--Chemical analyses: July 1963 to September 1965.

Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 87°F July 5, 16; minimum, 36°F Jan. 1, 2.

EXTREMES, 1963-65.--Water temperatures: Maximum, 87°F July 5, 16, 1965; minimum, 36°F Jan. 1, 2, 1965.

REMARKS.--No record Apr. 25 to May 1, June 11 to July 2, July 22 to Aug. 2, Aug. 6 to Sept 3; temperature ranges, 47°F to 58°F, 55°F to 85°F, 61°F to 85°F, 58°F to 86°F, respectively.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	32	--	--	--	--	2.5	--	24	0	--	0.8	--	--	0.0	--	--	--	20	0	0.2	49	7.5
Nov. 19.....	16	--	--	--	--	2.9	--	26	0	--	.8	--	--	.0	--	--	--	22	1	.3	58	7.6
Dec. 3.....	16	--	--	--	--	3.0	--	26	0	--	.8	--	1.4	.0	--	--	--	22	1	.3	56	7.3
Jan. 15, 1965....	834	--	--	--	--	2.3	--	21	0	--	.6	--	.2	.0	38	0.05	--	18	1	.2	40	7.7
Feb. 9.....	470	--	--	--	--	1.8	--	19	0	--	.4	--	.4	.0	30	.04	--	18	2	.2	40	7.7
Mar. 12.....	288	--	--	--	--	1.8	--	20	0	--	.6	--	.3	.0	33	.04	--	16	0	.2	40	7.5
Apr. 2.....	296	--	--	--	--	2.2	--	21	0	--	.8	--	.7	.0	34	.05	--	16	0	.2	42	7.2
May 13.....	365	12	--	4.4	1.5	1.7	0.1	22	0	1.0	.6	--	.4	.0	34	.05	--	17	0	.2	41	7.5
June 11.....	.5	--	--	--	--	2.3	--	22	0	--	.8	--	1.2	.0	37	.05	--	17	0	.2	45	7.8
July 8.....	.4	--	--	--	--	3.5	--	39	0	--	.8	--	2.1	.1	--	.08	--	28	0	.3	75	7.3
Aug. 6.....	.2	--	--	--	--	2.4	--	22	0	--	.6	--	--	.0	--	--	--	16	0	.2	45	7.7
Sept. 3.....	.8	10	--	5.0	.4	2.8	.3	22	0	1.0	.6	--	.5	.0	33	.04	--	14	0	.3	43	7.4

## SACRAMENTO RIVER BASIN--Continued

11-3963.5. SOUTH FORK FEATHER RIVER BELOW PONDEROSA DAM, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	64	64	65	65	65	65	64	63	64	64	64	64	62	62	62	61	62	63	63	63	62	62	61	59	59	59	58	59	58	59	58	62	
Minimum ....	58	58	58	59	59	59	60	58	58	58	58	58	57	57	57	57	56	56	57	57	57	57	56	55	55	55	57	57	57	56	55	57	
November																																	
Maximum ....	57	56	57	57	58	58	57	57	55	54	53	53	52	50	50	49	49	49	49	49	49	49	49	48	49	48	48	47	48	48	--	52	
Minimum ....	56	55	54	54	54	54	54	55	54	52	51	51	49	47	47	46	46	46	45	45	45	46	46	47	47	47	47	47	46	46	--	49	
December																																	
Maximum ....	48	48	48	48	47	48	49	49	49	50	50	48	47	47	47	46	45	45	46	47	49	50	51	50	49	48	48	47	44	42	40	39	47
Minimum ....	47	47	46	46	46	45	46	47	47	48	48	46	44	45	46	44	43	43	45	46	46	47	50	49	47	47	47	44	42	40	39	37	45
January																																	
Maximum ....	38	37	38	40	45	45	43	41	42	43	43	43	42	42	41	42	42	43	42	43	44	44	44	43	43	43	40	42	43	44	44	42	
Minimum ....	36	36	37	37	40	43	40	40	40	41	42	41	39	39	39	38	39	38	39	41	41	41	42	42	41	41	40	40	40	40	40	40	
February																																	
Maximum ....	44	44	44	42	44	44	46	44	43	44	43	43	41	42	43	43	44	45	46	46	45	47	45	46	43	44	45	--	--	--	--	44	
Minimum ....	40	40	40	41	42	41	40	40	40	39	38	38	38	38	38	38	38	39	39	41	40	41	40	40	40	40	42	40	--	--	--	--	40
March																																	
Maximum ....	47	46	46	48	46	45	47	47	46	45	46	44	46	47	48	46	47	51	48	49	49	47	46	46	45	45	46	46	48	46	47		
Minimum ....	40	40	40	41	43	43	42	42	42	42	41	42	42	41	41	42	43	41	41	42	42	44	43	45	44	43	43	41	42	42	44	42	
April																																	
Maximum ....	47	46	50	48	46	46	46	45	44	44	47	47	45	46	46	47	48	47	52	52	52	53	54	56	--	--	--	--	--	--	--	48	
Minimum ....	44	44	43	43	44	44	43	44	43	42	42	42	44	44	44	42	44	45	47	48	48	48	48	48	--	--	--	--	--	--	--	44	
May																																	
Maximum ....	--	51	52	52	50	52	52	53	54	57	55	56	52	54	56	57	57	59	55	54	52	55	55	56	56	56	56	56	58	58	55	55	
Minimum ....	--	47	46	47	47	46	46	47	48	49	49	49	50	48	51	51	51	54	54	52	51	50	50	49	51	52	53	53	53	53	52	50	
June																																	
Maximum ....	54	58	57	59	60	60	59	60	66	67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	50	51	52	55	56	55	56	55	55	56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
July																																	
Maximum ....	--	--	85	86	87	86	86	86	84	81	81	83	83	84	86	87	85	85	84	81	82	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	67	67	67	67	66	67	66	64	63	63	65	65	66	69	69	68	67	64	64	--	--	--	--	--	--	--	--	--	--	--	
August																																	
Maximum ....	--	--	84	85	86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	65	65	65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
September																																	
Maximum ....	--	--	--	75	72	60	71	73	76	75	74	74	74	75	77	63	58	58	58	58	58	59	61	61	59	58	55	58	60	61	--	65	
Minimum ....	--	--	--	55	54	56	55	55	56	57	55	54	55	55	58	54	51	51	50	50	50	50	51	52	52	52	51	52	50	51	52	--	53



## SACRAMENTO RIVER BASIN--Continued

## 11-4011.8. LITTLE GRIZZLY CREEK NEAR GENESEE, CALIF.

LOCATION.--Temperature recorder at gaging station on right bank, 2.5 miles upstream from Indian Creek, and 2 miles south of Genesee, Plumas County.

RECORDS AVAILABLE.--Water temperatures: August 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 60°F July 15, 17, 18, 24; minimum, 33°F on several days during November to January.

EXTREMES, August 1964 to September 1965.--Water temperatures: Maximum, 61°F Aug. 23, 24, 1964; minimum, 33°F on several days during November and December 1964.

Temperature (°F) of water, August to September 1964

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
August																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	59	60	60	60	61	61	60	59	58	58	56	56	54	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	54	54	54	54	55	55	55	54	53	54	50	50	53	--
September																																	
Maximum ....	51	52	54	54	54	54	53	52	52	52	53	53	53	51	52	52	52	51	50	50	49	50	52	52	52	52	51	50	49	50	—	52	
Minimum ....	48	45	47	49	48	48	47	47	47	47	47	48	46	46	46	46	49	47	45	46	45	44	46	48	47	48	47	46	45	45	—	47	

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	50	50	50	51	52	52	52	51	50	49	49	48	49	48	47	48	46	45	44	45	45	44	44	43	43	45	47	47	46	45	47	
Minimum ....	46	45	46	46	48	48	48	48	46	46	45	45	46	44	43	46	42	41	40	40	41	41	40	40	40	42	44	45	43	42	44	
November																																
Maximum ....	44	43	42	42	42	42	43	44	44	40	38	38	36	36	34	34	35	34	34	34	34	36	36	37	37	37	38	40	39	38	—	38
Minimum ....	43	41	40	39	40	39	39	42	39	36	36	35	35	34	33	33	33	33	33	34	34	34	34	35	36	36	37	37	36	—	36	
December																																
Maximum ....	40	40	39	37	38	37	37	40	39	41	40	37	34	36	36	35	33	34	36	40	41	41	42	43	42	43	40	37	37	36	34	38
Minimum ....	38	38	37	36	37	35	36	37	39	39	37	34	33	34	35	33	33	33	34	36	40	40	40	41	41	40	36	36	34	34	34	36
January																																
Maximum ....	34	35	35	36	39	40	40	38	39	39	39	38	38	37	38	37	38	39	39	41	41	41	42	41	40	40	40	40	40	40	41	39
Minimum ....	34	34	33	34	35	39	38	37	38	39	38	37	37	34	37	37	36	38	38	39	40	40	40	40	40	39	38	38	39	39	39	38
February																																
Maximum ....	40	41	41	42	42	42	40	41	40	38	38	38	39	40	38	39	39	41	42	42	42	42	41	41	41	42	41	—	—	—	41	
Minimum ....	39	39	40	40	41	40	39	39	38	37	37	36	37	38	37	37	37	38	39	40	40	40	41	39	38	39	39	40	39	—	—	39
March																																
Maximum ....	41	40	41	42	42	43	42	42	42	42	42	42	42	41	41	42	42	42	42	42	44	44	43	41	42	41	41	42	43	43	42	42
Minimum ....	39	38	38	40	41	40	40	40	39	40	39	35	38	38	38	38	39	39	39	39	40	40	40	41	38	40	38	38	39	39	40	39
April																																
Maximum ....	42	42	44	43	43	43	42	41	40	40	42	43	42	44	43	41	44	44	44	44	44	45	45	45	45	45	45	44	44	45	—	43
Minimum ....	40	40	40	39	41	40	39	39	36	38	38	40	40	40	40	40	40	41	42	40	40	40	40	40	40	40	40	40	40	40	—	40
May																																
Maximum ....	44	43	45	46	45	42	44	46	47	47	48	48	47	48	47	48	48	48	48	47	47	44	45	48	47	49	49	50	50	50	48	47
Minimum ....	39	39	38	40	39	38	39	39	40	40	40	40	41	41	41	41	42	42	42	42	42	41	40	41	42	43	43	43	43	42	41	
June																																
Maximum ....	48	50	52	52	52	51	51	50	53	54	55	52	49	49	49	49	48	53	55	56	56	56	57	56	52	53	54	55	55	55	—	53
Minimum ....	42	43	44	44	45	44	43	45	45	46	47	46	45	44	43	44	46	46	47	48	49	50	49	48	47	46	46	48	50	—	46	
July																																
Maximum ....	55	57	58	58	58	58	57	57	56	55	55	56	58	59	60	59	60	60	58	57	57	57	58	60	59	58	57	57	58	59	58	58
Minimum ....	49	50	51	52	51	51	50	50	51	48	48	49	51	54	55	55	54	55	53	51	52	50	51	53	55	54	52	50	50	53	55	52
August																																
Maximum ....	60	59	58	58	59	59	58	57	57	57	56	58	58	57	59	59	57	59	58	57	55	56	56	55	55	54	55	56	55	56	57	57
Minimum ....	55	54	52	53	53	54	52	51	51	55	55	54	51	50	52	55	56	56	54	51	52	51	51	51	50	51	50	50	50	50	51	52
September																																
Maximum ....	56	56	56	54	53	52	52	53	53	52	51	51	51	52	53	53	47	45	45	46	49	50	51	51	51	50	49	48	46	47	—	51
Minimum ....	52	51	52	50	49	50	48	48	48	48	47	46	46	47	49	47	43	41	40	41	44	46	47	48	47	47	47	45	43	43	—	47

## SACRAMENTO RIVER BASIN--Continued

11-4015. INDIAN CREEK NEAR CRESCENT MILLS, CALIF.

LOCATION.--At gaging station, 0.8 mile upstream from Dixie Creek, and 1.5 miles south of town of Crescent Mills, Plumas County.

DRAINAGE AREA.--739 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1963.

Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 68°F on several days during July and August.

EXTREMES, 1962-65.--Water temperatures: Maximum, 82°F July 26-28, 1963; minimum (1962-64), freezing point on several days during December and January 1963, Jan. 22, 1964.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 6, 1964.....	140	--	--	--	--	7.1	--	82	0	--	1.3	--	--	0.0	--	--	--	60	0	0.4	147	7.3
Jan. 27, 1965....	1960	--	--	--	--	4.0	--	42	0	--	1.3	--	--	.0	--	--	--	32	0	.3	81	7.9
Mar. 10.....	1010	--	--	--	--	4.1	--	48	0	--	.9	--	--	.0	--	--	--	37	0	.3	89	7.9
May 12.....	1410	22	--	9.0	2.1	3.7	0.5	41	0	3.0	.6	--	0.6	.0	63	0.09	--	31	0	.3	77	7.4
July 21.....	76	--	--	--	--	7.5	--	87	2	--	2.2	--	--	.0	--	--	--	67	0	.4	162	8.3
Sept. 22.....	82	24	--	13	3.5	5.3	1.5	66	0	3.0	1.4	--	.4	.0	86	.12	--	47	0	.3	117	7.4

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	51	51	52	52	52	56	56	50	50	48	47	47	47	46	46	46	46	45	45	44	44	44	43	43	43	42	42	42	42	42	42	47	
Minimum .....	47	46	46	46	47	48	50	50	48	47	47	47	47	46	46	46	46	45	45	44	44	44	43	43	42	42	42	42	42	42	42	45	
November																																	
Maximum .....	42	42	42	42	42	42	41	41	41	41	41	40	40	40	40	40	40	40	40	40	40	40	40	40	41	41	40	40	40	40	40	41	
Minimum .....	42	42	42	42	42	41	41	41	41	41	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
December																																	
Maximum .....	40	40	40	39	39	39	38	--	39	39	39	39	39	39	39	39	39	39	39	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	40	40	39	39	39	38	--	38	39	39	39	39	39	39	39	39	39	39	39	--	--	--	--	--	--	--	--	--	--	--	--	--	
January																																	
Maximum .....	--	--	--	--	35	35	35	35	36	37	37	37	37	37	37	37	37	37	38	38	38	38	38	38	38	37	37	36	36	36	36	37	
Minimum .....	--	--	--	--	35	35	35	35	35	36	37	37	37	37	37	37	37	37	38	38	38	38	38	38	38	37	37	36	36	36	36	37	
February																																	
Maximum .....	36	36	36	36	37	38	38	37	37	37	36	36	36	36	37	37	37	37	37	38	38	38	38	38	38	38	39	39	39	--	--	37	
Minimum .....	36	36	36	36	36	37	37	37	37	36	36	36	36	36	36	37	37	37	37	37	38	38	38	38	38	38	39	39	--	--	--	37	
March																																	
Maximum .....	39	39	39	39	39	39	39	39	39	39	39	39	39	40	41	41	41	41	41	41	41	42	42	42	42	43	43	43	43	43	43	41	
Minimum .....	39	39	39	39	39	39	39	39	39	39	39	39	39	39	40	41	41	41	41	41	41	42	42	42	42	43	43	43	43	43	43	40	
April																																	
Maximum .....	43	43	43	43	43	43	44	44	44	44	44	45	45	45	45	45	45	45	46	46	46	47	48	50	50	50	50	50	50	50	--	46	
Minimum .....	43	43	43	43	43	43	44	44	44	44	44	44	45	44	44	45	44	44	45	46	46	46	47	48	49	49	50	50	49	49	--	45	
May																																	
Maximum .....	50	49	48	50	50	49	48	47	49	51	52	52	52	52	52	52	52	52	52	52	52	51	50	50	51	51	52	52	52	52	52	51	
Minimum .....	49	48	47	48	49	48	47	46	47	49	50	50	52	51	52	52	52	52	52	52	51	50	50	50	51	51	52	51	52	52	52	50	
June																																	
Maximum .....	52	53	55	55	55	55	55	55	55	56	56	56	56	56	55	54	54	56	59	60	61	61	61	61	61	61	61	61	61	61	--	57	
Minimum .....	52	52	53	55	55	55	55	55	55	55	56	56	56	55	54	54	54	56	59	60	60	59	59	61	61	61	60	61	61	61	--	57	
July																																	
Maximum .....	61	62	63	64	64	64	63	63	63	63	62	63	64	66	68	68	68	68	67	64	66	66	66	67	67	67	66	66	67	66	65	65	
Minimum .....	61	61	62	62	63	63	63	63	63	61	60	61	63	63	66	67	67	66	63	62	62	64	64	67	65	63	62	62	63	63	63	63	
August																																	
Maximum .....	67	67	65	67	67	67	66	65	64	63	64	63	62	66	68	68	68	65	63	63	62	62	61	61	61	61	61	60	60	60	59	64	
Minimum .....	65	64	63	63	63	64	61	61	60	62	63	61	61	62	66	67	65	63	62	62	61	61	60	60	61	57	58	59	59	59	62	62	
September																																	
Maximum .....	59	59	59	58	57	56	56	56	55	55	54	54	54	54	54	54	54	52	51	51	51	51	51	51	52	52	52	52	52	52	--	54	
Minimum .....	58	58	58	56	56	56	54	54	54	54	54	54	54	54	54	54	54	52	50	51	51	51	51	51	51	52	52	52	52	52	--	53	

## SACRAMENTO RIVER BASIN--Continued

## 11-4015. INDIAN CREEK NEAR CRESCENT MILLS, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

F, pipet, S, sieve, V, visual accumulation tube; W, in distilled water/																	
Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 14, 1964.....	1230	39		123	20	6.6						--	--	--	--		
Dec. 16.....	1555	39		132	18	6.4						--	--	--	--		
Dec. 18.....	1600	39		110	14	4.2						--	--	--	--		
Jan. 14, 1965.....	1500	37		1240	70	234						--	--	--	--		
Jan. 22.....	1000	38		1020	45	124						--	--	--	--		
Jan. 27.....	0945	37		1940	283	1480					29	46	75	96	100		V
Mar. 1.....	1330	39		1200	54	175					66	77	91	100			S
Mar. 8.....	1240	39		968	58	152					--	--	--	--			
Apr. 2.....	1800	43		1880	206	1050					--	--	--	--			
Apr. 12.....	1600	--		1510	128	522					--	--	--	--			
May 7.....	1345	47		1750	149	704					--	--	--	--			
May 10.....	1200	--		1420	115	441					--	--	--	--			
June 17.....	1200	54		425	22	25					--	--	--	--			
Aug. 5.....	0930	63		46	9	1.1					--	--	--	--			
Sept. 2.....	0830	58		72	16	3.1					--	--	--	--			

## SACRAMENTO RIVER BASIN--Continued

11-4045. NORTH FORK FEATHER RIVER AT PULGA, CALIF.

LOCATION.--At gaging station between railroad and highway bridges, 0.5 mile downstream from Flea Valley Creek and Pulga, Butte County, 1 mile downstream from Big Bar, and 1.5 miles downstream from Poe Dam.

DRAINAGE AREA.--1,953 square miles.

RECORDS AVAILABLE.--Chemical analyses: July 1963 to September 1965.

Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 38°F on several days during December and January.

EXTREMES, 1963-65.--Water temperatures: Maximum (1963-64), 73°F July 28-30, 1963; minimum, 34°F Jan. 12, 13, 1963.

REMARKS.--Recorder failed to operate properly from Feb. 11 to end of water year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	62	--	--	--	--	5.2	--	72	0	--	1.2	--	--	0.0	--	--	--	53	0	0.3	121	8.0
Nov. 20.....	57	--	--	--	--	4.8	--	70	0	--	.6	--	--	.1	--	--	--	49	0	.3	117	8.2
Dec. 4.....	69	--	--	--	--	4.9	--	72	0	--	.9	--	1.3	0	--	--	--	54	0	.3	128	8.1
Jan. 15, 1965.....	1400	--	--	--	--	3.5	--	44	0	--	1.2	--	.5	0	60	0.08	--	35	0	.3	80	8.0
Feb. 5.....	1350	--	--	--	--	3.3	--	42	0	--	.4	--	.5	0	55	.07	--	34	0	.2	80	7.9
Mar. 10.....	69	--	--	--	--	2.7	--	44	0	--	.6	--	.5	0	54	.07	--	35	0	.2	80	7.8
Apr. 9.....	117	--	--	--	--	2.5	--	45	0	--	.6	--	.9	0	56	.08	--	36	0	.2	78	7.6
May 12.....	220	14	--	8.6	2.3	2.9	0.5	40	0	3.0	.6	--	.6	0	55	.07	--	31	0	.2	74	7.6
June 18.....	65	--	--	--	--	3.8	--	48	0	--	.7	--	1.1	0	58	.08	--	37	0	.3	88	8.1
July 21.....	61	--	--	--	--	3.7	--	55	0	--	1.0	--	--	0	--	--	--	43	0	.2	98	7.9
Aug. 13.....	62	--	--	--	--	3.9	--	56	0	--	1.0	--	--	0	--	--	--	42	0	.3	99	8.2
Sept. 8.....	60	10	--	10	4.6	4.4	1.5	61	0	4.0	1.5	--	.3	0	68	.09	--	44	0	.3	104	7.9

Temperature (°F) of water, water year October 1964 to September 1965

Temperature (°F) of water, water year October 1964 to September 1965																																	
Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	63	63	63	65	66	66	65	65	64	63	63	63	62	61	61	61	60	58	57	58	58	57	57	56	57	56	55	55	55	56	55	60	
Minimum .....	57	60	61	63	64	64	64	63	61	61	61	60	59	58	57	59	57	56	56	56	56	56	56	55	55	55	55	55	55	55	55	58	
November																																	
Maximum .....	56	56	56	56	56	56	56	56	55	55	52	52	51	50	47	46	45	45	44	44	44	46	46	46	46	47	47	47	46	46	--	50	
Minimum .....	55	55	55	55	55	55	56	55	54	52	51	49	47	44	44	44	45	44	44	44	44	45	45	45	46	46	47	47	46	46	--	49	
December																																	
Maximum .....	46	46	46	44	44	43	44	44	44	45	45	44	41	40	40	40	40	39	40	42	42	41	41	42	42	42	42	40	38	38	38	42	
Minimum .....	45	46	44	44	43	42	42	44	44	44	44	41	39	40	40	40	39	39	39	39	40	39	41	42	42	42	40	38	38	38	38	41	
January																																	
Maximum .....	38	38	40	40	41	40	40	40	40	41	41	41	41	41	41	41	41	41	41	41	41	41	42	42	42	42	41	41	41	42	42	41	
Minimum .....	38	38	38	40	40	40	40	40	40	40	41	41	41	41	41	41	41	41	41	41	41	41	42	42	42	41	41	41	41	41	42	41	
February																																	
Maximum .....	42	42	42	42	42	42	42	42	42	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	42	42	42	41	41	42	42	42	42	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March																																	

## SACRAMENTO RIVER BASIN--Continued

11-4053. WEST BRANCH FEATHER RIVER NEAR PARADISE, CALIF.

LOCATION.--Temperature recorder at gaging station 0.6 mile upstream from Griffin Gulch and 4.0 miles northeast of Paradise, Butte County.

DRAINAGE AREA.--113 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 83°F July 15, Aug. 5; minimum, 38°F Dec. 14, 17, 29-31.

EXTREMES, 1962-65.--Water temperatures: Maximum (1962-63, 1964-65), 83°F July 16, Aug. 5, 1965; minimum, 35°F Jan. 12-14, 1963.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	70	72	71	71	71	74	68	71	70	71	70	68	67	69	67	69	67	69	69	67	68	68	64	62	60	60	56	57	57	56	55	66
Minimum .....	58	57	57	59	60	62	62	59	58	59	59	59	58	57	57	58	55	57	56	55	55	56	54	54	54	54	56	56	56	54	54	57
November																																
Maximum .....	55	53	52	53	57	55	53	52	52	49	46	46	46	45	43	42	41	41	41	42	41	42	43	43	43	43	43	43	43	43	--	46
Minimum .....	53	52	51	49	51	50	49	51	49	46	46	46	45	43	41	41	41	41	41	40	41	40	41	42	42	42	43	43	43	43	43	45
December																																
Maximum .....	43	43	43	42	42	42	42	43	43	44	43	42	40	39	40	40	40	40	41	42	44	43	42	42	43	43	43	42	41	38	39	42
Minimum .....	43	43	42	42	42	42	42	42	43	43	42	40	39	38	39	39	38	39	40	41	42	42	42	42	42	43	41	41	38	38	38	41
January																																
Maximum .....	39	39	39	40	41	42	43	42	43	44	44	44	43	43	43	43	44	44	44	44	44	44	46	45	44	44	44	44	45	45	45	43
Minimum .....	39	39	39	39	40	41	42	41	41	43	44	43	43	43	43	43	43	44	44	44	43	43	44	44	44	44	44	44	44	45	45	45
February																																
Maximum .....	45	45	45	45	45	45	44	44	44	44	43	43	43	44	44	44	44	44	45	45	45	45	45	44	44	44	45	45	--	--	--	44
Minimum .....	44	44	44	45	45	44	43	44	44	43	43	43	43	43	43	43	43	44	44	44	45	45	44	44	44	44	44	44	--	--	--	44
March																																
Maximum .....	44	45	45	45	46	46	45	45	44	44	45	45	45	45	47	46	47	46	47	47	48	48	48	47	47	47	46	44	45	46	46	
Minimum .....	44	44	44	44	45	45	45	44	44	44	44	45	45	45	45	46	46	46	46	46	47	48	47	47	46	46	44	43	44	45	46	
April																																
Maximum .....	46	46	45	47	47	46	45	45	45	44	45	48	48	48	47	47	47	48	48	48	48	48	51	52	52	53	53	54	54	53	--	48
Minimum .....	45	45	44	45	46	45	44	44	44	43	44	45	47	47	47	46	46	47	48	47	48	46	47	48	48	49	49	50	49	49	--	46
May																																
Maximum .....	53	51	50	50	49	46	47	50	50	51	52	53	53	54	54	55	56	55	55	54	54	52	53	53	55	56	57	58	58	59	59	53
Minimum .....	49	48	47	47	46	44	44	46	48	48	49	50	51	50	51	53	53	53	54	53	51	51	51	51	53	55	56	56	56	57	51	
June																																
Maximum .....	58	59	61	62	62	62	61	58	60	63	65	65	63	58	58	58	61	65	70	70	70	71	71	70	67	67	69	71	72	--	64	
Minimum .....	55	56	58	60	60	58	53	57	56	59	62	62	58	56	54	55	54	55	59	62	66	67	67	67	66	63	62	64	66	67	--	60
July																																
Maximum .....	73	74	74	75	76	76	78	78	77	76	76	77	79	80	82	83	82	82	82	78	81	81	81	81	79	76	78	77	79	74	77	78
Minimum .....	67	69	69	69	69	69	69	70	70	69	69	68	70	70	72	74	75	74	74	71	71	71	71	72	70	68	67	67	71	72	70	70
August																																
Maximum .....	79	79	79	80	83	82	81	78	79	76	75	68	74	78	80	80	77	80	80	78	79	78	77	77	78	75	78	78	79	78	77	78
Minimum .....	70	70	70	71	74	74	73	70	70	73	67	64	66	70	72	73	74	74	74	72	72	71	70	71	71	71	69	71	71	71	72	71
September																																
Maximum .....	77	76	75	74	72	69	68	70	70	70	69	70	69	70	71	69	65	65	65	65	65	66	67	68	66	66	64	63	63	64	--	68
Minimum .....	73	72	70	68	66	66	63	64	64	64	64	63	63	64	65	64	59	59	58	58	60	60	62	62	62	62	61	58	58	59	--	63

## SACRAMENTO RIVER BASIN--Continued

11-4065. WEST BRANCH FEATHER RIVER NEAR YANKEE HILL, CALIF.

LOCATION.--At site of former gaging station 800 feet upstream from highway bridge, 1.7 miles downstream from Concow Creek, 2.1 miles west of Yankee Hill, Butte County, and 4.9 miles southeast of Paradise.

DRAINAGE AREA.--149 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1964 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, November 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 20, 1964....		--		--	--	3.6	--	70	0	--	0.9		--	0.0	--	--		55	0	0.2	119	8.1
Dec. 4.....		--		--	--	2.4	--	33	0	--	.5		0.8	.0	--	--		26	0	.2	62	7.5
Jan. 15, 1965....		--		--	--	2.3	--	25	0	--	.6		.4	.0	41	0.06		19	0	.2	44	7.6
Feb. 5.....		--		--	--	2.0	--	25	0	--	.2		1.0	.0	32	.04		19	0	.2	46	7.7
Mar. 10.....		--		--	--	2.1	--	28	0	--	.6		.3	.0	40	.05		21	0	.2	51	7.7
Apr. 9.....		--		--	--	2.1	--	38	0	--	.6		1.0	.0	50	.07		30	0	.2	66	7.6
May 13.....	12			4.2	1.7	1.7	0.1	23	0	1.0	.4		.5	.0	A 33	.04		18	0	.2	42	7.6
June 18.....		--		--	--	2.8	--	34	0	--	.4		.6	.0	50	.07		25	0	.2	62	7.9
July 21.....		--		--	--	3.5	--	76	2	--	1.3		--	.0	--	--		62	0	.2	135	8.3
Aug. 13.....		--		--	--	3.3	--	44	0	--	.9		--	.0	--	--		34	0	.2	83	8.0
Sept. 8.....		18		13	9.6	4.0	.9	93	0	3.0	1.5		.3	.0	A 96	.13		72	0	.2	148	8.2

A Calculated from sum of determined constituents.

SACRAMENTO RIVER BASIN--Continued

11-4070. FEATHER RIVER AT OROVILLE, CALIF.

LOCATION --At gaging station 200 feet downstream from bridge on Oroville-Chico highway, and 0.4 mile northeast of Oroville, Butte County, business district.

DRAINAGE AREA (revised).--3,626 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: October 1953 to September 1954, November 1956 to September 1965.

Sediment records: November 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 70°F on several days during July and August; minimum, 41°F Dec. 31 to Jan. 3.

Sediment concentrations: Maximum daily, 3,830 ppm Dec. 25; minimum daily, 3 ppm Oct. 9, 10.

Sediment loads: Maximum daily, 711,000 tons Dec. 25; minimum daily, 17 tons Nov. 8.

EXTREMES, 1953-54, 1956-65.--Water temperatures: Maximum, 81°F Sept. 10, 12, 1959; minimum, 35°F Dec. 27, 1959, Jan. 23-25, 1962.

Sediment concentrations (1956-65): Maximum daily, 4,100 ppm Feb. 1, 1963; minimum daily, 1 ppm on several days in 1961-62, 1964.

Sediment loads (1956-65): Maximum daily, 1,500,000 tons Feb. 1, 1963; minimum daily, 3 tons Jan. 16, 17, 1962.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	2830	--	--	--	--	5.2	--	73	0	--	1.0	--	--	0.0	--	--	--	52	0	0.3	123	8.0
Nov. 13.....	4060	--	--	--	--	5.6	--	50	0	--	1.2	--	--	.0	--	--	--	40	0	.4	98	7.3
Dec. 11.....	6310	--	--	--	--	3.3	--	42	0	--	.8	--	1.4	.0	--	--	--	32	0	.2	79	7.7
Dec. 22.....	123800	--	--	3.2	1.6	2.1	1.3	18	0	0.0	.3	--	1.4	.0	34	0.05	--	14	0	.2	38	7.4
Jan. 8, 1965.....	25900	--	--	--	--	3.3	--	33	0	--	.4	--	1.1	.1	--	--	--	26	0	.3	65	7.4
Feb. 5.....	12000	--	--	--	--	3.8	--	41	0	--	.6	--	.8	.1	58	.08	--	32	0	.3	79	7.9
Mar. 5.....	6140	--	--	--	--	3.7	--	46	0	--	1.2	--	.2	.0	59	.08	--	36	0	.3	87	7.9
Apr. 9.....	10500	--	--	--	--	3.9	--	42	0	--	1.0	--	.7	.0	62	.08	--	31	0	.3	77	7.6
May 7.....	9860	17	--	9.2	1.6	3.1	0.5	38	0	2.0	1.1	--	.2	.0	58	.08	--	30	0	.2	72	7.5
June 18.....	5400	--	--	--	--	3.6	--	47	0	--	.6	--	.7	.0	60	.08	--	36	0	.3	86	8.1
July 16.....	3390	--	--	--	--	4.1	--	51	0	--	1.1	--	--	.0	--	--	--	39	0	.3	95	7.7
Aug. 12.....	3610	--	--	--	--	4.0	--	54	0	--	1.0	--	--	.0	--	--	--	40	0	.3	97	8.1
Sept. 17.....	2730	12	--	12	29	4.5	1.1	58	0	3.0	1.2	--	.8	.0	68	.09	--	42	0	.3	105	7.9

SACRAMENTO RIVER BASIN--Continued  
 11-4070. FEATHER RIVER AT OROVILLE, CALIF.--Continued  
 Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	62	63	63	64	64	64	64	65	65	65	65	65	64	62	62	62	62	61	60	60	60	60	57	57	57	57	57	57	56	56	56	61	
Minimum .....	62	62	62	63	63	63	63	64	64	64	64	64	64	62	62	61	60	60	60	59	57	56	56	56	56	57	57	56	56	56	56	60	
November																																	
Maximum .....	56	56	56	56	54	54	54	54	54	54	52	51	50	49	48	47	46	46	46	45	45	45	45	45	45	46	46	46	46	45	--	49	
Minimum .....	56	55	54	54	54	54	54	54	54	52	51	50	49	48	47	46	46	46	45	45	45	45	45	45	45	45	46	45	45	45	--	49	
December																																	
Maximum .....	46	46	46	45	45	45	44	44	44	45	46	46	45	44	44	44	44	44	44	45	48	48	48	49	49	49	49	47	45	43	43	46	
Minimum .....	45	46	45	45	45	44	44	44	44	44	45	45	44	44	44	44	44	44	44	44	45	47	47	48	49	49	49	47	45	43	43	41	45
January																																	
Maximum .....	41	41	42	43	45	45	44	44	44	45	46	46	46	45	45	45	45	45	45	45	45	46	46	47	47	46	45	44	44	44	46	45	
Minimum .....	41	41	41	42	43	45	44	43	43	44	44	45	46	45	45	45	45	45	45	45	45	46	46	46	46	45	44	44	44	44	44	45	44
February																																	
Maximum .....	46	46	46	46	46	46	46	45	45	45	43	42	42	42	42	42	42	43	43	43	43	44	44	45	45	45	45	46	46	--	--	44	
Minimum .....	46	46	46	46	45	45	45	45	45	43	42	42	42	42	42	42	42	42	43	43	43	43	44	44	45	45	45	45	46	--	--	--	44
March																																	
Maximum .....	46	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	46	46	46	47	48	48	48	48	48	48	47	47	48	47	
Minimum .....	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	47	47	46	46	46	46	47	48	48	48	48	48	47	46	47	48	47	
April																																	
Maximum .....	49	49	48	49	49	49	49	49	49	48	47	48	48	48	48	49	50	50	51	52	52	52	52	54	54	55	55	56	56	56	--	51	
Minimum .....	48	48	48	48	49	49	49	49	49	48	47	47	47	48	48	48	48	49	50	50	51	52	52	51	52	54	55	55	56	56	--	50	
May																																	
Maximum .....	56	56	54	53	54	54	52	53	54	55	56	57	58	58	58	59	60	60	60	60	59	59	58	57	58	59	60	60	61	61	61	57	
Minimum .....	56	54	52	52	53	52	51	52	53	54	55	56	57	57	58	58	59	59	59	59	59	58	58	57	57	57	59	60	60	61	61	56	
June																																	
Maximum .....	61	60	62	63	64	63	63	63	63	63	65	65	65	65	64	62	62	62	62	63	65	66	67	68	68	68	68	67	66	67	68	--	65
Minimum .....	60	59	60	61	63	63	63	63	62	62	63	65	65	64	62	62	62	62	62	63	65	66	67	67	67	67	67	66	66	66	67	--	64
July																																	
Maximum .....	68	68	68	69	69	70	70	70	70	70	69	69	69	69	69	69	69	69	69	69	69	68	68	68	68	69	69	69	70	70	69	69	
Minimum .....	67	67	68	68	68	69	69	69	70	69	69	69	69	69	68	68	68	68	68	68	68	68	68	68	68	69	68	68	69	69	69	68	
August																																	
Maximum .....	70	--	--	--	--	--	--	--	--	--	68	68	68	68	--	--	--	--	--	--	--	68	68	68	68	67	67	67	67	66	67	67	--
Minimum .....	69	--	--	--	--	--	--	--	--	--	67	67	66	66	--	--	--	--	--	--	--	68	68	68	67	67	67	66	66	66	67	--	
September																																	
Maximum .....	67	67	67	67	67	67	66	66	65	65	65	65	65	64	64	64	64	62	61	60	60	60	60	60	60	61	61	61	61	61	60	--	63
Minimum .....	67	67	67	66	67	66	65	65	65	65	65	65	64	64	64	63	62	61	60	60	60	60	60	60	60	61	61	61	61	60	60	--	63



## SACRAMENTO RIVER BASIN--Continued

11-4070. FEATHER RIVER AT OROVILLE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2790	--	45	2170	10	59	4090	11	S 126
2..	2790	7	53	3470	16	150	5480	27	399
3..	2790	--	53	2730	14	103	4710	15	191
4..	2790	--	45	2350	12	76	4060	9	99
5..	2790	5	38	1900	10	51	3760	8	81
6..	2790	--	38	1880	8	41	3630	6	59
7..	2790	--	30	1210	7	23	3470	6	56
8..	2830	4	31	1060	6	17	3390	8	73
9..	2830	--	23	3000	29	S 271	3390	6	55
10..	2830	3	23	4710	43	547	3390	6	55
11..	2830	--	31	4040	20	218	6310	46	S 904
12..	2830	7	53	4570	23	284	4960	19	S 278
13..	2830	--	46	4060	15	164	4160	8	90
14..	2850	6	46	3500	8	76	3850	6	62
15..	2850	--	46	3320	8	72	3690	8	80
16..	2850	6	46	3210	8	69	3610	6	58
17..	2850	--	46	3170	9	77	3540	5	48
18..	2850	--	54	3080	8	67	3410	7	64
19..	2830	8	61	2970	14	112	4610	16	S 203
20..	2830	--	69	2950	12	96	7400	106	S 2610
21..	2830	10	76	2970	7	56	55600	1260	S 237000
22..	2830	--	69	2970	8	64	138000	1110	S 406000
23..	2830	--	61	2970	7	56	156000	1010	S 425000
24..	2830	7	53	2990	9	73	142000	746	S 287000
25..	2830	--	53	3060	7	58	84300	3830	S 711000
26..	2830	7	53	3250	8	70	60000	2460	S 401000
27..	2750	--	52	3410	10	92	59600	1010	S 165000
28..	2690	8	58	3650	9	89	36100	956	S 92700
29..	2830	--	69	3780	9	92	25500	705	S 49000
30..	2770	11	82	3560	7	67	20000	380	S 20500
31..	2170	--	59	--	--	--	16400	280	12400
Total	86610	--	1562	91960	--	3290	878410	--	2812191
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	13800	212	7900	10500	31	879	7720	27	563
2..	12500	196	6620	9730	29	762	7420	25	501
3..	16600	493	S 23300	10200	30	826	6910	17	317
4..	22100	342	S 21200	10400	26	730	6250	14	236
5..	41400	702	S 89200	12000	34	1100	6140	17	282
6..	61000	822	S 136000	13200	37	1320	6410	15	260
7..	40100	476	S 55000	12500	29	979	6170	12	200
8..	25900	201	S 13600	11000	28	832	6090	11	181
9..	20400	117	S 6500	10600	24	687	6340	9	154
10..	17000	100	4590	9540	22	567	6090	9	148
11..	16200	98	4290	8870	20	479	6390	10	173
12..	15600	90	3790	8420	22	500	6820	16	295
13..	14100	59	2250	8200	20	443	6940	12	225
14..	13600	47	1730	8140	17	374	6620	12	214
15..	12800	50	1730	7900	18	384	6480	14	245
16..	12100	39	1270	7600	18	369	6790	13	238
17..	11200	41	1240	7870	16	340	6510	15	264
18..	10700	37	1070	7510	18	365	6820	13	239
19..	10400	34	955	7060	21	400	6510	13	229
20..	10100	31	845	7390	23	459	6390	16	276
21..	10200	37	1020	7690	23	478	6510	13	229
22..	9930	40	1070	7780	19	399	6530	11	194
23..	11800	93	S 3790	7840	20	423	7120	14	269
24..	29000	324	S 26100	7750	19	398	7690	25	519
25..	21900	134	7920	6730	14	254	7570	30	613
26..	18000	115	5590	6820	14	258	7630	28	577
27..	15400	98	4070	8230	21	467	9130	42	1040
28..	13500	50	1820	8710	21	494	8490	24	550
29..	12200	34	1120	--	--	--	8020	18	390
30..	11300	34	1040	--	--	--	7870	13	276
31..	11000	33	980	--	--	--	7750	14	293
Total	561830	--	437600	250180	--	15966	216120	--	10190

S Computed by subdividing day.

## SACRAMENTO RIVER BASIN--Continued

11-4070. FEATHER RIVER AT OROVILLE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	7930	17	364	16900	54	2460	6650	13	233
2..	7960	18	387	14800	47	1880	7090	--	270
3..	7900	18	384	13300	41	1470	6790	14	257
4..	7720	17	354	12200	36	1190	6790	--	220
5..	7720	16	334	11900	--	1100	7090	8	153
6..	7810	18	380	10900	30	883	6970	--	150
7..	7660	17	352	9860	--	670	6730	9	164
8..	7870	19	404	9320	19	478	6450	--	170
9..	10500	58	1680	9000	--	410	6060	10	164
10..	9570	25	646	8930	18	434	6140	--	170
11..	8680	15	352	8930	--	410	6170	10	167
12..	8330	13	292	9060	16	391	4990	--	120
13..	8360	15	339	9290	--	380	4520	8	98
14..	8450	14	319	9250	15	375	4930	12	160
15..	8490	15	344	9290	--	350	5320	13	187
16..	23900	254	18200	9190	13	323	4960	--	160
17..	20000	117	6320	9540	--	360	5140	13	180
18..	16900	70	3190	9570	16	413	5400	--	190
19..	19900	83	4460	9290	--	430	4350	9	106
20..	21100	86	4900	9380	15	380	3990	--	75
21..	25800	283	20100	9190	--	300	4450	9	108
22..	23100	159	9920	8490	11	252	4780	--	130
23..	19900	107	5750	8170	--	290	5090	10	137
24..	18300	76	3760	7810	16	337	4930	--	120
25..	17900	65	3140	7660	--	290	4830	9	117
26..	17800	60	2880	7600	11	226	4040	--	87
27..	17900	58	2800	7720	--	270	3740	--	71
28..	17700	60	2870	7720	18	375	3800	9	92
29..	18100	66	3230	7480	--	340	4250	--	150
30..	18900	71	3620	6700	12	217	4210	14	159
31..	--	--	--	6590	--	200	--	--	--
Total	422150	--	102071	295030	--	17884	160650	--	4565
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3940	--	130	3060	--	74	2950	6	48
2..	4090	7	77	3060	--	58	2950	--	64
3..	4060	--	55	3080	--	58	2950	10	80
4..	3830	--	52	3030	9	74	2950	--	64
5..	3670	--	50	3010	--	73	2950	--	48
6..	3720	5	50	3100	8	67	2950	5	40
7..	3690	--	50	3280	--	71	3010	--	49
8..	3630	5	49	3210	--	69	3030	7	57
9..	3610	--	49	3190	8	69	2950	--	64
10..	3580	4	39	3190	--	69	2930	9	71
11..	3500	--	47	3190	--	69	2970	--	72
12..	3470	6	56	3650	--	99	2990	--	73
13..	3450	--	56	3610	10	97	2830	8	61
14..	3630	6	59	3260	--	88	2550	--	62
15..	3470	--	66	3060	--	74	2550	10	69
16..	3390	8	73	3060	8	66	2550	--	69
17..	3340	--	72	3080	--	67	2730	11	81
18..	3300	--	80	3030	7	57	3060	--	91
19..	3300	10	89	3060	--	58	3080	--	91
20..	3430	--	93	3060	8	66	2930	10	79
21..	3320	10	90	3030	--	65	2670	--	72
22..	3320	--	90	3010	--	65	2650	9	64
23..	3320	9	81	2990	7	57	2670	--	65
24..	3300	--	80	2990	--	65	2710	--	66
25..	3030	--	74	2970	8	64	2850	8	62
26..	3080	--	67	2990	--	65	2610	--	63
27..	3080	--	67	3010	7	57	2610	10	70
28..	3080	8	67	2970	--	56	2670	--	72
29..	3060	--	74	2950	--	56	3030	10	82
30..	3010	10	81	2930	7	55	3410	--	92
31..	3030	--	82	2950	5	40	--	--	--
Total	106730	--	2145	96060	--	2068	85740	--	2041

Total discharge for year (cfs-days)..... 3,251,470  
 Total load for year (tons)..... 3,411,573

S Computed by subdividing day.

## SACRAMENTO RIVER BASIN--Continued

## 11-4070. FEATHER RIVER AT OROVILLE, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 9, 1964.....	1610	54		4280	38		--	--	--	--	--	92	100	--	--	--		S
Nov. 10.....	1115	52		4960	56		--	--	--	--	--	97	100	--	--	--		S
Dec. 21.....	1000	48		34000	1630		--	--	--	--	--	38	54	77	97	100		V
Dec. 22.....	1410	48		144000	1020		--	--	--	--	--	83	91	96	99	100		V
Dec. 23.....	0945	48		158000	1120		--	--	--	--	--	97	99	100	--	--		V
Dec. 25.....	1000	49		90500	2420		8	10	19	32	57	81	99	99	100	--		VPWC
Dec. 27.....	1130	48		57300	670		8	16	26	38	54	69	95	100	--	--		VPWC
Dec. 27.....	1550	47		51500	1010		--	--	--	--	--	58	90	99	100	--		V
Jan. 1, 1965.....	1215	41		13700	212		--	--	--	--	--	84	100	--	--	--		V
Jan. 6.....	1040	45		58300	757		--	--	--	--	--	51	82	100	--	--		V
Jan. 20.....	1615	45		10400	28		--	--	--	--	--	90	98	100	--	--		V
Jan. 24.....	1350	46		30000	278		--	--	--	--	--	64	87	100	--	--		S
Apr. 17.....	1440	49		19000	101		--	--	--	--	--	76	89	99	100	--		S
May 4.....	1315	52		11900	22		--	--	--	--	--	80	95	100	--	--		S

## SACRAMENTO RIVER BASIN--Continued

11-4071.5. FEATHER RIVER NEAR GRIDLEY, CALIF.

LOCATION.--At gaging station at Oroville-Gridley county highway bridge, 2.7 miles east of Gridley, Butte County.

DRAINAGE AREA.--3,676 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

Sediment records: October 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 39°F Jan. 1, 2.

Sediment concentrations: Maximum daily, 1,340 ppm Dec. 25; minimum daily, 3 ppm Oct. 6, Dec. 7, 18.

Sediment loads: Maximum daily, 527,000 tons Dec. 23; minimum daily, (estimated) 9 tons Nov. 8.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Aver- age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	66	65	--	--	66	67	64	--	68	--	--	--	66	--	63	--	63	--	62	--	62	--	59	--	--	59	--	59	--	59	--	--	
November .....	--	55	55	55	53	--	55	--	--	53	50	50	49	48	--	47	48	46	45	--	--	46	45	48	--	47	--	--	48	--	--		
December .....	50	49	49	46	--	--	48	--	49	--	--	--	48	45	45	--	44	42	45	48	49	50	53	55	55	50	48	44	43	43	43	47	
January.....	39	39	42	45	46	46	43	43	43	44	46	46	45	44	44	44	44	45	45	45	44	48	46	45	42	41	42	44	42	41	45	44	
February.....	45	44	44	44	46	45	44	45	44	44	44	44	46	45	45	47	48	49	50	49	48	48	47	48	46	49	48	--	--	--	46		
March.....	49	49	49	47	49	49	50	51	49	48	50	48	--	51	51	50	51	51	--	53	--	53	--	51	--	50	48	48	50	49	51	50	
April.....	--	50	--	53	50	51	--	46	46	46	--	51	--	50	--	50	49	51	--	53	--	56	--	58	--	62	--	60	--	59	--	--	
May.....	--	55	--	52	52	55	--	55	--	60	--	63	--	62	--	62	--	63	--	58	--	58	--	60	--	63	--	67	--	67	--	--	
June.....	63	--	65	--	62	--	64	--	67	--	64	--	68	65	67	--	61	--	76	--	77	--	--	--	--	--	--	--	--	--	--	--	
July.....	--	79	--	73	--	73	--	78	--	84	--	76	--	81	--	72	--	76	--	76	--	76	--	77	--	72	--	76	--	72	--	--	
August.....	77	73	79	--	79	--	76	--	76	--	69	--	76	--	76	--	78	--	79	--	72	--	73	--	75	--	76	--	75	--	68	--	
September .....	--	73	--	72	--	71	--	70	--	71	--	71	--	72	--	68	--	79	--	66	--	66	--	66	--	65	--	64	--	64	--	--	

## SACRAMENTO RIVER BASIN--Continued

11-4071.5. FEATHER RIVER NEAR GRIDLEY, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2080	4	22	1930	--	26	3800	6	62
2..	2070	4	22	3110	12	106	5200	12	181
3..	2080	--	22	3000	14	113	4800	13	168
4..	2070	--	22	2390	10	65	4050	6	66
5..	2050	4	22	1730	6	28	3800	--	41
6..	2030	3	16	1580	--	21	3650	--	39
7..	2030	7	38	1060	5	14	3600	3	29
8..	2030	--	33	663	--	9	3550	--	38
9..	2080	4	22	1900	13	91	3500	4	38
10..	2100	--	23	4660	32	403	3550	--	38
11..	2100	--	23	3970	19	204	5500	21	443
12..	2070	--	22	4480	19	230	5300	18	279
13..	2080	4	22	4210	13	148	4250	7	80
14..	2090	--	23	3630	8	78	3900	4	42
15..	2200	4	24	3450	--	56	3800	--	41
16..	2090	--	40	3300	5	45	3700	4	40
17..	2120	11	63	3250	5	44	3600	4	39
18..	2100	--	45	3100	5	42	3500	3	28
19..	2110	6	34	2850	4	31	4400	7	83
20..	2100	--	45	2800	5	38	7000	20	378
21..	2190	10	59	2800	--	38	52000	1040	211000
22..	2180	--	59	2800	--	38	133000	1140	409000
23..	2190	8	47	2800	4	30	149000	1310	527000
24..	2200	--	36	2800	4	30	139000	1080	405000
25..	2190	--	30	2900	5	39	99300	1340	359000
26..	2200	5	30	3050	--	49	55600	1180	177000
27..	2130	--	29	3200	5	43	58700	951	151000
28..	2200	5	30	3550	--	67	40800	810	89200
29..	2340	8	51	3700	--	70	28700	608	47100
30..	2470	--	53	3600	5	49	21700	383	22400
31..	2110	7	40	--	--	--	18300	277	13700
Total	66080	--	1047	88263	--	2245	880550	--	2413553
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	15000	255	10300	11100	63	1890	8060	25	544
2..	13700	212	7840	11300	52	1590	7690	24	498
3..	15000	486	19700	10500	78	2210	7270	19	373
4..	20000	850	45900	10100	71	1940	6720	14	254
5..	35000	843	79700	11100	102	3160	6510	15	264
6..	54100	1020	149000	13500	121	4410	6780	15	275
7..	44200	484	57800	13200	64	2280	6510	14	246
8..	30300	266	21800	10900	52	1530	6170	13	217
9..	23100	182	11400	10200	118	3250	6530	13	229
10..	18700	131	6610	8940	76	1830	6240	12	202
11..	16800	119	5400	8410	58	1320	6400	12	207
12..	16100	103	4480	8030	40	867	6850	14	259
13..	14600	105	4140	7800	42	885	6850	--	260
14..	13700	103	3810	7710	30	625	6590	12	214
15..	13300	100	3590	7550	33	673	6340	12	205
16..	12700	89	3050	7290	27	531	6470	13	227
17..	11700	90	2800	7290	25	492	6220	20	336
18..	10700	89	2570	7330	41	811	6510	15	264
19..	10300	76	2110	7100	28	537	6090	--	230
20..	10300	65	1810	6850	26	481	5970	14	226
21..	9760	59	1550	7370	27	537	6200	--	220
22..	9290	55	1380	7300	25	493	6110	10	165
23..	10100	58	1650	7640	21	433	6780	--	260
24..	26600	283	21300	8000	19	410	7300	24	473
25..	23200	225	14200	7140	17	328	7380	--	520
26..	19300	133	6930	7220	17	331	7420	30	601
27..	16600	99	4440	7840	25	529	8620	49	1140
28..	14600	94	3710	8710	30	706	8410	26	590
29..	13300	79	2800	--	--	--	7820	19	401
30..	12000	58	1880	--	--	--	7660	20	414
31..	10800	73	2130	--	--	--	7550	17	347
Total	564350	--	505780	247420	--	35079	214040	--	10661

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

11-4071.5, FEATHER RIVER NEAR GRIDLEY, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	7720	--	350	15900	--	3100	4390	12	142
2..	7750	18	377	14200	65	2490	4930	--	160
3..	7640	--	350	12800	--	2100	4630	10	125
4..	7450	--	280	10500	51	1450	4550	--	120
5..	7390	16	319	9480	33	845	4920	11	146
6..	7340	19	377	8340	27	608	4860	--	210
7..	7130	--	370	7440	--	460	4740	23	294
8..	7120	--	400	6780	20	366	4490	--	350
9..	9860	69	1950	6410	--	360	4100	30	332
10..	9500	44	1130	6280	25	424	4020	--	260
11..	8140	--	550	6210	--	500	4100	17	188
12..	7670	19	373	6310	36	613	3180	--	120
13..	7620	--	350	6610	--	660	2450	13	86
14..	7710	37	770	6640	--	590	2550	10	69
15..	7750	--	860	6680	--	510	3240	16	140
16..	19500	540	S 32900	6670	23	414	2930	--	95
17..	20800	334	S 20200	6910	--	350	3010	13	106
18..	16800	91	4130	7080	17	325	3260	--	120
19..	19100	--	8000	6820	--	260	2610	9	63
20..	20500	166	9190	6850	12	222	2000	--	38
21..	24300	560	K 38000	6810	--	180	2110	8	46
22..	23600	285	18200	6280	10	170	2580	--	63
23..	20600	--	8000	5900	--	160	2920	--	95
24..	18600	116	5830	5490	12	178	2800	--	91
25..	17900	--	4600	5370	--	190	2660	--	65
26..	17500	86	4060	5350	11	159	2050	--	33
27..	17500	--	3600	5430	--	150	1650	--	27
28..	16900	69	3150	5440	10	147	1570	--	25
29..	16800	--	2900	5370	--	140	1950	--	32
30..	17200	81	3760	4580	11	136	1960	--	32
31..	--	--	--	4430	--	130	--	--	--
Total	405390	--	175346	225360	--	18387	97210	--	3673
	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1910	--	31	1050	8	23	1370	--	15
2..	1820	6	29	1030	7	19	1380	4	15
3..	2060	--	28	1070	8	23	1370	--	18
4..	1860	4	20	1080	--	29	1360	5	18
5..	1620	--	17	1070	7	20	1390	--	19
6..	1580	4	17	1100	--	12	1420	5	19
7..	1620	--	17	1260	5	17	1480	--	20
8..	1580	4	17	1230	--	17	1590	7	30
9..	1450	--	16	1250	5	17	1570	--	30
10..	1460	4	16	1270	--	17	1540	6	25
11..	1370	--	18	1320	7	25	1570	--	21
12..	1320	5	18	1630	--	40	1620	5	22
13..	1290	--	17	1800	6	29	1590	--	21
14..	1360	7	26	1650	--	22	1380	5	19
15..	1350	--	26	1450	5	20	1490	--	20
16..	1180	5	16	1410	--	19	1480	7	28
17..	1190	--	16	1390	--	19	1640	--	40
18..	1150	5	16	1410	--	19	2070	11	61
19..	1140	--	15	1450	5	20	2140	--	58
20..	1290	5	17	1430	--	19	2160	8	47
21..	1250	--	17	1420	4	15	1940	--	37
22..	1240	6	20	1400	--	15	1960	7	37
23..	1280	--	21	1390	5	19	2010	--	38
24..	1260	6	20	1380	--	22	2030	8	44
25..	1090	--	15	1360	7	26	2200	--	53
26..	965	5	13	1360	--	26	2060	8	44
27..	1040	--	14	1370	4	15	1990	--	32
28..	1000	5	14	1340	--	14	2170	5	29
29..	988	--	13	1310	5	18	2350	--	32
30..	989	6	16	1290	--	17	2800	11	83
31..	1020	--	19	1340	4	14	--	--	--
Total	41662	--	575	41310	--	627	53120	--	975

Total discharge for year (cfs-days)..... 2,925,255  
 Total load for year (tons)..... 3,167,948

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

## 11-4071.5. FEATHER RIVER NEAR GRIDLEY, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 6, 1964.....	1310	67		2040	3		--	--	--	--	--	81	89	93	100	--		S
Nov. 5.....	1015	53		1690	5		--	--	--	--	--	98	98	100	--	--		S
Nov. 10.....	1330	53		4730	30		--	--	--	--	--	87	95	100	--	--		S
Dec. 2.....	1345	47		5330	16		--	--	--	--	--	84	92	98	100	--		S
Dec. 26.....	1620	50		51800	1230		5	8	16	26	45	65	90	97	100	--		VPN
Dec. 26.....	1620	50		51800	1230		8	12	21	31	46	65	90	97	100	--		VPWC
Jan. 5, 1965.....	1305	46		30500	513		--	--	--	--	--	39	56	75	100	--		V
Feb. 2.....	1220	44		10800	56		--	--	--	--	--	43	53	64	73	100		S
Mar. 4.....	1345	47		6450	14		--	--	--	--	--	75	91	100	--	--		S
Apr. 5.....	1400	50		7450	22		--	--	--	--	--	59	67	75	92	100		S
May 5.....	1245	52		9800	34		--	--	--	--	--	71	86	98	99	100		S

Particle-size analyses of bed material, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

F, pipet, S, sieve, V, visual accumulation tube; W, in distilled water)																	
Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Bed material										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.062	0.125	0.25	0.50	1.0	2.0	4.0	8.0	16.0	32.0	
Oct. 6, 1964.....	1310		4	2040			4	9	34	84	100	--	--				S
Nov. 5.....	1015		4	1690			3	9	37	75	98	100	--				S
Nov. 10.....	1330		2	4730			2	8	35	86	99	100	--				S
Dec. 2.....	1345		4	5330			3	8	37	77	99	100	--				S
Jan. 5, 1965.....	1305		4	30500			--	--	14	94	100	--	--				S
Feb. 2.....	1220		4	10800			--	--	3	34	84	98	100				S
Mar. 4.....	1345		3	6450			--	--	6	51	93	100	--				S
Apr. 5.....	1400		4	7450			--	--	8	47	90	99	100				S
May 5.....	1245		4	9800			--	1	6	41	94	99	100				S

## SACRAMENTO RIVER BASIN--Continued

11-4090. MIDDLE YUBA RIVER ABOVE OREGON CREEK, NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank 1,000 feet upstream from Oregon Creek, and 2 miles northeast of

North San Juan, Nevada County.

DRAINAGE AREA.--162 square miles.

RECORDS AVAILABLE.--Water temperatures: February to September 1965.

EXTREMES, February to September 1965.--Water temperatures: Maximum, 79°F July 16, 18, Aug. 5, 6.

REMARKS.--Clock stopped Sept. 1-19.

## Temperature (°F) of water, February to September 1965

Temperature (°F) of water, February to September 1963																																	
Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
December																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
January																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
February																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46	46	47	46	44	45	45	46	47	45	--	--	--	--	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	44	45	44	42	42	43	43	45	42	--	--	--	--	--	
March																																	
Maximum ....	45	45	46	47	48	47	48	48	48	49	49	48	48	48	49	47	48	48	48	49	51	52	51	50	48	47	46	49	50	50	49	48	
Minimum ....	42	42	42	44	45	45	44	45	45	46	45	46	45	44	44	45	44	44	44	44	46	47	48	47	46	46	44	43	45	47	48	45	
April																																	
Maximum ....	50	48	49	51	50	48	47	46	45	44	49	50	49	48	48	48	49	49	53	50	51	53	55	54	55	55	55	54	54	--	50	50	
Minimum ....	47	46	45	46	48	46	45	45	42	42	43	45	46	46	47	47	48	48	48	49	48	47	47	49	49	48	49	50	49	49	--	47	
May																																	
Maximum ....	53	49	51	53	53	51	51	54	54	57	56	56	56	56	57	56	56	54	56	53	52	57	57	59	60	61	61	61	61	59	56	56	
Minimum ....	47	46	44	47	47	45	44	46	47	48	49	49	50	49	50	50	51	52	50	50	49	50	51	53	54	55	54	55	54	55	54	50	
June																																	
Maximum ....	59	59	61	62	62	62	61	59	62	65	65	64	60	58	61	60	57	65	68	68	70	69	72	72	66	67	68	70	70	71	--	64	
Minimum ....	53	54	55	56	57	56	56	57	55	58	60	58	57	55	53	55	56	55	59	61	62	64	64	65	61	59	60	61	62	63	--	58	
July																																	
Maximum ....	71	74	75	76	77	77	76	77	76	74	74	74	75	76	77	79	78	79	78	76	76	77	77	75	75	76	75	76	72	77	76	76	
Minimum ....	63	64	66	66	67	67	67	67	67	65	65	64	66	66	67	69	70	71	70	67	67	66	68	68	70	69	66	67	67	69	68	67	
August																																	
Maximum ....	78	78	78	78	79	79	78	77	77	75	72	74	75	77	76	77	76	76	75	75	74	74	74	72	72	70	72	72	72	72	72	75	
Minimum ....	70	70	70	70	70	71	71	70	69	72	69	68	67	71	70	71	71	68	69	68	68	68	67	67	66	66	65	66	66	67	67	69	
September																																	
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60	62	63	64	64	63	63	61	60	59	60	--	--		
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	56	57	58	59	60	60	60	57	56	56	56	--	--		



## SACRAMENTO RIVER BASIN--Continued

11-4095. OREGON CREEK NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Temperature recorder at gaging station on right bank 0.7 mile upstream from mouth, and 2.7 miles northeast of North San Juan, Nevada County.

DRAINAGE AREA.--34.4 square miles.

RECORDS AVAILABLE.--Water temperatures: February to September 1965.

EXTREMES, February to September 1965.--Water temperatures: Maximum, 77°F on several days during July and August.

REMARKS.--Clock stopped Feb. 25 to Mar. 8.

Temperature (°F) of water, February to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
December																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
January																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
February																				48	48	49	48	46	47	--	--	--	--	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	44	46	44	42	42	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	45	46	44	42	42	--	--	--	--	--	--	--	
March																																	
Maximum .....	--	--	--	--	--	--	--	--	49	50	50	47	47	49	50	48	50	50	50	52	53	54	54	50	50	47	46	49	50	50	50	--	
Minimum .....	--	--	--	--	--	--	--	--	45	46	45	44	43	42	43	45	46	44	44	45	46	48	48	47	47	44	45	43	44	46	48	--	
April																																	
Maximum .....	51	48	50	52	51	48	47	46	45	44	50	51	48	48	49	48	49	50	54	52	52	54	55	57	56	57	57	58	57	57	--	51	
Minimum .....	47	46	45	46	47	46	45	45	42	42	43	45	47	46	47	46	45	48	49	50	50	49	48	50	50	50	51	53	52	52	--	47	
May																																	
Maximum .....	54	51	53	56	55	52	52	56	56	58	60	61	62	62	63	64	65	65	62	62	57	57	62	62	64	66	67	69	69	69	65	61	
Minimum .....	50	48	45	49	50	47	46	48	50	50	52	53	54	54	54	56	57	58	58	57	55	54	52	53	54	56	57	58	58	59	58	53	
June																																	
Maximum .....	65	68	70	72	72	72	69	64	68	72	74	72	67	63	67	65	61	68	72	74	75	73	75	74	71	69	71	72	73	73	--	70	
Minimum .....	57	58	59	61	64	62	60	59	57	60	64	63	60	58	56	57	59	56	60	63	64	65	64	65	64	65	63	59	59	60	61	62	60
July																																	
Maximum .....	73	75	76	77	77	76	75	75	75	73	73	73	74	74	75	77	77	77	76	73	74	75	76	76	74	74	74	74	74	70	76	75	
Minimum .....	61	63	64	64	64	64	64	63	63	61	61	60	62	62	63	66	66	67	65	62	63	63	64	65	66	65	63	62	63	65	66	64	
August																																	
Maximum .....	77	76	76	76	77	77	76	76	75	72	69	72	74	75	76	76	74	76	76	74	73	73	73	72	72	68	71	71	72	71	71	74	
Minimum .....	67	66	65	66	66	67	66	64	64	68	66	65	63	66	67	68	68	68	67	65	65	64	64	63	62	63	61	62	62	63	63	65	
September																																	
Maximum .....	72	71	71	69	68	65	68	68	68	68	67	66	66	66	67	65	61	61	60	61	63	64	65	66	65	63	62	60	59	61	--	65	
Minimum .....	64	63	63	61	60	60	60	59	60	60	59	58	58	58	60	59	55	54	52	53	54	56	57	58	59	57	57	53	52	53	--	58	

## SACRAMENTO RIVER BASIN--Continued

11-4175. SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank at Jones Bar, 100 feet upstream from Rush Creek, 0.9 mile downstream from bridge on State Highway 49, and 5 miles northwest of Grass Valley, Nevada County.

DRAINAGE AREA.--310 square miles.

RECORDS AVAILABLE.--Water temperatures: February to September 1965.

EXTREMES, February to September 1965.--Water temperatures: Maximum, 77°F July 16-19.

Temperature (°F) of water, February to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	45	45	46	46	44	43	44	44	46	45	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42	43	44	44	44	42	41	42	43	44	43	--	--	--	--
March																																
Maximum ....	44	44	45	46	48	48	49	49	48	49	49	49	48	49	49	49	49	49	49	50	51	52	53	53	52	49	48	48	48	50	51	49
Minimum ....	42	42	43	44	46	47	46	46	47	47	47	48	46	46	46	47	47	46	46	47	48	50	50	49	48	47	45	44	47	49	50	47
April																																
Maximum ....	51	50	49	51	51	48	46	46	46	44	46	48	48	47	50	50	48	50	52	52	50	50	51	53	53	54	55	55	54	53	--	50
Minimum ....	49	49	47	47	48	46	45	45	42	42	43	45	46	46	47	46	45	47	47	50	48	46	46	49	50	50	51	52	50	48	--	47
May																																
Maximum ....	51	50	49	51	51	48	48	51	52	52	53	54	54	54	55	56	55	55	54	53	52	50	54	54	55	57	58	58	58	58	57	53
Minimum ....	46	46	44	46	47	44	44	46	48	48	49	50	50	49	50	50	50	50	50	49	49	48	49	50	50	53	54	54	52	52	53	49
June																																
Maximum ....	56	58	61	62	62	61	60	60	61	64	64	63	61	58	59	60	58	62	63	67	66	66	67	68	66	65	66	68	69	69	--	63
Minimum ....	51	53	56	58	60	56	55	56	56	60	61	57	55	56	55	57	56	55	58	62	64	64	62	65	64	60	60	62	63	64	--	59
July																																
Maximum ....	70	72	74	74	75	75	74	74	73	72	72	71	73	73	75	77	77	77	76	74	74	74	74	75	74	74	73	73	73	71	74	74
Minimum ....	64	66	68	68	69	69	68	68	68	66	66	65	66	67	68	70	71	72	71	68	68	67	68	68	70	69	67	66	67	68	68	68
August																																
Maximum ....	76	76	75	76	76	77	76	75	75	73	72	70	71	72	73	72	72	73	72	71	71	70	70	71	71	70	71	71	72	72	72	73
Minimum ....	70	70	69	70	69	70	70	68	68	71	70	69	66	69	69	70	70	69	69	69	67	67	64	66	66	66	65	66	66	66	66	68
September																																
Maximum ....	72	72	71	69	67	65	65	66	66	66	65	64	64	64	65	63	59	58	57	58	59	61	62	63	64	63	60	60	58	59	--	64
Minimum ....	67	67	67	64	63	62	61	61	62	62	61	60	59	59	60	56	55	53	53	53	55	56	58	59	60	60	59	56	55	55	--	59

## SACRAMENTO RIVER BASIN--Continued

11-4210. YUBA RIVER NEAR MARYSVILLE, CALIF.

LOCATION.--Temperature recorder at gaging station in New Helvetia Grant on left bank, 4.2 miles northeast of Marysville, Yuba County, and 5 miles downstream from Dry Creek.

DRAINAGE AREA.--1,340 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1963 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 80°F Aug. 5, 6, 17, 18; minimum, 43°F on several days during January and February.

EXTREMES, 1963-65.--Water temperatures: Maximum, 85°F July 24, 25, 1964; minimum, 43°F on several days during January and February in 1964 and 1965.

REMARKS.--Clock stopped Apr. 1-4.

Temperature (°F) of water, water year October 1964 to September 1965																																	
Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	71	72	72	72	73	73	72	71	71	71	71	71	68	68	69	69	66	68	68	68	68	68	66	65	64	66	65	64	64	66	65	69	
Minimum ....	67	67	68	68	69	70	69	66	66	67	66	67	66	64	65	66	64	64	64	64	64	64	64	63	63	62	64	63	63	62	62	65	
November																																	
Maximum ....	64	62	63	63	63	62	62	62	61	60	56	57	58	56	56	54	54	54	54	54	55	55	54	55	55	55	53	53	54	54	--	57	
Minimum ....	61	60	60	60	60	59	60	61	60	56	56	56	54	53	51	50	52	50	50	50	50	52	52	52	54	53	51	52	52	52	--	55	
December																																	
Maximum ....	54	54	54	53	53	52	54	54	54	54	54	52	50	50	51	50	49	48	52	52	50	51	51	51	51	50	50	49	48	47	46	51	
Minimum ....	52	53	51	50	51	50	52	52	52	52	52	48	47	49	50	49	48	48	48	50	48	50	51	51	50	50	49	48	47	46	44	50	
January																																	
Maximum ....	44	44	44	43	44	46	46	46	46	45	45	45	46	45	45	45	46	45	45	45	46	46	46	46	46	45	45	45	45	44	44	45	
Minimum ....	43	43	43	43	43	44	45	44	45	45	45	44	44	45	45	45	44	44	45	45	45	45	46	45	45	45	45	45	44	44	44	44	
February																																	
Maximum ....	45	45	45	45	46	46	46	46	46	46	45	45	44	45	45	44	44	45	45	45	46	46	46	46	45	45	45	46	46	--	--	--	45
Minimum ....	44	44	45	45	45	45	45	45	44	44	44	43	43	43	43	43	43	44	44	44	45	45	45	44	45	45	45	45	45	--	--	--	44
March																																	
Maximum ....	45	46	46	46	46	46	47	47	47	47	48	48	48	48	48	48	49	49	49	50	52	53	52	50	51	51	50	50	50	50	50	49	
Minimum ....	45	45	45	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	47	46	47	48	48	48	49	49	49	48	49	49	49	47	
April																																	
Maximum ....	--	--	--	--	50	50	50	50	49	49	49	50	49	49	49	49	48	49	49	49	51	52	53	53	53	53	53	54	54	54	--	51	
Minimum ....	--	--	--	--	49	49	48	49	48	48	48	48	48	48	48	47	47	48	48	48	49	51	52	52	52	52	53	53	53	53	--	50	
May																																	
Maximum ....	54	55	55	55	55	55	56	58	59	60	59	59	57	56	56	56	56	57	57	58	59	60	61	61	62	63	62	63	62	62	61	58	
Minimum ....	54	54	54	54	53	53	53	53	53	54	54	53	55	55	55	56	56	56	56	57	57	56	56	56	55	55	56	55	56	57	57	55	
June																																	
Maximum ....	62	63	63	63	64	64	64	63	65	67	68	68	67	66	67	67	63	68	69	70	70	70	71	71	69	70	71	72	72	71	--	67	
Minimum ....	57	57	57	58	59	59	59	59	59	59	60	61	61	62	61	60	61	61	61	62	62	62	63	63	63	62	62	63	64	64	64	--	61
July																																	
Maximum ....	72	73	73	74	75	74	74	74	73	73	73	74	75	75	77	77	76	76	75	74	75	77	77	77	77	77	73	76	76	78	78	75	
Minimum ....	64	66	66	67	67	67	67	68	68	66	67	68	68	69	71	72	72	71	71	68	69	71	72	72	72	72	69	70	71	73	72	71	69
August																																	
Maximum ....	79	79	79	79	80	80	79	79	79	79	77	78	79	79	79	79	80	80	79	78	78	78	77	77	78	78	78	78	78	78	78	79	
Minimum ....	75	75	74	75	75	75	74	74	75	75	72	71	73	75	74	74	75	75	74	73	74	74	73	73	73	74	73	74	74	74	73	74	
September																																	
Maximum ....	77	77	77	76	76	75	75	76	75	75	75	74	74	74	74	74	69	70	70	70	71	72	72	72	72	71	70	68	68	69	--	73	
Minimum ....	72	72	72	71	71	70	70	71	70	70	70	69	69	69	69	69	63	64	65	65	66	67	67	67	67	66	66	64	65	65	--	68	

## SACRAMENTO RIVER BASIN--Continued

11-4217. FEATHER RIVER BELOW SHANGHAI BEND, NEAR YUBA CITY, CALIF.

LOCATION.--At gaging station north of Barry Road, approximately 3 miles west of Olivehurst, and 5 miles south of Yuba City, Sutter County.

DRAINAGE AREA.--5,337 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--Records of discharge furnished by California State Department of Water Resources.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	2430	---	---	---	---	5.0	---	70	0	---	1.5	---	---	0.0	---	---	---	52	0	0.3	120	7.9
Nov. 20.....	3550	---	---	---	---	5.0	---	48	0	---	1.4	---	---	.1	---	---	---	50	11	.3	122	8.0
Dec. 11.....	4320	---	---	---	---	4.7	---	62	0	---	1.3	---	---	.0	---	---	---	46	0	.3	113	7.9
Jan. 8, 1965.....	59100	---	---	---	---	2.4	---	30	0	---	.6	---	---	.0	---	---	---	25	0	.2	62	7.6
Feb. 5.....	16100	---	---	---	---	3.3	---	42	0	---	1.2	---	---	.0	---	---	---	34	0	.2	82	7.9
Mar. 15.....	9020	---	---	---	---	3.4	---	45	0	---	1.2	---	---	.0	---	---	---	37	0	.2	87	7.5
Apr. 9.....	12700	---	---	---	---	3.5	---	42	0	---	1.0	---	---	.0	---	---	---	34	0	.3	81	7.6
May 14.....	13000	14	---	7.8	2.1	2.6	0.2	35	0	3.0	.7	---	0.4	.0	51	0.07	---	28	0	.2	68	7.7
June 18.....	5740	---	---	---	---	3.7	---	42	0	---	.9	---	---	.0	---	---	---	34	0	.3	80	8.0
July 16.....	1700	---	---	---	---	4.6	---	58	0	---	1.6	---	---	.0	---	---	---	47	0	.3	109	8.2
Aug. 13.....	2360	---	---	---	---	4.7	---	61	0	---	1.4	---	---	.0	---	---	---	47	0	.3	111	8.2
Sept. 17.....	2220	15	---	14	3.2	4.5	1.1	64	0	4.0	1.5	---	.4	.0	76	.10	---	48	0	.3	118	8.0

## SACRAMENTO RIVER BASIN--Continued

11-4240. BEAR RIVER NEAR WHEATLAND, CALIF.

LOCATION.--Near gaging station at bridge on U.S. Highway 99E, 1 mile southeast of Wheatland, Yuba County, and 6.5 miles downstream from Rock Creek.

DRAINAGE AREA.--292 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	11	--	--	--	--	6.6	--	124	0	--	6.8	--	--	0.0	--	--	--	126	24	0.3	269	8.2
Nov. 13.....	18	--	--	--	--	5.3	--	92	0	--	4.8	--	--	.1	--	--	--	84	9	.3	197	8.0
Dec. 11.....	3.1	--	--	--	--	7.0	--	124	2	--	7.9	--	--	.0	--	--	--	140	35	.3	326	8.3
Jan. 8, 1965.....	5550	--	--	--	--	2.3	--	27	0	--	1.2	--	--	.0	--	--	--	28	6	.2	70	7.5
Feb. 5.....	1040	--	--	--	--	2.3	--	26	0	--	1.3	--	--	.0	--	--	--	26	5	.2	65	7.6
Mar. 5.....	770	--	--	--	--	2.5	--	28	0	--	1.7	--	--	.0	--	--	--	28	5	.2	69	7.8
Apr. 13.....	1190	--	--	--	--	2.7	--	30	0	--	2.0	--	--	.0	--	--	--	30	5	.2	77	7.7
May 7.....	64	12	--	9.6	4.9	3.3	0.5	42	0	11	2.6	--	0.2	.0	A 65	0.09	--	44	10	.2	100	7.8
June 18.....	25	--	--	--	--	4.9	--	70	2	--	4.8	--	--	.0	--	--	--	80	19	.2	170	8.5
July 16.....	14	--	--	--	--	5.6	--	102	2	--	6.6	--	--	.0	--	--	--	111	24	.2	242	8.3
Aug. 13.....	26	--	--	--	--	4.8	--	78	1	--	4.3	--	--	.0	--	--	--	80	14	.2	181	8.3
Sept. 17.....	15	24	--	32	9.2	10	.6	117	0	27	14	--	.0	.0	180	.24	--	118	22	.4	281	7.8

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

## 11-4250. FEATHER RIVER AT NICOLAUS, CALIF.

LOCATION.--At gaging station at Nicolaus, Sutter County, at highway bridge, and 2.9 miles downstream from Bear River.

DRAINAGE AREA (revised).--5,923 square miles.

RECORDS AVAILABLE.--Chemical analyses: March 1951 to September 1965.

Water temperatures: March 1951 to September 1958, November 1959 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 80°F Aug. 5, 6; minimum, 42°F Jan. 2, 3.

EXTREMES, 1951-58, 1959-65.--Water temperatures: Maximum, 94°F July 21, 1961; minimum, freezing point Jan. 3-6, 1961.

## Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 9, 1964.....	2600	--	--	--	--	5.1	--	70	0	--	1.5	--	--	0.0	--	--	--	52	0	0.3	120	8.2
Nov. 13.....	3710	--	--	--	--	5.3	--	60	0	--	2.6	--	--	.1	--	--	--	49	0	.3	122	7.8
Dec. 11.....	4260	--	--	--	--	4.9	--	64	0	--	1.1	--	--	.0	--	--	--	49	0	.3	116	7.9
Jan. 8, 1965.....	79500	--	--	--	--	3.2	--	28	0	--	1.2	--	--	.1	--	--	--	28	5	.3	72	7.3
Feb. 5.....	17400	--	--	--	--	3.1	--	39	0	--	1.4	--	--	.0	--	--	--	33	1	.2	80	7.8
Mar. 5.....	9640	--	--	--	--	3.4	--	44	0	--	1.4	--	--	.0	--	--	--	36	0	.3	88	7.9
Apr. 9.....	12000	--	--	--	--	3.6	--	42	0	--	1.0	--	--	.0	--	--	--	34	0	.3	82	7.6
May 7.....	13300	16	--	8.4	2.1	2.8	0.6	34	0	7.0	.9	--	0.1	.0	A 55	0.07	--	30	2	.2	71	7.6
June 18.....	5720	--	--	--	--	3.6	--	44	0	--	.9	--	--	.0	--	--	--	35	0	.3	83	8.0
July 16.....	1990	--	--	--	--	4.6	--	60	0	--	1.8	--	--	.0	--	--	--	48	0	.3	112	8.2
Aug. 13.....	2380	--	--	--	--	5.0	--	62	0	--	1.5	--	--	.0	--	--	--	48	0	.3	115	8.0
Sept. 17.....	2140	12	--	16	2.4	4.6	1.1	65	0	5.0	1.6	--	.2	.0	76	.10	--	50	0	.3	117	8.0

A Calculated from sum of determined constituents.

## SACRAMENTO RIVER BASIN--Continued

11-4250. FEATHER RIVER AT NICOLAUS, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	69	70	70	70	71	71	71	69	68	68	68	68	67	65	66	66	65	64	64	64	64	63	63	62	61	60	60	60	59	60	60	65	
Minimum .....	66	65	66	66	67	67	66	65	65	65	65	65	62	62	62	62	61	60	60	60	60	60	60	58	58	58	58	58	58	58	58	62	
November																																	
Maximum .....	60	58	57	58	58	58	58	57	58	58	54	52	50	50	48	46	44	44	44	44	46	48	48	48	48	49	49	48	49	49	--	52	
Minimum .....	58	56	55	55	55	55	55	56	57	54	52	51	50	48	46	44	44	44	44	44	46	46	46	46	48	48	47	47	47	48	--	50	
December																																	
Maximum .....	49	50	50	48	48	47	47	48	48	50	50	50	46	45	45	45	44	43	46	48	49	50	51	51	51	51	51	50	47	45	44	48	
Minimum .....	48	48	48	47	46	46	46	47	47	48	49	46	44	44	44	44	43	43	43	43	46	48	49	50	51	51	51	50	47	45	44	47	
January																																	
Maximum .....	44	43	43	46	48	49	48	47	46	46	46	46	46	46	45	45	45	45	45	46	46	47	47	47	47	46	44	44	44	44	45	46	
Minimum .....	43	42	42	43	46	48	47	46	45	45	46	46	46	45	45	45	44	44	45	45	46	47	47	47	46	44	43	43	43	44	44	45	
February																																	
Maximum .....	45	45	45	45	46	47	46	46	45	45	44	44	43	44	44	45	46	46	47	47	48	48	47	47	47	47	47	48	47	--	--	46	
Minimum .....	44	44	44	44	45	46	45	45	44	44	43	42	42	42	43	43	44	44	45	46	46	46	46	46	46	46	46	46	--	--	--	45	
March																																	
Maximum .....	48	48	48	48	48	49	50	50	50	50	49	48	49	50	50	50	50	51	52	52	52	53	52	52	52	51	50	50	50	51	50	50	
Minimum .....	46	46	46	46	47	48	48	48	49	48	47	48	46	48	48	48	48	48	48	49	49	50	50	50	49	50	49	48	48	49	50	48	
April																																	
Maximum .....	52	51	52	53	52	50	50	49	48	47	49	51	50	50	50	51	50	50	50	52	52	54	53	54	55	56	57	57	57	57	--	52	
Minimum .....	49	50	50	50	50	49	49	48	47	46	47	48	50	49	50	50	49	50	50	52	52	52	52	52	53	54	56	56	56	56	--	51	
May																																	
Maximum .....	56	55	54	54	54	54	55	56	57	58	58	58	58	58	59	60	60	60	59	58	58	59	59	59	60	61	62	63	64	63	58		
Minimum .....	55	54	53	53	53	52	52	53	53	54	55	56	56	56	57	58	59	58	58	57	57	57	57	56	57	58	59	60	61	63	61	56	
June																																	
Maximum .....	62	64	64	65	65	65	65	64	65	67	67	67	68	67	67	67	67	66	68	70	71	70	70	70	69	69	71	73	74	74	--	68	
Minimum .....	60	62	62	62	63	63	63	63	62	64	65	65	65	66	64	65	65	63	64	66	66	66	66	66	66	65	65	66	68	71	69	--	65
July																																	
Maximum .....	72	74	76	77	78	78	75	75	75	74	73	74	76	77	79	79	78	77	76	74	73	76	77	78	76	73	74	75	76	75	75	76	
Minimum .....	68	70	72	72	74	74	73	74	74	72	72	72	73	74	76	77	77	76	74	72	72	73	74	75	73	72	72	72	74	74	73	73	
August																																	
Maximum .....	78	78	78	79	80	80	79	78	78	78	76	75	75	76	76	76	77	77	76	75	75	75	74	74	74	75	76	76	76	76	75	76	
Minimum .....	75	75	76	76	77	77	77	76	76	76	74	72	73	75	75	75	76	76	75	74	74	74	73	72	72	74	74	74	74	74	73	75	
September																																	
Maximum .....	73	72	72	72	71	70	68	69	70	71	70	70	70	70	71	71	68	63	64	65	65	66	67	68	68	66	66	66	64	64	--	68	
Minimum .....	72	71	71	70	70	68	67	67	68	70	69	68	68	69	70	68	62	61	62	63	63	64	65	66	65	64	63	62	62	62	--	66	

## SACRAMENTO RIVER BASIN--Continued

11-4270. NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank 50 feet upstream from spillway of North Fork Dam, Placer County, 2 miles upstream from Middle Fork, and 4 miles northeast of Auburn.

DRAINAGE AREA.--343 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1959 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 78°F July 18, 19, Aug. 16, 18; minimum, 44°F Feb. 16-18.

EXTREMES, 1959-65.--Water temperatures: Maximum, 80°F Aug. 10-14, 1961, July 29, 30, 1964; minimum, 43°F Jan. 6-9, 1961, on several days during January and February 1964.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	66	66	66	66	66	67	67	67	67	67	67	67	67	66	67	67	67	67	66	66	66	66	66	65	65	65	65	65	65	64	64	63	66
Minimum .....	66	66	66	66	66	66	67	67	67	67	66	66	66	66	66	67	67	66	66	66	66	66	65	65	65	65	65	65	64	64	63	63	66
November																																	
Maximum .....	63	62	62	62	61	60	60	60	60	59	58	57	55	55	54	54	53	53	52	52	51	51	51	51	51	51	50	50	50	50	--	55	
Minimum .....	62	62	62	61	60	60	60	60	59	58	57	55	55	54	54	53	53	52	52	51	51	51	51	51	51	50	50	50	50	50	--	55	
December																																	
Maximum .....	50	50	50	50	50	50	50	50	50	50	50	50	50	49	49	49	49	48	47	49	50	50	50	50	50	50	50	50	50	49	50	50	
Minimum .....	50	50	50	50	50	50	50	50	50	50	49	49	50	49	49	49	49	48	47	46	47	49	50	50	50	50	50	50	50	49	48	49	
January																																	
Maximum .....	48	48	48	48	49	50	50	50	50	49	49	49	49	49	49	48	48	48	48	48	48	48	48	48	48	48	48	47	47	47	47	48	
Minimum .....	48	48	47	47	48	49	50	50	49	49	49	49	49	49	48	48	48	48	48	48	48	48	48	48	48	48	47	47	47	47	47	48	
February																																	
Maximum .....	47	47	47	47	47	47	47	47	47	47	47	46	46	46	45	45	44	45	45	45	46	46	46	46	46	46	46	46	46	--	--	46	
Minimum .....	47	47	47	47	47	47	47	47	47	47	46	46	46	45	45	44	44	44	45	45	45	46	46	46	46	46	46	46	45	--	--	46	
March																																	
Maximum .....	46	46	45	46	47	47	47	47	48	48	48	49	49	49	49	49	49	49	49	50	50	51	51	51	51	51	51	51	51	51	52	49	
Minimum .....	45	45	45	45	46	47	47	47	47	48	48	48	49	49	49	49	49	49	49	49	50	50	51	51	51	51	51	51	51	51	51	49	
April																																	
Maximum .....	53	53	52	53	52	53	52	52	51	50	50	51	51	52	52	51	51	52	52	53	53	53	53	54	55	56	56	57	56	56	--	53	
Minimum .....	51	51	51	52	52	52	52	51	50	50	48	49	50	51	51	51	50	50	51	52	52	51	52	52	52	54	54	55	54	54	--	52	
May																																	
Maximum .....	55	54	53	54	53	54	53	53	53	54	55	55	56	55	56	57	57	58	58	56	56	55	55	55	55	56	58	59	60	61	61	56	
Minimum .....	54	53	51	51	52	53	50	50	52	53	54	54	55	55	55	55	55	55	55	55	54	53	53	53	55	56	57	57	58	58	58	54	
June																																	
Maximum .....	59	58	59	60	61	61	61	61	59	62	63	64	65	65	62	63	63	61	63	65	67	67	67	68	67	67	67	69	68	69	--	64	
Minimum .....	57	56	57	59	60	59	59	59	57	59	62	62	63	60	60	60	61	59	59	63	65	67	67	65	67	66	66	66	67	68	--	62	
July																																	
Maximum .....	70	72	73	74	75	75	75	75	75	74	74	74	73	74	74	73	77	78	78	77	76	76	76	76	76	76	76	76	75	75	75	75	
Minimum .....	68	70	71	73	73	74	74	74	73	73	73	73	72	73	73	74	75	76	76	76	75	75	75	75	75	74	74	74	73	74	74	74	
August																																	
Maximum .....	76	76	76	76	76	76	77	77	77	77	76	76	76	77	77	78	77	78	77	77	76	76	76	75	75	74	74	74	74	74	74	76	
Minimum .....	74	75	75	75	75	76	75	75	76	75	76	75	75	75	76	76	77	77	76	76	75	75	74	74	74	74	73	73	74	73	73	75	
September																																	
Maximum .....	74	74	74	74	73	72	72	71	71	71	71	70	70	70	70	71	69	68	68	67	67	67	66	67	67	67	66	66	66	66	--	70	
Minimum .....	73	73	73	73	72	72	71	71	71	71	70	70	70	69	69	69	68	68	67	66	66	66	66	66	66	66	66	65	65	65	--	69	



## SACRAMENTO RIVER BASIN--Continued

11-4455. SOUTH FORK AMERICAN RIVER NEAR LOTUS, CALIF.

LOCATION.--At gaging station 0.4 mile downstream from Greenwood Creek, 2.4 miles northwest of Lotus, El Dorado County, and 3.3 miles northwest of Coloma.  
DRAINAGE AREA.--673 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1963.

Water temperatures: December 1959 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 67°F Aug. 7, 8; minimum, 39°F Nov. 14 and on several days during February.

EXTREMES, 1959-65.--Water temperatures: Maximum, 85°F July 20, 1960; minimum, 34°F Jan. 2-6, 1960, Dec. 28-31, 1962.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 12, 1964....	176	--	--	--	--	6.7	--	49	0	--	4.4	--	--	0.1	--	--	--	49	9	0.4	118	7.4
Jan. 12, 1965....	3550	--	--	--	--	2.4	--	19	0	--	1.1	--	--	.1	--	--	--	16	0	.3	41	7.6
Mar. 15.....	1520	--	--	--	--	2.3	--	18	0	--	1.2	--	--	.0	--	--	--	13	0	.3	38	7.5
May 14.....	3500	10	--	3.2	0.4	1.8	0.1	13	0	1.0	.7	--	0.3	.0	25	0.03	--	10	0	.3	28	7.1
July 1.....	1700	--	--	--	--	1.9	--	13	0	--	.7	--	--	.2	--	--	--	9	0	.3	27	7.5
Sept. 2.....	864	7.5	--	3.4	.1	2.6	.6	14	0	1.0	1.0	--	.3	.0	29	.04	--	9	0	.4	30	7.2

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	58	58	59	63	64	62	61	60	59	59	--	--	58	58	57	57	56	--	--	--	--	--	--	--	--	55	55	55	55	55	56	55	--
Minimum ....	54	54	54	58	60	57	57	56	56	55	--	--	56	55	55	55	54	--	--	--	--	--	--	--	--	54	53	55	55	55	55	54	--
November																																	
Maximum ....	54	53	53	53	52	51	51	51	51	51	50	51	51	47	46	44	43	43	43	43	43	43	43	44	44	46	46	46	46	46	--	48	
Minimum ....	53	53	53	52	51	50	50	50	51	50	50	50	50	40	39	44	43	43	43	42	42	42	42	43	44	44	46	46	46	46	--	46	
December																																	
Maximum ....	46	47	47	46	46	46	46	45	45	45	45	45	45	45	45	44	44	43	43	43	45	46	47	47	47	46	46	47	46	43	43	45	
Minimum ....	46	46	46	46	46	45	45	45	45	45	45	45	45	45	45	44	43	43	42	42	43	44	46	46	46	46	46	46	46	43	43	41	45
January																																	
Maximum ....	41	41	41	43	44	44	44	44	44	42	42	43	43	43	42	42	42	42	43	43	43	43	43	43	43	43	41	41	41	41	41	42	
Minimum ....	41	40	40	41	43	44	44	42	42	42	42	43	42	42	42	42	42	42	42	42	43	43	43	43	43	41	41	41	41	40	40	41	42
February																																	
Maximum ....	41	41	41	41	41	42	41	40	40	40	39	39	39	39	40	40	40	41	41	42	42	42	42	42	42	42	41	42	43	--	--	--	41
Minimum ....	41	41	41	41	41	41	40	40	40	39	39	39	39	39	39	39	39	40	40	40	40	40	41	41	41	40	40	41	41	41	40	40	41
March																																	
Maximum ....	44	44	44	44	44	44	44	45	45	45	45	46	46	46	47	46	47	49	49	48	48	49	48	47	47	47	47	46	47	48	47	46	
Minimum ....	42	42	42	43	43	43	43	43	43	44	44	46	45	44	44	45	45	46	46	46	46	45	46	46	47	47	46	46	46	45	45	46	45
April																																	
Maximum ....	48	47	49	49	48	48	47	47	46	46	46	46	46	48	48	48	48	49	52	51	51	50	51	51	53	53	53	52	52	52	--	49	
Minimum ....	46	47	47	47	47	47	47	46	46	46	46	46	46	48	48	48	48	48	49	48	49	49	49	49	51	51	51	51	51	50	--	48	
May																																	
Maximum ....	51	49	47	48	49	47	46	48	50	51	52	53	52	53	52	53	53	53	52	51	51	51	50	50	50	52	52	53	54	54	54	51	
Minimum ....	49	47	45	45	46	45	45	45	46	47	48	49	50	51	51	51	51	51	51	51	50	48	48	48	49	50	51	51	52	52	52	49	
June																																	
Maximum ....	53	53	54	55	56	56	55	54	54	56	57	58	57	56	55	55	53	54	57	61	62	60	60	59	59	59	59	61	61	60	--	57	
Minimum ....	52	51	51	52	53	54	54	53	51	51	54	56	55	54	53	52	52	52	52	54	56	57	56	55	55	55	54	55	57	56	--	54	
July																																	
Maximum ....	62	61	62	63	63	65	63	63	63	63	62	62	62	62	65	63	64	63	64	64	64	64	64	64	64	63	63	64	64	65	60	62	
Minimum ....	56	57	57	58	58	59	59	58	58	58	57	56	56	56	57	58	58	59	59	59	59	59	58	58	58	58	58	58	58	58	58	58	
August																																	
Maximum ....	64	64	64	64	64	63	67	67	63	62	60	60	63	64	63	64	65	64	65	65	65	65	65	65	65	66	66	66	65	66	66	64	
Minimum ....	58	58	58	58	58	58	58	58	58	58	58	58	57	59	60	61	62	61	61	60	59	59	60	59	59	59	60	60	60	60	60	59	
September																																	
Maximum ....	66	66	66	66	65	64	63	61	61	61	62	61	61	61	61	61	61	60	60	60	59	59	60	59	59	59	59	57	58	58	--	61	
Minimum ....	61	61	61	61	61	61	60	59	58	57	58	57	57	57	57	57	56	56	56	56	56	56	55	56	55	55	55	55	55	54	--	57	

## SACRAMENTO RIVER BASIN--Continued

11-4464. AMERICAN RIVER AT NIMBUS DAM, NEAR FAIR OAKS, CALIF.

LOCATION.--At dam, approximately 1.5 miles east of Fair Oaks, Sacramento County.

RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1965.

REMARKS.--Records of discharge given for American River at Fair Oaks.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	1440	---	---	---	---	2.8	---	27	---	---	1.4	---	---	0.0	---	---	---	22	0	0.3	56	7.6
Nov. 12.....	1040	---	---	---	---	3.4	---	28	---	---	1.6	---	---	.0	---	---	---	24	1	.3	62	7.3
Dec. 15.....	930	---	---	---	---	3.1	---	32	---	---	2.8	---	---	.0	---	---	---	28	2	.2	74	7.8
Jan. 6, 1965.....	35500	---	---	---	---	2.6	---	25	---	---	.8	---	---	.1	---	---	---	22	2	.2	57	7.4
Feb. 1.....	10400	---	---	---	---	2.5	---	27	---	---	1.3	---	---	.0	---	---	---	23	1	.2	59	7.6
Mar. 1.....	5350	---	---	---	---	2.4	---	28	---	---	1.3	---	---	.0	---	---	---	24	1	.2	60	7.8
Apr. 13.....	3050	---	---	---	---	2.8	---	30	---	---	1.5	---	---	.0	---	---	---	25	0	.2	64	7.5
May 5.....	7880	13	---	6.6	1.8	2.2	0.9	28	---	3.0	1.3	---	2.1	.0	47	0.06	---	24	1	.2	61	7.4
June 14.....	2050	---	---	---	---	3.0	---	30	---	---	---	---	---	.1	---	---	---	28	3	.2	73	7.9
July 13.....	3230	---	---	---	---	2.6	---	24	---	---	1.7	---	---	.0	---	---	---	18	0	.3	52	7.7
Aug. 9.....	3510	---	---	---	---	2.2	---	23	---	---	1.5	---	---	.0	---	---	---	19	0	.2	50	7.8
Sept. 15.....	3170	11	---	6.8	.6	2.0	1.1	23	---	2.0	1.0	---	.0	.0	40	.05	---	20	1	.2	50	7.2

## SACRAMENTO RIVER BASIN--Continued

11-4465. AMERICAN RIVER AT FAIR OAKS, CALIF.

LOCATION.--Temperature recorder at gaging station 2,100 feet downstream from Nimbus Dam, 2.4 miles east of Fair Oaks, Sacramento County, 8.1 miles downstream from South Fork, and at mile 19.3.

DRAINAGE AREA.--1,888 square miles.

RECORDS AVAILABLE.--Chemical analyses: January to December 1906, March 1951 to September 1958, November 1959 to September 1962.

Water temperatures: March 1951 to September 1958, November 1959 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 45°F Feb. 15.

EXTREMES, 1951-58, 1959-65.--Water temperatures: Maximum (1951-58, 1959-64), 81°F July 27, Aug. 3, 1954; minimum, freezing point Nov. 25, 26, 1957, Nov. 25-29, 1958.

REMARKS.--Pen not inking July 13-19, Aug. 1 to Sept. 2.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	64	64	65	66	66	66	65	66	65	65	65	65	65	64	64	64	64	64	64	64	62	60	59	59	58	58	57	57	57	57	57	62
Minimum ....	64	64	64	65	65	65	64	65	64	64	64	63	64	64	63	63	63	63	63	62	60	59	57	57	57	56	56	56	56	56	57	61
November																																
Maximum ....	57	57	57	57	58	58	58	58	58	57	57	56	56	55	54	54	54	54	55	55	54	54	54	54	54	54	53	53	53	53	—	55
Minimum ....	57	57	56	56	57	57	57	57	57	57	56	55	55	54	53	54	54	54	54	54	53	54	54	54	54	54	53	53	53	53	--	55
December																																
Maximum ....	54	54	53	54	53	53	53	53	52	52	52	51	50	50	50	50	50	50	50	51	52	52	50	50	50	50	50	50	49	48	48	51
Minimum ....	53	53	53	53	53	53	53	52	52	52	51	50	50	50	50	49	49	49	50	50	51	50	50	50	50	50	50	49	48	48	47	51
January																																
Maximum ....	48	47	47	47	48	48	47	47	47	47	47	47	47	46	46	46	46	46	46	46	46	47	47	47	46	46	46	46	46	46	46	47
Minimum ....	47	47	47	47	47	47	47	47	47	47	47	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
February																																
Maximum ....	46	46	46	46	46	46	47	47	47	47	47	47	46	46	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	—	—	47
Minimum ....	46	46	46	46	46	46	46	47	46	46	46	46	46	46	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	—	—	46
March																																
Maximum ....	47	48	49	49	48	48	49	49	49	48	49	49	48	50	50	50	49	50	50	51	51	51	52	51	50	50	50	50	51	51	51	50
Minimum ....	46	46	47	48	48	48	48	48	48	48	48	47	47	48	49	48	48	49	49	50	51	51	50	50	50	50	50	50	50	50	51	49
April																																
Maximum ....	52	52	52	52	52	51	52	52	51	50	51	52	52	51	51	51	51	51	52	52	52	53	54	54	54	54	54	54	54	54	—	52
Minimum ....	51	51	51	52	51	50	51	51	50	50	50	51	51	51	51	51	51	51	51	51	51	52	52	53	53	53	53	53	53	52	--	51
May																																
Maximum ....	53	53	55	54	54	54	55	55	55	55	56	56	55	56	56	56	56	56	56	56	56	56	57	57	57	57	57	57	57	57	57	56
Minimum ....	52	52	53	53	52	53	54	54	53	53	53	54	53	53	54	54	54	54	54	54	54	54	55	55	56	56	56	56	56	56	56	54
June																																
Maximum ....	57	58	58	59	58	59	59	59	59	59	58	60	60	59	59	59	59	60	60	61	61	62	62	61	61	62	61	61	61	61	—	60
Minimum ....	56	56	57	57	57	57	57	57	57	57	57	58	58	58	58	59	59	59	59	59	59	60	60	60	60	60	60	60	60	59	--	58
July																																
Maximum ....	63	62	61	62	64	64	65	64	63	64	63	63	--	--	--	--	--	--	--	--	63	63	64	64	64	66	64	64	65	63	62	--
Minimum ....	61	61	61	61	62	63	63	63	62	61	61	61	--	--	--	--	--	--	--	--	63	62	63	63	63	64	61	60	63	62	62	--
August																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September																																

## SACRAMENTO RIVER BASIN--Continued

11-4470. AMERICAN RIVER AT SACRAMENTO, CALIF.

LOCATION.--At site of former gaging station at H Street Bridge, east of Sacramento, Sacramento County, and 6.5 miles upstream from mouth.

DRAINAGE AREA.--1,889 square miles, upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....		--		--	--	2.9	--	27	0	--	1.6		--	0.0	--	--		24	2	0.3	61	7.7
Nov. 12.....		--		--	--	3.1	--	27	0	--	2.0		--	.0	--	--		24	2	.3	65	7.4
Dec. 7.....		--		--	--	3.8	--	31	0	--	3.1		--	.1	--	--		28	3	.3	78	7.7
Jan. 6, 1965.....		--		--	--	2.3	--	25	0	--	.8		--	.1	--	--		21	1	.2	56	7.2
Feb. 1.....		--		--	--	2.3	--	26	0	--	1.5		--	.0	--	--		24	3	.2	59	7.7
Mar. 3.....		--		--	--	2.4	--	27	0	--	1.4		--	.0	--	--		24	2	.2	60	7.8
Apr. 5.....		--		--	--	2.7	--	28	0	--	1.6		--	.0	--	--		24	1	.2	62	7.6
May 5.....	14			7.2	1.5	2.3	0.9	28	0	3.0	1.3		1.7	.0	46	0.06		24	1	.2	62	7.5
June 16.....		--		--	--	2.6	--	25	0	--	1.3		--	.0	--	--		21	1	.2	55	7.8
July 13.....		--		--	--	2.8	--	22	0	--	1.1		--	.2	--	--		18	0	.3	49	7.8
Aug. 9.....		--		--	--	2.9	--	22	0	--	1.0		--	.0	--	--		18	0	.3	48	7.7
Sept. 15.....		11		7.4	.2	2.1	.9	24	0	3.0	1.2		.6	.0	40	.05		20	0	.2	52	7.2

SACRAMENTO RIVER BASIN--Continued

11-4475. SACRAMENTO RIVER AT SACRAMENTO, CALIF.

LOCATION.--At Tower Bridge 0.6 mile downstream from gaging station at Sacramento, Sacramento County, and approximately 1.3 miles downstream from confluence with American River.

DRAINAGE AREA.--23,530 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1952 to May 1960.

Water temperatures: May 1955 to September 1965.

Sediment records: October 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 74°F July 15, 16; minimum, 42°F Dec. 14.

Sediment concentrations: Maximum daily, 1,960 ppm Dec. 24; minimum daily, 18 ppm Dec. 18.

Sediment loads: Maximum daily, 525,000 tons Dec. 24; minimum daily, 500 tons Oct. 20.

EXTREMES, 1955-65.--Water temperatures: Maximum (1955-62, 1963-65), 80°F June 15, 16, 1961; minimum, 39°F Jan. 30, 31, Feb. 1, 1957.

Sediment concentrations (1956-65): Maximum daily, 1,960 ppm Dec. 24, 1964; minimum daily, (estimated) 11 ppm Nov. 30, 1959.

Sediment loads (1956-65): Maximum daily, 525,000 tons Dec. 24, 1964; minimum daily, (estimated) 200 tons Dec. 14, 1959.

REMARKS.--No appreciable inflow between gaging station and sampling point except during periods of heavy local runoff.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	68	70	67	--	70	70	68	68	69	68	68	--	66	65	67	66	66	65	66	69	65	68	62	--	59	60	60	60	59	59	60	65	
November .....	58	57	--	58	58	--	57	--	--	55	--	--	51	50	50	48	49	48	47	48	48	49	51	51	52	52	--	52	--	51	--		
December .....	54	53	52	51	51	50	51	51	53	52	53	49	49	42	48	43	46	45	--	51	52	52	54	53	52	51	50	49	46	47	45	50	
January .....	45	44	45	47	47	49	48	47	47	--	46	47	47	--	46	--	--	--	47	47	48	49	--	--	47	47	47	47	46	47	47	--	
February .....	47	47	47	47	48	48	47	48	46	48	48	47	47	48	46	48	48	49	50	52	52	52	51	50	50	51	51	51	--	--	--	49	
March .....	51	51	52	52	52	54	52	51	52	53	51	53	53	53	54	53	54	54	54	56	58	58	56	54	54	54	55	54	54	55	55	54	
April .....	55	55	56	57	55	53	53	53	51	50	50	51	52	52	55	56	55	55	54	56	57	58	61	60	63	60	63	62	60	62	--	56	
May .....	62	61	62	59	56	55	57	61	58	62	61	63	59	62	65	65	64	62	62	61	60	62	63	62	62	65	65	67	--	--	--	62	
June .....	65	66	66	66	67	66	66	65	66	66	70	67	69	70	68	69	66	68	71	72	71	71	70	69	68	69	71	72	73	68	--	68	
July .....	70	72	72	71	72	71	73	73	72	72	71	71	72	72	74	74	--	73	70	70	70	72	71	71	--	69	69	70	71	69	71	71	
August .....	73	71	71	70	72	--	--	71	71	70	67	69	69	72	71	70	70	70	69	67	--	70	67	69	69	68	--	69	--	70	70	70	
September .....	69	--	68	68	68	66	66	66	67	65	67	69	66	67	68	67	--	--	--	62	66	63	64	64	66	64	63	62	63	64	--	66	

## SACRAMENTO RIVER BASIN--Continued

11-4475. SACRAMENTO RIVER AT SACRAMENTO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	12800	47	1620	11400	39	1200	15800	65	2770
2..	12400	46	1540	14300	45	1370	15400	78	3240
3..	12100	38	1240	11600	50	1600	16500	85	3790
4..	11600	39	1200	12000	51	1650	18000	97	4710
5..	11100	43	1290	11600	45	1410	17500	109	5150
6..	10400	40	1120	11100	39	1200	15600	78	3290
7..	9870	31	826	10500	37	1050	14200	55	2110
8..	9690	39	1020	10300	35	970	13100	40	1410
9..	9290	37	928	9950	33	890	12400	33	1100
10..	8940	28	676	11100	32	959	12000	34	1100
11..	8940	26	628	20000	160	8600	11900	34	1090
12..	8860	33	789	24300	630	41000	12900	40	1390
13..	9340	30	757	23700	460	29400	14800	52	2080
14..	8640	35	816	23800	297	19100	14400	46	1790
15..	8860	26	622	21200	220	13000	13500	48	1750
16..	8640	30	700	18500	170	8490	13000	36	1260
17..	8940	29	700	16200	93	4070	12300	20	664
18..	8810	38	904	14200	68	2610	11900	18	578
19..	8940	26	628	13100	55	1950	12200	22	720
20..	8810	21	500	12400	45	1510	12800	36	1240
21..	8720	33	777	11900	38	1220	23300	124	7800
22..	8680	26	609	11300	34	1040	55800	697	117000
23..	8680	25	586	11300	37	1130	94800	1080	278000
24..	8940	26	630	11200	35	1060	98800	1960	525000
25..	9030	26	634	11400	33	1020	98600	1720	458000
26..	9080	29	711	11300	32	976	88500	984	237000
27..	9250	26	649	11600	34	1060	82700	638	143000
28..	10000	33	891	12400	35	1170	80600	534	116000
29..	10300	43	1200	12800	40	1400	76700	510	105000
30..	10700	41	1180	13300	51	1830	76400	446	92000
31..	11000	45	1340	--	--	--	76900	451	93600
Total	301350	--	27711	416750	--	153935	1133300	--	2213632
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	75800	426	87200	65200	158	27800	30200	84	6850
2..	72500	386	75600	64000	164	28300	29500	84	6690
3..	71600	339	65500	61800	174	29000	27100	81	5930
4..	75400	294	59900	60700	136	22300	26200	72	5090
5..	85100	230	52800	59700	132	21300	25200	68	4630
6..	90600	216	53400	58900	116	18400	24600	65	4320
7..	92400	281	70100	59100	164	26200	24500	65	4300
8..	91800	240	59500	59200	137	21900	24200	50	3270
9..	90400	183	44700	58500	113	17800	24000	42	2720
10..	80800	200	44000	56900	141	21700	23900	44	2840
11..	75600	253	51600	54600	156	23000	23200	45	2820
12..	72800	216	42500	52200	176	24800	23200	45	2820
13..	70300	194	36800	49900	150	20200	23000	48	2980
14..	68800	180	33000	47200	128	16300	23300	50	3150
15..	67300	182	33100	44500	172	20700	23200	49	3070
16..	66200	190	34000	41600	180	20200	22500	45	2730
17..	65300	190	33000	38900	142	14900	22200	45	2700
18..	64600	190	33000	37000	121	12100	21300	38	2190
19..	64000	190	32800	35100	113	10700	20500	42	2320
20..	63600	153	26300	33800	121	11000	19600	49	2590
21..	63100	163	27800	32900	116	10300	19200	51	2640
22..	62600	180	30400	32700	99	8740	19400	55	2880
23..	61900	200	33000	31700	104	8900	19100	57	2940
24..	63600	300	52000	31100	98	8230	19500	59	3110
25..	67000	246	44500	30800	96	7980	20200	48	2620
26..	68400	185	34200	29900	103	8320	20000	45	2430
27..	67900	263	48200	29700	106	8500	21000	50	2840
28..	67300	227	41200	29500	97	7730	23000	77	4780
29..	66700	204	36700	--	--	--	24500	75	4960
30..	66100	184	32800	--	--	--	24400	64	4220
31..	65700	148	26300	--	--	--	23400	56	3540
Total	2226200	--	1375900	1287100	--	477300	715100	--	110970

S Computed by subdividing day.

B Computed from estimated-concentration graph.

## SACRAMENTO RIVER BASIN--Continued

11-4475. SACRAMENTO RIVER AT SACRAMENTO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	22900	49	3030	45700	120	14800	22100	65	3880
2..	22800	49	3020	43800	146	17300	21200	57	3260
3..	22800	51	3140	41000	158	17500	20800	61	3430
4..	23900	60	3870	37900	139	14200	20700	58	3240
5..	24600	55	3650	33900	120	11000	20000	68	3670
6..	23500	50	3170	30000	99	8020	19900	67	3600
7..	22600	49	2990	27500	87	6460	19900	65	3490
8..	23300	52	3270	25800	92	6410	19500	61	3210
9..	26100	86	6060	25600	93	6430	18700	55	2780
10..	34100	207	19100	25800	97	6760	18100	55	2690
11..	42000	730	82800	25800	86	5990	17800	55	2640
12..	44400	442	53000	26200	69	4880	17600	55	2610
13..	43400	294	34500	27700	63	4710	17200	67	3110
14..	39900	240	25900	28200	62	4720	15900	54	2320
15..	36100	170	16600	28900	77	6010	14800	45	1800
16..	34600	145	13500	29700	77	6170	14300	51	1970
17..	43100	298	34700	30100	64	5200	13600	46	1690
18..	52800	382	54500	30800	61	5070	13100	50	1770
19..	55300	267	39900	31700	55	4710	13300	53	1900
20..	56200	210	31900	32100	81	7020	13800	52	1940
21..	58700	268	42500	32300	78	6800	13600	49	1800
22..	61600	437	72700	32400	87	7610	13500	42	1530
23..	63900	494	85200	32000	97	8380	13500	45	1640
24..	63600	362	62200	30900	92	7680	13400	44	1590
25..	61700	294	49000	28300	85	6490	12900	41	1430
26..	58700	255	40400	27300	72	5310	12900	42	1460
27..	55200	212	31600	26300	66	4690	12600	49	1670
28..	51700	134	18700	25000	66	4460	12100	47	1540
29..	48600	117	15400	23800	66	4200	11700	47	1480
30..	47000	118	15000	24000	66	4300	12000	46	1490
31..	--	--	--	22500	66	4000	--	--	--
Total	1265100	--	871300	933000	--	227280	480500	--	70630
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	12200	42	1380	13100	48	1700	13800	38	1420
2..	12300	34	1130	13400	38	1370	13600	61	2200
3..	12200	41	1350	13500	38	1390	13900	76	2850
4..	12400	55	1840	13400	39	1410	13600	44	1620
5..	12600	54	1840	13100	43	1520	14000	34	1290
6..	12200	44	1450	13000	44	1500	14100	39	1480
7..	12000	39	1260	13000	40	1400	14300	44	1700
8..	11700	33	1040	13200	34	1210	14700	52	2060
9..	11600	34	1060	13200	39	1390	15200	59	2420
10..	11500	42	1300	13200	36	1280	15600	50	2110
11..	11500	38	1180	13200	31	1100	15600	60	2530
12..	11700	43	1360	14400	38	1480	15900	62	2640
13..	18800	40	2030	15800	46	1960	15900	57	2450
14..	11900	35	1120	16500	64	2850	16000	50	2160
15..	12100	38	1240	16700	67	3020	16200	54	2360
16..	12100	39	1270	16200	52	2270	16000	61	2640
17..	12000	39	1300	15600	46	1940	16100	63	2700
18..	12100	42	1370	15500	49	2050	16100	60	2600
19..	12200	37	1220	15300	50	2070	16300	58	2600
20..	12400	37	1240	15100	52	2120	16700	54	2430
21..	12200	38	1250	15000	52	2100	16600	51	2290
22..	12000	44	1430	15100	48	1980	16600	44	1970
23..	12200	40	1320	15000	49	1980	16700	46	2070
24..	12000	41	1330	14800	52	2080	16600	40	1790
25..	12400	42	1400	14800	46	1840	16300	38	1670
26..	12500	40	1350	14700	37	1470	16000	37	1600
27..	12300	41	1360	14700	38	1510	15900	32	1370
28..	12400	39	1310	14700	28	1110	15500	32	1340
29..	12600	38	1290	14400	29	1100	15400	35	1460
30..	12600	34	1160	14200	34	1300	15400	37	1540
31..	12600	42	1430	14000	27	1020	--	--	--
Total	376300	--	41610	447800	--	52500	464600	--	61380

Total discharge for year (cfs-days)..... 10,047,100  
 Total load for year (tons)..... 5,634,148

B Computed from estimated-concentration graph.

## SACRAMENTO RIVER BASIN--Continued

## 11-4475. SACRAMENTO RIVER AT SACRAMENTO, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Oct. 29, 1964.....	1005	58		D 10300	40						82	99	100	--	--		S
Nov. 16.....	1145	48		D 18500	84						90	96	100	--	--		S
Dec. 22.....	1320	52		58600	795						58	82	99	100	--	--	V
Dec. 23.....	1440	54		96500	974						61	85	97	100	--	--	V
Dec. 24.....	1320	--		98800	1970		15	28	42	57	68	76	86	94	99	100	VPWC
Dec. 30.....	1350	47		76400	420						67	73	88	99	100		V
Jan. 8, 1965.....	1430	47		91700	214						71	78	96	100	--	--	V
Jan. 15.....	1130	46		67100	166						76	86	100	--	--	--	V
Feb. 1.....	1320	47		65200	187						52	57	100	--	--	--	S
Feb. 12.....	1320	47		52200	204						52	61	76	100	--	--	S
Feb. 15.....	1100	46		44500	197						69	79	90	100	--	--	S
Feb. 19.....	1335	52		35200	124						70	83	94	100	--	--	S
Feb. 23.....	1355	50		32200	122						79	93	100	--	--	--	S
Apr. 6.....	1135	53		D 23500	52						88	94	98	100	--	--	S
Apr. 12.....	1325	51		44500	419						76	90	100	--	--	--	V
Apr. 29.....	1115	60		48600	118						79	90	99	100	--	--	V
Aug. 20.....	0855	67		D 15100	62						86	98	100	--	--	--	V

Particle-size analyses of bed material, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Bed material											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.062	0.125	0.25	0.50	1.0	2.0	4.0	8.0	16.0	32.0		
Oct. 29, 1964.....	1100		5	D 10300			1	4	22	96	100							S
Apr. 29, 1965.....	1205		8	48500			2	5	31	94	99	100						S

D Daily mean discharge.



## SACRAMENTO RIVER BASIN--Continued

## 11-4476.5. SACRAMENTO RIVER AT FREEPORT, CALIF.

LOCATION.--At drawbridge at Freeport, Sacramento County, approximately 11 miles south of Sacramento.

RECORDS AVAILABLE.--Chemical analyses: June 1960 to September 1965.

Water temperatures: June 1960 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 69°F on many days during June to August; minimum, 46°F Dec. 17-21.

EXTREMES, 1960-65.--Water temperatures: Maximum, 76°F June 16, 17, 1961; minimum, 41°F Jan. 24-27, 1962.

REMARKS.--Records of discharge data given for Sacramento River at Sacramento. No appreciable inflow between sampling point and gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	11100	--	--	--	--	9.0	--	75	0	--	4.8	--	--	0.0	--	--	--	57	0	0.5	149	8.1
Nov. 9.....	9950	--	--	--	--	11	--	79	0	--	6.8	--	--	.0	--	--	--	64	0	.6	183	7.2
Dec. 9.....	12400	--	--	--	--	10	--	78	0	--	6.2	--	--	.1	--	--	--	62	0	.6	174	8.2
Jan. 5, 1965.....	85100	--	--	--	--	4.8	--	38	0	--	2.5	--	--	.0	--	--	--	33	2	.4	87	7.8
Feb. 4.....	60700	--	--	--	--	5.4	--	58	0	--	3.6	--	--	.0	--	--	--	51	3	.3	121	7.9
Mar. 3.....	27100	--	--	--	--	7.3	--	62	0	--	4.8	--	--	.0	--	--	--	52	1	.4	138	8.0
Apr. 7.....	22600	--	--	--	--	6.6	--	55	0	--	4.3	--	--	.0	--	--	--	45	0	.4	121	7.1
May 4.....	37900	18	--	9.0	3.5	4.5	0.8	44	0	5.0	2.2	3.0	.0	.0	69	0.09	--	37	1	.3	96	7.4
June 16.....	14300	--	--	--	--	9.2	--	63	0	--	5.1	--	--	.0	--	--	--	52	0	.6	140	8.1
July 14.....	11900	--	--	--	--	8.3	--	65	0	--	5.4	--	--	.0	--	--	--	51	0	.5	139	8.2
Aug. 11.....	13200	--	--	--	--	9.7	--	77	0	--	6.6	--	--	.1	--	--	--	54	0	.6	153	8.2
Sept. 14.....	16000	19	--	15	7.9	14	1.1	91	0	13	8.3	--	1.9	.0	126	.17	--	70	0	.7	197	7.9

SACRAMENTO RIVER BASIN--Continued  
 11-4476.5. SACRAMENTO RIVER AT FREEPORT, CALIF.--Continued  
 Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	65	65	65	65	66	66	66	66	66	66	66	66	66	65	64	64	64	63	63	63	63	62	62	62	61	60	59	59	59	59	59	63
Minimum .....	65	65	65	65	65	66	66	66	66	66	66	66	66	65	64	64	64	63	63	63	62	62	62	62	61	60	59	59	59	59	59	63
November																																
Maximum .....	59	59	59	58	57	56	56	56	56	56	55	54	52	52	52	51	49	48	48	47	47	47	47	47	47	48	48	48	48	48	--	52
Minimum .....	59	59	58	57	56	56	56	56	56	56	55	54	52	52	52	51	49	48	48	47	47	47	47	47	47	48	48	48	48	48	--	52
December																																
Maximum .....	48	49	49	49	49	49	50	50	50	50	50	50	50	50	49	48	48	47	46	46	46	47	48	52	52	51	51	50	49	49	48	49
Minimum .....	48	48	49	49	49	49	49	50	50	50	50	50	50	49	48	48	47	46	46	46	46	47	48	51	51	50	50	49	48	48	48	48
January																																
Maximum .....	48	48	47	47	47	48	48	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Minimum .....	48	47	47	47	47	47	48	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
February																																
Maximum .....	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	48	48	48	48	48	48	48	49	49	--	--	--	47
Minimum .....	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	48	48	48	48	48	48	48	49	--	--	--	47
March																																
Maximum .....	49	49	49	49	50	50	50	50	50	50	50	50	50	50	50	51	51	51	52	52	52	52	52	52	52	52	52	52	52	52	52	51
Minimum .....	49	49	49	49	49	50	50	50	50	50	50	50	50	50	50	50	51	51	51	52	52	52	52	52	52	52	52	52	52	52	52	51
April																																
Maximum .....	52	52	52	52	52	52	52	52	52	52	52	51	52	52	53	53	53	53	53	54	54	55	56	57	57	58	58	58	58	--	54	
Minimum .....	52	52	52	52	52	52	52	52	52	52	51	51	51	52	52	53	53	53	53	54	54	55	56	56	57	57	58	58	58	--	54	
May																																
Maximum .....	58	58	58	57	57	57	57	56	57	57	58	59	59	59	60	60	61	61	61	61	61	61	60	61	61	61	62	63	63	64	64	60
Minimum .....	58	58	57	57	57	57	56	56	56	57	58	59	59	59	60	60	61	61	61	61	61	61	60	60	61	61	61	62	63	63	64	59
June																																
Maximum .....	64	64	64	64	64	64	64	64	64	64	65	66	66	66	66	66	67	67	67	67	68	68	68	68	68	68	68	68	69	69	--	66
Minimum .....	64	64	64	64	64	64	64	64	64	64	64	65	66	66	66	66	67	67	67	67	68	68	68	68	68	68	68	68	69	69	--	66
July																																
Maximum .....	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Minimum .....	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
August																																
Maximum .....	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	68	68	68	68	68	68	68	68	68	68	68	68	67	67	68
Minimum .....	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	68	68	68	68	68	68	68	68	68	68	68	68	67	67	68
September																																
Maximum .....	67	67	66	66	66	66	66	65	65	65	65	65	65	64	64	64	63	63	63	62	61	61	61	62	62	62	62	62	62	62	--	64
Minimum .....	67	66	66	66	66	66	65	65	65	65	65	65	64	64	64	63	63	63	62	61	61	61	61	62	62	62	62	62	62	62	--	63

## SACRAMENTO RIVER BASIN--Continued

11-4500. CLEAR LAKE AT LAKEPORT, CALIF.

LOCATION (revised).--On private pier at foot of Fourth Street in Lakeport, Lake County.

DRAINAGE AREA (revised).--528 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....		--		--	--	13	--	184	--	--	7.1		--	0.9	--	--		147	0	0.5	324	8.0
Nov. 10.....		--		--	--	12	--	165	--	--	7.2		--	1.0	--	--		128	0	.5	298	8.1
Dec. 8.....		--		--	--	13	--	164	8	--	6.2		--	1.0	--	--		139	0	.5	326	8.5
Jan. 4, 1965.....		--		--	--	8.4	--	127	--	--	4.4		2.5	.7	--	--		98	0	.4	223	7.9
Feb. 2.....		--		--	--	8.1	--	118	--	--	3.3		2.9	.5	119	0.16		92	0	.4	209	8.2
Mar. 2.....		--		--	--	8.4	--	119	--	--	4.3		2.4	.6	138	.19		95	0	.4	214	8.2
Apr. 6.....		--		--	--	8.5	--	125	--	--	4.2		2.8	.6	134	.18		100	0	.4	226	8.2
May 3.....	23	--		20	12	8.0	1.6	124	--	8.0	4.5		--	.5	144	.20		99	0	.4	223	8.2
June 15.....		--		--	--	9.4	--	117	10	--	5.2		1.5	.6	148	.20		108	0	.4	237	8.8
July 14.....		--		--	--	9.9	--	134	3	--	5.3		--	.7	--	--		110	0	.4	248	8.5
Aug. 10.....		--		--	--	9.6	--	139	4	--	5.8		--	.7	--	--		114	0	.4	255	8.5
Sept. 13.....		32		25	14	10	2.9	141	--	9.0	5.5		10	.5	179	.24		119	3	.4	271	7.7

## SACRAMENTO RIVER BASIN--Continued

11-4510. CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--At gaging station 500 feet downstream from Clear Lake Dam, 1.9 miles downstream from Copsey Creek, and 2.5 miles northeast of Lower Lake, Lake County.

DRAINAGE AREA (revised).--528 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	2.8	--	--	--	--	14	--	192	0	--	7.0	--	--	1.1	--	--	--	154	0	0.5	334	8.0
Nov. 10.....	3.0	--	--	--	--	11	--	66	0	--	8.8	--	--	.5	--	--	--	67	13	.6	181	7.3
Dec. 8.....	1.9	--	--	--	--	13	--	160	5	--	7.7	--	--	.9	--	--	--	137	0	.5	313	8.5
Jan. 4, 1965.....	3010	--	--	--	--	12	--	180	0	--	5.8	--	4.2	1.1	--	--	--	137	0	.4	310	8.2
Feb. 2.....	1290	--	--	--	--	12	--	153	8	--	5.9	--	3.1	1.0	180	0.24	--	132	0	.5	292	8.4
Mar. 2.....	6.9	--	--	--	--	12	--	156	4	--	6.6	--	2.0	.9	--	--	--	131	0	.5	301	8.5
Apr. 6.....	5.4	--	--	--	--	13	--	173	2	--	7.4	--	1.7	1.1	190	.26	--	138	0	.5	312	8.3
May 3.....	7.9	24	--	24	15	10	2.3	152	0	9.0	5.2	--	3.3	.9	169	.23	--	120	0	.4	274	8.2
June 15.....	416	--	--	--	--	11	--	140	5	--	5.6	--	4.8	.8	165	.22	--	116	0	.4	263	8.5
July 14.....	447	--	--	--	--	10	--	143	2	--	5.4	--	--	.8	--	--	--	116	0	.4	263	8.4
Aug. 10.....	365	--	--	--	--	11	--	147	5	--	5.9	--	--	.8	--	--	--	120	0	.4	269	8.5
Sept. 13.....	160	32	--	25	15	10	2.3	154	0	7.0	6.1	--	3.6	.7	185	.25	--	124	0	.4	277	7.8

## SACRAMENTO RIVER BASIN--Continued

11-4515. NORTH FORK CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--At bridge on State Highway 20, 3 miles downstream from gaging station, 2 miles upstream from confluence with Cache Creek, and 6.5 miles northeast of Lower Lake, Lake County.

DRAINAGE AREA (revised).--198 square miles upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Some inflow between gaging station and sampling point during rainy season. Miscellaneous suspended-sediment samples collected at gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	1.1	--	--	--	--	48	--	244	4	--	82	--	--	5.4	--	--	--	232	25	1.4	667	8.3
Nov. 10.....	584	--	--	--	--	16	--	111	0	--	20	--	--	1.7	--	--	--	98	7	.7	264	7.5
Dec. 8.....	56	--	--	--	--	36	--	201	5	--	52	--	--	5.3	--	--	--	180	7	1.2	549	8.3
Jan. 4, 1965.....	1970	--	--	--	--	9.0	--	110	0	--	5.0	--	--	.4	--	--	--	86	0	.4	205	8.0
Feb. 2.....	327	--	--	--	--	12	--	141	4	--	8.4	--	--	.6	--	--	--	120	0	.5	266	8.4
Mar. 2.....	115	--	--	--	--	17	--	186	5	--	17	--	--	1.2	--	--	--	161	0	.6	373	8.4
Apr. 6.....	77	--	--	--	--	22	--	195	6	--	23	--	--	1.5	--	--	--	171	1	.7	408	8.5
May 3.....	167	17	--	33	12	13	1.1	165	0	10	11	--	1.2	.9	A 180	0.24	--	132	0	.5	303	8.0
June 15.....	32	--	--	--	--	25	--	180	18	--	32	--	--	2.0	--	--	--	181	4	.8	426	8.8
July 14.....	8.8	--	--	--	--	28	--	189	11	--	39	--	--	2.7	--	--	--	182	9	.9	465	8.7
Aug. 10.....	4.0	--	--	--	--	31	--	208	12	--	51	--	--	3.2	--	--	--	208	18	.9	525	8.6
Sept. 13.....	3.4	18	--	41	28	34	1.8	224	4	14	60	--	1.3	3.9	348	.47	--	216	26	1.0	563	8.3

A Calculated from sum of determined constituents.

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 9, 1964.....	1310	73		0.9	4	T	--	--	--	--	--	--	--	--	--	--	VPWC	
Nov. 13.....	1000	48		173	7	3.3	--	--	--	--	--	--	--	--	--	--		
Dec. 1.....	1530	55		108	2	.6	--	--	--	--	--	--	--	--	--	--		
Dec. 10.....	0920	53		50	1	.1	--	--	--	--	--	--	--	--	--	--		
Dec. 24.....	1305	--		536	4070	5890	21	26	38	49	62	70	85	96	100	--		
Jan. 7, 1965.....	1515	48		3650	1650	16300	24	28	41	52	64	70	81	90	95	100	VPWC	
Feb. 11.....	1210	47		223	8	4.8	--	--	--	--	--	--	--	--	--	--		
Mar. 5.....	1215	--		111	7	2.1	--	--	--	--	--	--	--	--	--	--		
Mar. 11.....	1330	60		101	5	1.4	--	--	--	--	--	--	--	--	--	--		
Apr. 2.....	1700	57		91	3	.7	--	--	--	--	--	--	--	--	--	--		
Apr. 7.....	1355	--		81	15	3.3	--	--	--	--	--	--	--	--	--	--		
May 19.....	1350	69		78	3	.6	--	--	--	--	--	--	--	--	--	--		
June 16.....	1025	70		33	3	.3	--	--	--	--	--	--	--	--	--	--		
July 29.....	1000	74		5.3	2	T	--	--	--	--	--	--	--	--	--	--		
Sept. 2.....	1655	81		4.0	4	T	--	--	--	--	--	--	--	--	--	--		

† Less than 0.05 ton.

## SACRAMENTO RIVER BASIN--Continued

## 11-4517.6. CACHE CREEK ABOVE RUMSEY, CALIF.

LOCATION.--At gaging station, 0.4 mile downstream from highway bridge, and 2.5 miles northwest of Rumsey, Yolo County.

DRAINAGE AREA.--955 square miles.

RECORDS AVAILABLE.--Water temperatures: January 1960 to September 1965.

Sediment records: January 1960 to September 1963, June to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 42°F Nov. 15, 20, Feb. 10.

EXTREMES, 1960-65.--Water temperatures (1964-65): Minimum, 42°F Nov. 15, 20, 1964, Feb. 10, 1965.

Sediment concentrations (1960-63): Maximum daily, 7,490 ppm Jan. 31, 1963; minimum daily, 1 ppm on several days during 1960-62.

Sediment loads (1960-63): Maximum daily, 363,000 tons Jan. 31, 1963; minimum daily, less than 0.05 ton on many days during 1960-61.

REMARKS.--Records of sediment concentration for period October 1963 to June 1965 available in district office at Menlo Park, Calif.

## Temperature (°F) of water, water year October 1963 to September 1964

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	--	74	73	72	66	71	72	66	70	66	66	67	72	--	62	64	--	65	--	65	--	64	--	59	63	--	--	--	57	--	54	--	
November .....	--	55	51	55	54	54	--	54	57	--	55	55	--	58	52	48	48	46	50	49	46	44	53	50	51	--	47	48	--	47	--	51	
December .....	46	48	--	45	--	51	--	46	45	43	42	--	40	--	40	--	38	41	--	45	46	--	41	--	--	43	--	46	--	48	--	--	
January .....	46	--	43	--	42	--	44	--	41	--	39	--	39	--	39	--	44	--	48	49	49	42	41	--	45	48	--	45	46	49	48	--	
February .....	53	53	50	50	49	--	47	--	47	--	47	--	46	--	49	--	50	--	52	--	53	--	55	--	53	--	52	--	52	--	--	--	
March .....	--	50	--	57	--	55	--	--	66	--	50	48	49	55	--	60	--	58	--	58	--	59	48	50	--	60	65	60	--	63	--	--	
April .....	60	--	58	--	59	--	62	--	--	--	66	--	68	--	71	63	65	--	61	--	65	--	59	--	62	--	--	--	66	--	--	--	
May .....	62	--	--	--	58	--	65	--	67	--	69	--	69	--	70	--	70	--	70	64	69	--	73	--	66	--	--	61	--	--	--	--	
June .....	73	--	71	--	70	--	73	--	72	--	74	--	77	--	76	74	72	--	73	--	72	--	77	--	82	--	72	--	80	--	--	--	
July .....	77	--	76	--	79	--	82	--	73	--	85	--	83	--	82	--	79	--	83	--	80	81	80	--	84	--	81	--	83	--	79	--	
August .....	--	79	--	80	--	81	--	82	--	82	--	80	--	81	--	80	--	78	--	77	--	80	--	81	--	79	--	79	--	78	--	76	--
September .....	72	--	--	74	--	74	--	75	--	73	--	75	71	74	--	72	--	65	--	73	--	--	72	--	76	--	70	--	72	--	--	--	

## Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	72	--	--	73	--	--	--	67	--	70	--	--	--	72	--	65	--	68	--	67	--	65	--	64	--	64	62	59	59	59	--
November .....	58	55	53	59	--	54	53	54	56	52	52	52	59	55	42	49	43	44	43	42	44	47	47	49	54	51	49	52	52	54	--	51
December .....	55	54	54	45	48	45	48	51	52	53	53	52	48	48	48	45	45	43	48	51	53	55	56	57	55	--	50	52	48	46	45	50
January .....	46	44	43	46	47	51	46	45	47	46	50	49	46	47	45	46	46	49	47	49	48	50	50	48	45	48	46	46	48	49	50	47
February .....	48	48	49	48	50	47	48	--	46	42	45	44	45	46	--	45	45	46	46	47	48	50	48	50	48	50	48	49	48	--	--	47
March .....	49	55	48	57	53	52	50	51	52	53	56	54	51	51	--	54	53	50	52	52	--	53	56	56	52	55	55	55	60	56	55	53
April .....	55	55	52	55	60	55	49	49	48	47	50	51	53	53	54	51	54	55	56	57	57	57	56	60	62	63	62	65	63	65	--	56
May .....	60	58	59	55	56	53	55	53	57	59	62	--	64	63	63	65	66	66	67	63	63	63	62	63	63	66	67	--	--	--	--	61
June .....	--	63	70	70	69	69	68	65	63	70	71	70	65	65	63	66	63	69	--	73	74	74	70	72	68	64	68	--	70	71	--	68
July .....	69	72	73	74	75	--	75	--	74	72	70	72	73	--	75	--	75	76	74	73	--	73	76	72	74	--	72	71	76	--	--	--
August .....	--	75	--	74	--	74	--	--	73	--	75	--	80	--	--	74	--	75	--	73	--	--	69	--	74	--	--	71	--	--	--	--
September .....	71	78	70	--	--	64	--	68	--	67	--	--	72	--	65	69	--	--	--	--	--	--	61	--	63	--	62	--	68	--	--	--

## SACRAMENTO RIVER BASIN--Continued

11-4517.6. CACHE CREEK ABOVE RUMSEY, CALIF.--Continued

Suspended sediment, June to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..							--	--	--
2..							--	--	--
3..							419	20	23
4..							419	17	19
5..							429	16	19
6..							399	14	15
7..							386	15	16
8..							388	20	21
9..							400	19	21
10..							380	18	18
11..							370	17	17
12..							413	22	25
13..							452	26	32
14..							476	27	35
15..							449	19	23
16..							417	22	25
17..							415	23	26
18..							396	15	16
19..							404	15	16
20..							404	17	19
21..							422	20	23
22..							468	24	30
23..							484	26	34
24..							486	27	35
25..							484	28	37
26..							457	27	33
27..							414	19	21
28..							393	16	17
29..							418	16	18
30..							415	14	16
31..							--	--	--
Total							11858	--	650
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	406	14	15	375	--	28	260	21	15
2..	431	16	19	364	28	28	291	22	17
3..	425	17	20	367	--	22	288	39	30
4..	386	16	17	350	18	17	278	--	32
5..	367	16	16	346	--	16	258	--	26
6..	379	19	19	345	17	16	247	31	21
7..	461	30	37	346	--	16	219	--	17
8..	455	26	32	368	--	22	190	28	14
9..	419	23	26	384	34	35	206	--	16
10..	419	26	29	372	--	40	202	30	16
11..	432	25	29	369	34	34	198	--	16
12..	435	22	26	322	--	19	198	--	13
13..	447	21	25	246	15	10	180	21	10
14..	428	21	24	209	--	7.9	179	--	11
15..	439	23	27	215	--	8.1	188	25	13
16..	451	24	29	243	14	9.2	183	20	9.9
17..	405	23	25	244	--	11	175	--	8.0
18..	409	29	32	264	21	15	147	--	6.7
19..	441	34	40	304	--	21	142	--	6.9
20..	438	32	38	305	28	23	143	19	7.3
21..	436	28	33	300	--	23	142	--	7.3
22..	409	28	31	261	--	19	141	19	7.2
23..	371	29	29	233	26	16	140	--	7.2
24..	369	28	28	231	--	12	140	19	7.2
25..	368	25	25	232	16	10	138	--	7.5
26..	367	22	22	259	--	13	114	--	6.5
27..	379	26	27	293	24	19	108	22	6.4
28..	400	30	32	291	--	18	92	--	5.2
29..	428	28	32	268	--	13	86	19	4.4
30..	411	--	31	266	14	10	83	--	4.0
31..	381	--	29	256	--	12	--	--	--
Total	12792	--	844	9228	--	563.2	5356	--	368.7

Total discharge for period (cfs-days)..... 39,234  
 Total load for period (tons)..... 2,425.9

## SACRAMENTO RIVER BASIN--Continued

11-4520. CACHE CREEK NEAR CAPAY, CALIF.

LOCATION.--At gaging station 1.8 miles upstream from Clear Lake Water Company's diversion dam, 3.2 miles northwest of Capay, Yolo County, and 5.4 miles northwest of Esparto.

DRAINAGE AREA.--1,042 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	6.0	--	--	--	--	52	--	264	16	--	72	--	--	1.9	--	--	--	244	1	1.4	701	8.6
Nov. 10.....	676	--	--	--	--	144	--	288	10	--	215	--	--	4.7	--	--	--	274	21	3.8	1210	8.4
Dec. 8.....	64	--	--	--	--	66	--	225	13	--	98	--	--	4.8	--	--	--	219	13	1.9	733	8.6
Jan. 4, 1965.....	6020	--	--	--	--	15	--	150	0	--	11	--	--	.7	--	--	--	122	0	.6	294	8.2
Feb. 2.....	1890	--	--	--	--	19	--	188	0	--	15	--	--	1.0	--	--	--	152	0	.7	360	8.2
Mar. 2.....	202	--	--	--	--	47	--	255	15	--	60	--	--	1.5	--	--	--	252	18	1.3	667	8.5
Apr. 6.....	116	--	--	--	--	55	--	275	8	--	67	--	--	1.9	--	--	--	257	18	1.5	706	8.5
May 3.....	325	23	--	33	24	29	1.4	212	4	24	29	--	3.0	1.2	262	0.36	--	182	2	.9	462	8.4
June 15.....	480	--	--	--	--	18	--	154	12	--	17	--	--	1.0	--	--	--	141	0	.7	338	8.7
July 14.....	452	--	--	--	--	16	--	156	7	--	12	--	--	.9	--	--	--	132	0	.6	315	8.6
Aug. 10.....	378	--	--	--	--	15	--	162	6	--	11	--	--	.8	--	--	--	135	0	.6	312	8.5
Sept. 13.....	176	28	--	30	18	20	2.3	186	0	10	18	--	3.7	1.0	224	.30	--	148	0	.7	361	7.8



SACRAMENTO RIVER BASIN--Continued

11-4525. CACHE CREEK AT YOLO, CALIF.

LOCATION.--At gaging station 800 feet upstream from highway bridge, and 0.5 mile south of Yolo, Yolo County.

DRAINAGE AREA.--1,138 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1965.

Sediment records: October 1958 to September 1965.

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, 7,520 ppm Jan. 6; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 593,000 tons Jan. 6; minimum daily, 0 ton on many days.

EXTREMES, 1958-65.--Sediment concentrations: Maximum daily, 7,520 ppm Jan. 6, 1965; minimum daily, no flow on many days each year.

Sediment loads: Maximum daily, 593,000 tons Jan. 6, 1965; minimum daily, 0 ton on many days each year.

REMARKS.--No flow Oct. 1 to Nov. 10, Nov. 18 to Dec. 20, Mar. 21 to Apr. 8, May 7 to Sept. 30.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Aver- age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November .....	--	--	--	--	--	--	--	--	--	--	--	--	51	50	50	49	48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	56	55	58	--	--	--	--	--	--	45	45	--
January .....	48	45	45	49	51	50	46	47	47	49	48	48	50	49	48	50	50	48	49	49	50	49	49	51	47	50	50	49	50	50	51	49
February .....	--	--	--	--	50	48	48	55	50	51	45	48	50	50	52	53	57	59	60	57	60	59	59	59	59	62	59	55	--	--	--	54
March .....	60	59	59	60	59	58	58	60	59	59	54	58	59	60	59	62	60	62	60	--	--	--	--	--	--	--	--	--	--	--	--	--
April .....	--	--	--	--	--	--	--	--	--	50	53	52	52	53	53	53	55	54	55	51	54	54	58	54	58	60	60	60	60	59	--	--
May .....	58	56	58	58	56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## SACRAMENTO RIVER BASIN--Continued

11-4525. CACHE CREEK AT YOLO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..				0	--	0	0	--	0
2..				0	--	0	0	--	0
3..				0	--	0	0	--	0
4..				0	--	0	0	--	0
5..				0	--	0	0	--	0
6..				0	--	0	0	--	0
7..				0	--	0	0	--	0
8..				0	--	0	0	--	0
9..				0	--	0	0	--	0
10..				0	--	0	0	--	0
11..				270	130 K	150	0	--	0
12..				222	110 K	75	0	--	0
13..				361	182 S	187	0	--	0
14..				150	122	49	0	--	0
15..				47	126	16	0	--	0
16..				9.2	79	2.0	0	--	0
17..				.1	19	T	0	--	0
18..				0	--	0	0	--	0
19..				0	--	0	0	--	0
20..				0	--	0	0	--	0
21..				0	--	0	685	784 S	2220
22..				0	--	0	10900	3750 S	122000
23..				0	--	0	21300	6120 S	365000
24..				0	--	0	7880	--	63000
25..				0	--	0	6170	--	31000
26..				0	--	0	4650	--	5600
27..				0	--	0	6490	--	25000
28..				0	--	0	5840	--	8800
29..				0	--	0	4770	--	6000
30..				0	--	0	4640	1340 S	16800
31..				--	--	--	4290	1000 S	11600
Total	0	--	0	1059.3	--	479.0	77615	--	657020
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3800	1080 S	10900	1880	--	1600	142	115	44
2..	3340	955 S	9120	1800	--	1500	138	108	40
3..	6290	3410 S	65100	1760	--	1200	135	84	31
4..	5910	2450 S	40400	1730	--	980	131	76	27
5..	12700	6370 S	285000	1840	640	3180	127	34	12
6..	24600	7520 S	593000	1830	530	2620	123	34	11
7..	11900	3720 S	118000	1770	310	1480	119	30	9.6
8..	7630	3830 S	79100	1710	490	2260	115	39	12
9..	6200	3350 S	56300	1680	480	2180	111	27	8.1
10..	5510	2320 S	34600	1040	370	1040	107	36	10
11..	5140	2080	28900	616	176	293	109	56	16
12..	4970	1600	21500	553	145	216	91	41	10
13..	4640	1290	16200	504	98	133	84	40	9.1
14..	4410	1700	20200	486	134	176	81	57	12
15..	4220	1900	21600	466	160	201	77	59	12
16..	4110	900	9990	418	201	227	73	80	16
17..	3970	700	7500	276	209 S	152	73	89	18
18..	3810	1000	10300	234	150	95	30	84	6.8
19..	3720	980	9840	213	145	83	10	101	2.7
20..	3640	660	6490	198	39	21	5	--	.4
21..	3550	580	5560	190	34	17	0	--	0
22..	3410	960	8840	180	39	19	0	--	0
23..	3340	1580	14200	175	86	41	0	--	0
24..	4700	2900 K	38000	170	103	47	0	--	0
25..	4150	2400	26900	165	76	34	0	--	0
26..	3710	1750	17500	155	58	24	0	--	0
27..	3500	1480	14000	150	49	20	0	--	0
28..	3380	1250	11400	145	35	14	0	--	0
29..	2360	1060	6750	--	--	--	0	--	0
30..	2350	1260 S	8930	--	--	--	0	--	0
31..	1950	400	2110	--	--	--	0	--	0
Total	167110	--	1598230	22334	--	19853	1881	--	307.7

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## 11-4525. CACHE CREEK AT YOLO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Total discharge for year (cfs-days).....	306,217.3
Total load for year (tons).....	2,454,092.5

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

11-4525. CACHE CREEK AT YOLO, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Dec. 21, 1964.....	1205	56		532	1120		22	28	37	44	53	61	89	100	--	--		VPWC
Jan. 2, 1965.....	1730	45		3520	883		--	--	--	--	--	86	98	100	--	--		V
Jan. 5.....	1700	51		12300	7500		21	26	39	53	76	88	100	--	--	--		VPWC
Jan. 7.....	1610	49		10600	3820		25	28	39	50	64	75	91	99	100	--		VPWC
Jan. 8.....	1600	47		7190	3760		17	19	27	35	46	55	95	99	99	100		VPWC
Jan. 9.....	1600	47		6040	3310		11	15	21	27	34	43	76	99	100	--		VPWC
Jan. 10.....	1100	49		5520	2210		15	20	27	36	47	59	89	100	--	--		VPWC
Jan. 11.....	1600	48		5100	2110		17	24	31	40	50	61	89	96	98	99	100	VPWC
Jan. 28.....	1700	49		3350	1210		--	--	--	--	--	38	67	97	100	--		V
Jan. 30.....	1000	50		2130	1230		--	--	--	--	--	34	55	96	100	--		V
Feb. 11.....	0835	45		625	143		--	--	--	--	--	81	90	100	--	--		V
Feb. 18.....	1715	59		225	157		--	--	--	--	--	88	100	--	--	--		S
Apr. 15.....	0950	53		1160	667		--	--	--	--	--	50	77	99	100	--		V
Apr. 16.....	1100	53		3980	2660		--	--	--	--	--	97	99	100	--	--		V
Apr. 22.....	1700	54		3330	958		--	--	--	--	--	69	99	100	--	--		V

## SACRAMENTO RIVER BASIN--Continued

11-4535. PUTAH CREEK NEAR GUENOC, CALIF.

LOCATION.--Temperature recorder at gaging station in Guenoc land grant, just upstream from Coyote Valley damsite, 2.8 miles upstream from Soda Creek, 3.2 miles downstream from highway bridge at Guenoc, Lake County, and 5.6 miles northeast of Middletown. DRAINAGE AREA.-- 112 square miles.

RECORDS AVAILABLE.--Water temperatures: March 1960 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 82°F on several days during July and August; minimum, 43°F Jan. 2, 3.

EXTREMES, 1960-65.--Water temperatures: Maximum, 86°F July 20, 1960; minimum, 41°F Jan. 22, 23, 1962.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	70	70	70	70	71	71	71	71	70	69	69	68	67	68	68	66	66	66	66	66	65	65	64	63	62	62	62	62	61	62	60	67
Minimum .....	67	68	68	68	69	70	69	68	69	68	68	66	66	65	65	65	64	64	64	64	63	63	63	62	62	62	62	61	61	60	60	65
November																																
Maximum .....	61	61	61	61	61	60	60	59	59	56	53	55	54	52	51	51	50	52	52	51	51	53	53	54	55	55	55	54	56	55	---	55
Minimum .....	60	60	59	59	58	57	58	58	55	52	53	53	51	50	49	48	48	50	50	50	51	52	53	54	54	54	54	54	54	54	---	54
December																																
Maximum .....	54	54	52	51	50	50	51	52	52	54	54	52	49	48	50	50	49	48	48	49	51	54	55	55	54	54	53	51	49	49	49	51
Minimum .....	52	52	51	49	49	49	49	50	52	52	52	49	47	48	48	48	48	48	48	48	49	51	54	55	54	53	50	49	49	49	48	50
January																																
Maximum .....	48	48	46	47	48	49	48	49	49	49	51	51	50	50	50	51	54	54	54	53	53	53	50	49	50	50	51	51	53	54	54	51
Minimum .....	47	43	43	46	47	48	48	48	48	44	49	49	49	49	49	50	51	52	52	52	53	51	49	49	49	50	50	50	51	52	52	49
February																																
Maximum .....	54	54	54	54	53	53	52	53	53	52	52	53	53	55	55	56	57	57	57	57	58	58	57	57	58	57	59	59	---	---	---	55
Minimum .....	52	52	52	53	52	51	49	51	50	50	50	50	51	52	52	52	53	53	54	54	54	53	53	53	55	55	55	55	---	---	---	52
March																																
Maximum .....	59	59	59	58	56	56	58	61	59	58	62	58	60	61	62	61	60	62	62	63	64	65	63	62	62	61	60	61	60	59	58	60
Minimum .....	55	55	55	55	55	55	54	55	56	57	56	56	56	54	55	57	56	55	55	55	56	57	58	57	55	56	56	55	56	57	57	56
April																																
Maximum .....	64	60	61	64	63	61	58	55	52	54	56	60	58	55	54	58	57	56	62	62	61	63	64	66	67	69	69	70	70	70	---	61
Minimum .....	56	57	56	56	58	57	55	52	50	50	51	53	55	54	54	53	53	54	56	58	56	56	56	58	60	61	63	64	64	63	---	56
May																																
Maximum .....	67	66	67	67	66	64	67	68	69	71	72	74	73	73	75	75	76	76	69	68	67	71	72	72	74	75	76	76	76	76	72	71
Minimum .....	61	59	59	61	58	57	57	60	60	61	62	63	63	63	64	65	65	65	66	63	63	61	61	62	63	64	66	66	66	67	67	63
June																																
Maximum .....	73	76	77	77	77	75	74	72	76	78	78	75	74	70	71	72	72	73	76	77	77	76	76	75	72	73	74	76	77	76	---	75
Minimum .....	66	66	68	68	68	68	67	67	66	68	70	68	66	66	64	64	66	66	68	69	69	69	69	69	67	65	67	69	70	70	---	67
July																																
Maximum .....	77	78	78	79	79	79	80	81	79	79	78	80	80	80	80	82	81	81	79	79	79	81	81	81	80	79	80	80	80	78	81	80
Minimum .....	70	72	72	72	73	72	73	75	74	73	73	73	73	73	75	77	77	76	75	74	73	74	74	75	75	73	72	73	72	75	76	74
August																																
Maximum .....	81	82	82	82	82	82	82	81	81	78	78	79	82	81	81	82	80	80	80	79	78	78	79	77	76	78	79	79	79	78	79	80
Minimum .....	75	74	75	75	74	74	75	74	74	75	74	70	72	74	73	75	74	74	73	73	72	72	72	72	71	71	71	71	71	71	71	73
September																																
Maximum .....	78	77	76	75	74	71	73	73	73	73	72	72	72	74	74	72	66	68	68	69	70	70	72	71	70	68	68	69	67	70	---	75
Minimum .....	70	70	69	69	68	68	67	67	67	68	66	65	65	66	67	64	57	60	61	62	62	64	65	66	65	64	64	63	63	63	---	62

## SACRAMENTO RIVER BASIN--Continued

11-4535. PUTAH CREEK NEAR GUENOC, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..							74	--	0.4
2..							76	--	.4
3..							61	--	.2
4..							53	--	.1
5..							50	--	.1
6..							45	--	.1
7..							42	--	.1
8..							40	--	.1
9..							38	--	.1
10..							36	1	.1
11..							43	--	.2
12..							42	--	.2
13..							36	--	.2
14..							34	--	.2
15..							35	--	.2
16..							33	--	.2
17..							31	--	.2
18..							31	--	.2
19..							229	39 S	35
20..							983	244 S	850
21..							7230	1240 S	30700
22..							14800	1580 S	67000
23..							6930	866 S	18800
24..							2630	438 S	3450
25..							1270	108 S	392
26..							2300	515 S	5000
27..							2160	241 S	1500
28..							1370	62	229
29..							1230	46	153
30..							1140	37	114
31..							991	25	67
Total							44063	--	128293.3
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	709	--	23	249	--	4.0	101	--	0.8
2..	1210	210 K	1800	227	--	3.1	98	--	.8
3..	3310	425 S	4280	210	--	2.3	93	--	.8
4..	2910	339 S	3630	208	--	2.8	90	--	.7
5..	10100	1890 S	64000	532	35 S	55	90	--	.7
6..	4660	949 S	12600	331	9	8.0	95	3	.8
7..	2490	346 S	2520	260	--	3.5	92	--	.7
8..	1410	110	419	331	--	3.6	86	--	.7
9..	1000	33	89	212	--	1.7	83	--	.4
10..	787	20	42	194	--	1.0	82	--	.4
11..	689	--	30	182	2	1.0	82	2	.4
12..	568	--	21	173	--	.9	81	--	.4
13..	467	--	18	--	--	--	78	2	.4
14..	400	--	15	157	--	.8	76	--	.4
15..	354	--	12	148	--	.8	75	--	.4
16..	308	--	11	141	--	.8	72	--	.4
17..	282	--	9.1	134	--	.7	71	--	.4
18..	256	12	8.3	128	--	.7	69	--	.2
19..	242	--	7.2	125	--	.7	67	--	.2
20..	229	--	6.2	120	--	1.0	64	1	.2
21..	208	--	4.5	115	3	.9	62	--	.2
22..	194	--	2.6	114	--	.9	61	--	.2
23..	1340	459 S	4190	109	--	.9	60	--	.2
24..	1580	119 S	598	104	--	.8	58	--	.2
25..	745	27	54	102	--	.8	57	--	.2
26..	545	16	24	99	--	.8	60	--	.2
27..	439	--	17	131	3	1.1	203	32 S	24
28..	377	--	12	109	--	.9	118	--	2.2
29..	331	--	8.9	--	--	--	92	--	1.2
30..	296	--	6.4	--	--	--	86	--	.9
31..	272	--	5.1	--	--	--	86	--	.7
Total	38708	--	94463.3	5007	--	100.4	2588	--	40.4
Total discharge for period December 1964 to March 1965 (cfs-days).....									90,366
Total load for period December 1964 to March 1965 (tons).....									222,897.4

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## SACRAMENTO RIVER BASIN--Continued

## 11-4535. PUTAH CREEK NEAR GUENOC, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 9, 1964.....	1215	--		0.2	2	T	--	--	--	--	--	--	--	--	--	--	S	
Nov. 9.....	0830	55		693	259	485	--	--	--	--	97	98	100	--	--	--		
Nov. 9.....	1715	--		477	62	80	--	--	--	--	--	--	--	--	--	--		
Nov. 10.....	0815	52		1760	409	1940	--	--	--	--	91	93	96	100	--	--	S	
Nov. 10.....	1705	--		624	50	84	--	--	--	--	--	--	--	--	--	--		
Nov. 11.....	0840	--		256	22	15	--	--	--	--	--	--	--	--	--	--		
Nov. 11.....	1645	--		320	14	12	--	--	--	--	--	--	--	--	--	--		
Nov. 13.....	0905	--		196	3	1.6	--	--	--	--	--	--	--	--	--	--		
Dec. 21.....	1215	51		7640	2100	--	24	35	45	57	71	80	93	95	96	99	100	VPWC VPWC
Dec. 22.....	0915	51		14500	2020	--	19	25	39	52	66	78	94	100	--	--		
Jan. 5, 1965.....	1115	48		12800	2110	--	22	31	44	58	72	82	96	100	--	--	VPWC V	
Jan. 23.....	1615	52		4480	1990	--	--	--	--	--	--	68	87	95	99	100		
Apr. 2.....	1540	--		81	1	.2	--	--	--	--	--	--	--	--	--	--		
Apr. 3.....	1730	--		75	2	.4	--	--	--	--	--	--	--	--	--	--		
Apr. 9.....	0800	--		1410	138	525	--	--	--	--	--	--	--	--	--	--		
Apr. 10.....	0810	--		605	31	51	--	--	--	--	--	--	--	--	--	--		
Apr. 11.....	1135	--		330	12	11	--	--	--	--	--	--	--	--	--	--		
Apr. 12.....	0800	--		256	6	4.1	--	--	--	--	--	--	--	--	--	--		
Apr. 15.....	1310	--		231	87	54	--	--	--	--	--	--	--	--	--	--		
Apr. 15.....	1620	54		1170	685	2160	--	--	--	--	84	96	100	--	--	--	V	
Apr. 16.....	0910	--		1490	111	447	--	--	--	--	--	--	--	--	--	--		
Apr. 17.....	0955	--		669	42	76	--	--	--	--	--	--	--	--	--	--		
Apr. 18.....	0840	--		624	47	79	--	--	--	--	--	--	--	--	--	--		
Apr. 19.....	0805	--		572	22	34	--	--	--	--	--	--	--	--	--	--		
May 9.....	0740	--		85	7	1.6	--	--	--	--	--	--	--	--	--	--		
May 15.....	1830	--		61	4	.7	--	--	--	--	--	--	--	--	--	--		
May 19.....	1535	--		53	2	.3	--	--	--	--	--	--	--	--	--	--		
May 22.....	1130	--		54	3	.4	--	--	--	--	--	--	--	--	--	--		
May 30.....	1830	--		32	3	.3	--	--	--	--	--	--	--	--	--	--		
June 16.....	1140	--		17	1	T	--	--	--	--	--	--	--	--	--	--		
July 29.....	0900	--		5.5	1	T	--	--	--	--	--	--	--	--	--	--		

T Less than 0.05 ton.

## SACRAMENTO RIVER BASIN--Continued

11-4540. PUTAH CREEK NEAR WINTERS, CALIF.

LOCATION.--At gaging station 1 mile downstream from Monticello Dam, 6 miles west of Winters, Yolo County, and 8 miles downstream from Capell Creek.

DRAINAGE AREA.--574 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 7, 1964.....	227	---	---	---	---	7.8	---	181	0	---	4.6	---	---	0.1	---	---	---	154	6	0.3	321	8.2
Nov. 9.....	52	---	---	---	---	8.3	---	164	9	---	4.0	---	---	.2	---	---	---	151	2	.3	316	8.5
Dec. 9.....	50	---	---	---	---	8.7	---	177	3	---	5.0	---	---	.1	---	---	---	154	4	.3	321	8.4
Jan. 4, 1965.....	151	---	---	---	---	13	---	98	0	---	6.6	---	---	.3	---	---	---	88	3	.6	229	7.8
Feb. 4.....	1850	---	---	---	---	7.5	---	150	4	---	4.4	---	---	.1	---	---	---	133	3	.3	273	8.5
Mar. 3.....	59	---	---	---	---	9.1	---	160	5	---	6.7	---	---	.1	---	---	---	145	6	.3	308	8.5
Apr. 7.....	163	---	---	---	---	8.6	---	154	4	---	5.3	---	---	.2	---	---	---	140	7	.3	289	8.4
May 4.....	386	11	---	19	23	8.0	1.7	164	2	17	4.7	---	2.1	.1	170	0.23	---	143	5	.3	299	8.3
June 16.....	559	---	---	---	---	8.5	---	150	8	---	5.2	---	---	.1	---	---	---	141	5	.3	288	8.8
July 14.....	547	---	---	---	---	8.1	---	160	3	---	4.2	---	---	.2	---	---	---	141	5	.3	292	8.4
Aug. 11.....	504	---	---	---	---	7.7	---	155	6	---	5.0	---	---	.0	---	---	---	142	5	.3	293	8.5
Sept. 14.....	517	13	---	21	22	7.4	1.7	165	0	16	4.9	---	1.5	.0	168	.23	---	144	9	.3	295	7.9



## SACRAMENTO RIVER BASIN--Continued

11-4553. LINDSAY SLOUGH NEAR RIO VISTA, CALIF.

LOCATION.--Near tidal gaging station, 6 miles north of Rio Vista, Solano County, and 1.1 miles upstream from confluence with Cache Slough.  
 RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....		--		--	--	15	--	99	0	--	12			0.1	--	--		78	0	0.7	221	8.2
Nov. 9.....		--		--	--	13	--	92	0	--	8.3			.1	--	--		71	0	.7	203	8.2
Dec. 9.....		--		--	--	16	--	90	2	--	12			.2	--	--		76	0	.8	229	8.3
Jan. 5, 1965.....		--		--	--	19	--	95	0	--	14			.1	--	--		76	0	1.0	243	8.2
Feb. 4.....		--		--	--	21	--	134	2	--	14			.6	--	--		119	6	.8	320	8.4
Mar. 3.....		--		--	--	32	--	146	2	--	28			.4	--	--		139	16	1.2	416	8.4
Apr. 7.....		--		--	--	18	--	100	0	--	17			.2	--	--		93	11	.8	266	7.9
May 4.....		15		25	12	19	1.8	128	0	21	16		0.9	.3	177	0.24		111	6	.8	300	8.2
June 16.....		--		--	--	17	--	90	1	--	16			.2	--	--		80	5	.8	234	8.3
July 14.....		--		--	--	14	--	86	2	--	13			.1	--	--		77	3	.7	221	8.3
Aug. 11.....		--		--	--	14	--	88	3	--	11			.1	--	--		73	0	.7	208	8.5
Sept. 14.....		18		15	9.4	15	1.7	97	0	14	11			.1	152	.21		76	0	.7	218	7.9

## SACRAMENTO RIVER BASIN--Continued

11-4554. SACRAMENTO RIVER NEAR RIO VISTA, CALIF.

LOCATION.--At pier, 1,500 feet upstream from tidal gaging station, 1 mile south of Rio Vista, Solano County, and approximately 3.1 miles downstream from Steamboat Slough.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....		--		--	--	11	--	79	0	--	7.0		--	0.1	--	--		62	0	0.6	166	8.2
Nov. 9.....		--		--	--	13	--	82	0	--	11		--	0	--	--		67	0	.7	193	8.1
Dec. 9.....		--		--	--	11	--	70	0	--	7.3		--	.1	--	--		58	1	.6	164	8.0
Jan. 5, 1965.....		--		--	--	9.2	--	62	0	--	4.2		--	.1	--	--		51	0	.6	141	7.9
Feb. 4.....		--		--	--	10	--	84	0	--	7.6		--	.2	--	--		71	2	.5	189	8.1
Mar. 3.....		--		--	--	9.6	--	72	0	--	8.3		--	.1	--	--		63	4	.5	173	8.0
Apr. 7.....		--		--	--	7.8	--	62	0	--	5.3		--	.0	--	--		54	3	.5	144	7.7
May 4.....	19			12	4.4	5.9	1.1	56	0	6.0	4.4		3.1	.1	85	0.12		48	2	.4	124	7.6
June 16.....	--			--	--	11	--	69	0	--	7.1		--	.1	--	--		55	0	.6	162	8.2
July 14.....	--			--	--	10	--	71	0	--	7.4		--	.0	--	--		60	2	.6	162	8.1
Aug. 11.....	--			--	--	11	--	75	0	--	7.9		--	.1	--	--		57	0	.6	166	8.0
Sept. 14.....	19			18	6.3	14	1.4	91	0	11	9.5		1.9	.0	A 126	.17		71	0	.7	199	8.0

A Calculated from sum of determined constituents.

## MISCELLANEOUS ANALYSES OF STREAMS IN SACRAMENTO RIVER BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
11-4196. YUBA RIVER NEAR SMARTVILLE, CALIF.																						
Nov. 19, 1964....	620	--	--	--	--	3.4	--	56	0	--	0.8	--	--	0.0	--	--	--	49	3	0.2	118	7.9
Jan. 8, 1965....	13818	--	--	--	--	2.3	--	23	0	--	.2	--	--	.1	--	--	--	19	0	.2	47	7.3
Mar. 5.....	2452	--	--	--	--	2.3	--	37	0	--	.6	--	--	.0	--	--	--	32	2	.2	72	7.8
May 7.....	4875	12	--	8.0	0.7	1.8	0.5	26	0	3.0	.6	--	0.1	.0	39	0.05	--	23	2	.2	51	7.4
July 16.....	859	--	--	--	--	2.3	--	36	0	--	.8	--	--	.0	--	--	--	29	0	.2	71	8.0
Sept. 8.....	506	13	--	14	3.2	2.6	.5	60	0	5.0	.9	--	.3	.0	71	.10	--	48	0	.2	109	7.9
11-4215. YUBA RIVER AT MARYSVILLE, CALIF.																						
Nov. 13, 1964....	564	--	--	--	--	4.1	--	64	0	--	1.8	--	--	0.0	--	--	--	57	5	0.2	132	7.8
Jan. 8, 1965....	18100	--	--	--	--	2.3	--	24	0	--	.4	--	--	.0	--	--	--	20	0	.2	50	7.6
Mar. 5.....	2470	--	--	--	--	2.2	--	38	0	--	.7	--	--	.0	--	--	--	34	3	.2	77	7.8
May 7.....	4570	12	--	8.0	1.0	1.9	0.2	27	0	5.0	.5	--	0.2	.0	43	0.06	--	24	2	.2	57	7.1
July 16.....	393	--	--	--	--	2.9	--	42	0	--	.8	--	--	.0	--	--	--	39	5	.2	90	8.1
Sept. 17.....	417	15	--	16	3.4	3.3	.6	62	0	9.0	1.1	--	.1	.0	80	.11	--	54	3	.2	119	7.9
11-4335. MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CALIF.																						
Nov. 12, 1964....	995	--	--	--	--	4.0	--	30	0	--	3.8	--	--	0.0	--	--	--	34	9	0.3	92	7.3
Jan. 14, 1965....	2580	--	--	--	--	3.3	--	29	0	--	2.0	--	--	.0	--	--	--	26	2	.3	64	7.8
Mar. 15.....	1100	--	--	--	--	2.4	--	28	0	--	1.3	--	--	.0	--	--	--	23	0	.2	61	7.7
May 14.....	2540	12	--	5.0	0.9	1.8	0.2	21	0	2.0	.8	--	0.3	.0	38	0.05	--	16	0	.2	42	7.3
July 13.....	378	--	--	--	--	3.5	--	40	0	--	2.7	--	--	.0	--	--	--	34	1	.3	90	8.1
Sept. 2.....	130	12	--	15	2.8	3.2	2.5	60	0	6.0	3.3	--	.2	.0	77	.10	--	49	0	.2	123	7.9

MISCELLANEOUS ANALYSES OF STREAMS IN SACRAMENTO RIVER BASIN--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, December 1963 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs) 1/	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment												Method of analysis
							Percent finer than size indicated, in millimeters												
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000		
11-3788.6. RED BANK CREEK ABOVE MOUTH, NEAR RED BLUFF, CALIF.																			
Dec. 26, 1963.....	1215	47		--	5	T	--	--	--	--	--	--	--	--	--	--	--	V	
Jan. 21, 1964.....	1320	44		150	288	117	--	--	--	--	--	76	78	81	94	100			
Jan. 21.....	1400	44		150	350	142	--	--	--	--	--	--	--	--	--	--			
Mar. 5.....	1140	59		--	11	T	--	--	--	--	--	--	--	--	--	--	VPWC		
Nov. 10.....	1455	55		680	1940	3560	44	61	73	83	91	95	97	99	100	--			
Nov. 11.....	0850	50		150	139	56	--	--	--	--	--	98	99	100	--	--			
Nov. 11.....	1100	50		130	124	44	--	--	--	--	--	--	--	--	--	--	S		
Nov. 11.....	1430	49		140	130	49	--	--	--	--	--	--	--	--	--	--			
Nov. 11.....	1700	50		150	113	46	--	--	--	--	--	--	--	--	--	--			
Nov. 11.....	1740	50		290	327	256	--	--	--	--	--	--	--	--	--	--	VPWC		
Nov. 11.....	2035	50		760	2180	4470	--	--	--	--	--	--	--	--	--	--			
Nov. 11.....	2205	50		940	2680	6800	23	35	48	64	79	88	96	99	100	--			
Nov. 11.....	2400	50		880	1860	4420	--	--	--	--	--	--	--	--	--	--	S		
Nov. 12.....	0530	50		360	620	603	--	--	--	--	--	--	--	--	--	--			
Nov. 12.....	1015	52		240	307	199	--	--	--	--	--	--	--	--	--	--			
Nov. 12.....	1400	--		200	210	113	--	--	--	--	--	96	98	99	100	--	S S S		
Nov. 12.....	1530	--		140	195	74	--	--	--	--	--	92	93	94	95	96			
Nov. 12.....	1645	--		170	160	73	--	--	--	--	--	97	98	99	100	--			
Nov. 12.....	1820	50		160	138	60	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 13.....	1705	45		35	59	5.6	--	--	--	--	--	--	--	--	--	--			
Nov. 13.....	2015	47		31	50	4.2	--	--	--	--	--	--	--	--	--	--			
Nov. 14.....	0525	45		25	15	1.0	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 14.....	1700	51		19	12	.6	--	--	--	--	--	--	--	--	--	--			
Nov. 15.....	0800	40		15	5	.2	--	--	--	--	--	--	--	--	--	--			
Nov. 16.....	1440	48		12	4	.1	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 17.....	1835	50		8	2	T	--	--	--	--	--	--	--	--	--	--			
Nov. 18.....	1830	45		6	3	T	--	--	--	--	--	--	--	--	--	--			
Nov. 19.....	1900	50		5	1	T	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 20.....	1915	50		3	2	T	--	--	--	--	--	--	--	--	--	--			
Nov. 21.....	1835	50		2	2	T	--	--	--	--	--	--	--	--	--	--			
Nov. 22.....	1745	55		2	2	T	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 23.....	0500	47		2	6	T	--	--	--	--	--	--	--	--	--	--			
Nov. 24.....	1900	55		3	3	T	--	--	--	--	--	--	--	--	--	--			
Nov. 25.....	1730	55		2	3	T	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 26.....	1900	52		2	3	T	--	--	--	--	--	--	--	--	--	--			
Nov. 27.....	1930	51		2	3	T	--	--	--	--	--	--	--	--	--	--			
Nov. 28.....	1940	54		2	1	T	--	--	--	--	--	--	--	--	--	--	S S S		
Nov. 29.....	1800	55		2	6	T	--	--	--	--	--	--	--	--	--	--			
Nov. 30.....	0500	--		2	4	T	--	--	--	--	--	--	--	--	--	--			
Nov. 30.....	1830	53		5	27	.4	--	--	--	--	--	--	--	--	--	--			

1/ Water discharge records furnished by U.S. Bureau of Reclamation.  
T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN SACRAMENTO RIVER BASIN--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, December 1963 to September 1965--Continued  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs) 1/	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment												Method of analysis
							Percent finer than size indicated, in millimeters												
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000		
11-3788.6. RED BANK CREEK ABOVE MOUTH, NEAR RED BLUFF, CALIF.--Continued																			
Jan. 1, 1965. ....	0525	45		72	31	6.0	--	--	--	--	--	--	--	--	--	--	VPWC VPWC		
Jan. 2. ....	0800	40		63	88	15	--	--	--	--	--	--	--	--	--	--			
Jan. 2. ....	1800	40		82	128	28	--	--	--	--	--	--	--	--	--	--			
Jan. 3. ....	0525	36		260	2280	1600	--	--	--	--	--	--	--	--	--	--			
Jan. 3. ....	1710	35		480	1060	1370	--	--	--	--	--	--	--	--	--	--			
Jan. 4. ....	0500	50		210	169	96	--	--	--	--	--	--	--	--	--	--			
Jan. 4. ....	1600	50		220	223	132	--	--	--	--	--	--	--	--	--	--			
Jan. 5. ....	0900	50		1880	3920	19900	--	--	--	--	--	--	--	--	--	--			
Jan. 5. ....	1530	--		16100	11200	487000	26	29	45	57	73	82	96	99	100	--			
Jan. 5. ....	1700	50		11200	3840	116000	23	29	42	55	68	80	94	98	99	100			
Jan. 6. ....	0915	50		870	1680	3950	--	--	--	--	--	--	--	--	--	--			
Jan. 6. ....	1900	50		480	792	1030	--	--	--	--	--	--	--	--	--	--			
Jan. 7. ....	0800	50		330	446	397	--	--	--	--	--	--	--	--	--	--			
Jan. 7. ....	1900	45		250	227	153	--	--	--	--	--	--	--	--	--	--			
Jan. 8. ....	0900	42		90	136	70	--	--	--	--	--	--	--	--	--	--			
Jan. 8. ....	1930	47		170	86	39	--	--	--	--	--	--	--	--	--	--			
Jan. 9. ....	0900	50		160	62	27	--	--	--	--	--	--	--	--	--	--			
Jan. 9. ....	1800	50		140	32	12	--	--	--	--	--	--	--	--	--	--			
Jan. 10. ....	0730	50		130	28	9.8	--	--	--	--	--	--	--	--	--	--			
Jan. 10. ....	1800	55		120	29	9.4	--	--	--	--	--	--	--	--	--	--			
Jan. 11. ....	0500	50		120	26	8.4	--	--	--	--	--	--	--	--	--	--			
Jan. 11. ....	1720	53		110	26	7.7	--	--	--	--	--	--	--	--	--	--			
Jan. 12. ....	0505	50		100	19	5.1	--	--	--	--	--	--	--	--	--	--			
Jan. 12. ....	1600	45		92	15	3.7	--	--	--	--	--	--	--	--	--	--			
Jan. 13. ....	0530	50		84	8	1.8	--	--	--	--	--	--	--	--	--	--			
Jan. 14. ....	0520	55		79	12	2.6	--	--	--	--	--	--	--	--	--	--			
Jan. 14. ....	1430	50		76	14	2.9	--	--	--	--	--	--	--	--	--	--			
Jan. 15. ....	0500	50		72	13	2.5	--	--	--	--	--	--	--	--	--	--			
Jan. 15. ....	1800	50		67	10	1.8	--	--	--	--	--	--	--	--	--	--			
Jan. 16. ....	0500	45		65	8	1.4	--	--	--	--	--	--	--	--	--	--			
Jan. 20. ....	1730	50		49	2	.3	--	--	--	--	--	--	--	--	--	--			
Jan. 21. ....	1900	50		50	4	.5	--	--	--	--	--	--	--	--	--	--			
Jan. 22. ....	1930	50		46	8	1.0	--	--	--	--	--	--	--	--	--	--			
Jan. 23. ....	1800	--		54	2	.3	--	--	--	--	--	--	--	--	--	--			
Jan. 24. ....	0800	46		160	112	48	--	--	--	--	97	100	--	--	--	--			
Jan. 24. ....	1800	50		100	66	18	--	--	--	--	--	--	--	--	--	--			
Jan. 25. ....	0500	45		77	11	2.3	--	--	--	--	--	--	--	--	--	--			
Jan. 26. ....	1630	50		56	6	.9	--	--	--	--	--	--	--	--	--	--			
Jan. 27. ....	0515	--		53	2	.3	--	--	--	--	--	--	--	--	--	--			
Jan. 28. ....	0500	--		49	3	.4	--	--	--	--	--	--	--	--	--	--			

Jan. 29.....	1835	--	44	5	.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan. 30.....	0800	--	42	5	.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan. 31.....	0435	--	40	2	.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 1.....	1530	--	37	3	.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 2.....	1615	--	35	1	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 3.....	1700	--	33	2	.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 4.....	1600	--	31	2	.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 5.....	0700	--	37	2	.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 6.....	0630	--	40	2	.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 7.....	0800	--	31	1	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 8.....	1700	--	28	1	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 9.....	0700	--	26	2	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 10.....	0600	--	25	1	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Feb. 27.....	1545	58	59	1	.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 1.....	0845	54	13	1	T	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 8.....	0900	--	180	2220	1080	--	--	--	--	--	--	94	99	100	--	--	--	--	--
Apr. 8.....	1830	--	4050	2040	22300	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 9.....	0900	--	1630	2380	10500	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 9.....	1835	--	1250	2000	6750	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 10.....	1830	--	210	46	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 11.....	1930	--	100	49	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 12.....	0700	--	88	152	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 13.....	0800	--	65	161	28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 14.....	0830	--	51	126	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 15.....	0730	--	49	392	52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 15.....	2000	--	200	128	69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 16.....	0800	--	170	340	156	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 16.....	1900	--	120	132	43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 17.....	0830	--	81	144	31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 18.....	0730	--	66	144	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 19.....	0700	--	170	162	74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 20.....	0830	--	130	156	55	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 21.....	0830	--	45	324	39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 22.....	1930	--	34	63	5.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 23.....	0700	--	34	52	4.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 24.....	0800	--	34	41	3.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 25.....	1600	--	33	37	3.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 27.....	0730	--	33	34	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 28.....	1000	--	29	6	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May 5.....	1350	67	16	3	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June 15.....	1425	73	--	7	T	--	--	--	--	--	--	--	--	--	--	--	--	--	--

1/ Water discharge records furnished by U.S. Bureau of Reclamation.  
T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN SACRAMENTO RIVER BASIN--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, December 1963 to September 1965--Continued

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
11-4230. BEAR RIVER NEAR AUBURN, CALIF.																	
Nov. 2, 1964.....	1515	55		6.8	13	0.2						--	--				
Dec. 10.....	0840	48		66	35	6.2						--	--				
Dec. 15.....	1610	48		22	34	2.0						--	--				
Dec. 22.....	1120	51		3200	217	1870						98	100				S
Dec. 22.....	1510	52		5260	308	4370						96	97	99	100		S
Feb. 11, 1965.....	0835	42		851	50	115						100	--				S
Mar. 18.....	0855	49		9.3	17	.4						--	--				
Apr. 20.....	0930	52		1010	28	76						100	--				S
May 17.....	0715	62		168	6	2.7						--	--				
June 22.....	0705	64		74	7	1.4						--	--				
Aug. 3.....	0740	69		20	2	.1						--	--				
Sept. 14.....	0800	62		10	1	T						--	--				
11-4335. MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CALIF.																	
Nov. 3, 1964.....	0850	55		285	5	3.8						--	--	--	--	--	
Dec. 2.....	1500	50		1560	271	1140						98	100	--	--	--	S
Dec. 10.....	0945	48		375	4	4.0						--	--	--	--	--	
Dec. 22.....	1320	48		39700	2550	273000	15	17	34	51	72	85	97	100	--	--	VPWC
Feb. 11, 1965.....	1100	40		1760	25	119						56	64	66	81	100	S
Mar. 18.....	0955	49		1070	8	23						--	--	--	--	--	
Mar. 18.....	1115	49		1070	6	17						--	--	--	--	--	
Apr. 20.....	1150	52		4730	248	3170						47	64	85	98	100	V
May 17.....	0920	57		3600	208	2020						52	71	95	100	--	V
June 22.....	0815	65		815	8	.8						--	--	--	--	--	
Aug. 3.....	0845	75		195	1	.5						--	--	--	--	--	
Sept. 14.....	0900	66		220	3	1.8						--	--	--	--	--	
11-4517.2. BEAR CREEK NEAR RUMSEY, CALIF.																	
Oct. 9, 1964.....	1400	70		1.1	29	0.1											
Nov. 13.....	1050	47		20	48	2.6											
Dec. 10.....	1000	50		3.0	9	.1											
Jan. 7, 1965.....	1335	44		449	260	315						93	95	98	99	100	S
Feb. 11.....	1045	43		40	4	.4											
Mar. 11.....	1215	58		22	21	1.2											
Apr. 6.....	1415	61		12	11	.4											
May 19.....	1220	70		12	4	.1											
June 16.....	0900	65		4.8	26	.3											

T Less than 0.05 ton.



## NAPA RIVER BASIN

11-4560. NAPA RIVER NEAR ST. HELENA, CALIF.

LOCATION.--At gaging station 0.2 mile upstream from highway bridge, 1.3 miles northeast of Zinfandel, and 2.5 miles east of St. Helena, Napa County.  
DRAINAGE AREA (revised).--81.4 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: October 1957 to September 1965.

Sediment records: December 1956 to June 1962.

EXTREMES, 1964-65.--Water temperatures: Maximum, 76°F Aug. 13, 14.

EXTREMES, 1961-63, 1964-65.--Water temperatures: Maximum, 82°F June 17, 1963; minimum (1961-63), 41°F Jan. 22, 1962.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 16, 1964....	0.2	--	--	--	--	18	--	197	5	--	12	--	--	0.4	--	--	--	162	0	0.6	381	8.3
Nov. 10.....	345	22	--	10	4.6	12	2.6	42	0	15	9.6	--	9.2	.2	123	0.17	--	44	10	.8	159	7.7
Dec. 2.....	25	36	--	17	7.2	26	3.3	94	0	19	20	--	4.3	.7	180	24	--	72	0	1.3	269	8.2
Jan. 6, 1965....	2520	29	--	8.4	3.0	6.5	2.4	39	0	7.0	3.6	--	2.5	.2	105	14	--	34	2	.5	100	7.3
Feb. 3.....	85	--	--	--	--	12	--	81	0	--	8.5	--	--	.7	--	--	--	73	7	.6	208	8.1
Mar. 15.....	22	36	--	23	9.4	16	2.1	106	2	15	14	--	9.8	.6	180	.24	--	96	6	.7	271	8.4
Apr. 14.....	78	--	--	--	--	14	--	90	0	--	9.1	--	--	.3	--	--	--	72	0	.7	209	7.9
May 12.....	28	36	--	20	8.3	15	2.4	102	0	15	13	--	6.0	.4	A 166	.23	--	84	0	.7	241	8.2
June 2.....	12	--	--	--	--	19	--	94	12	--	17	--	--	.5	--	--	--	97	0	.8	281	8.7
July 13.....	1.8	--	--	--	--	20	--	163	0	--	15	--	--	.3	--	--	--	144	10	.7	360	7.6
Aug. 6.....	1.9	--	--	--	--	19	--	174	1	--	14	--	--	.1	--	--	--	146	2	.7	358	8.3
Sept. 14.....	.9	30	--	34	18	20	2.9	191	0	21	14	--	6.8	.3	A 241	.33	--	157	0	.7	384	7.5

A Calculated from sum of determined constituents.

NAPA RIVER BASIN--Continued

11-4560. NAPA RIVER NEAR ST. HELENA, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Temperature (°F) of water, water year October 1964 to September 1965																																	
Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	58	58	59	60	60	60	60	58	56	56	57	56	56	55	56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	55	56	56	56	57	57	56	56	55	54	54	55	54	53	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
December																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
January																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
February																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58	58	58	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	55	52	--	--	--	
March																																	
Maximum .....	59	59	60	59	58	58	61	61	58	58	62	59	61	62	63	59	61	62	63	64	65	65	64	61	63	59	60	62	62	61	62	61	
Minimum .....	53	53	53	56	56	56	54	57	57	57	55	57	56	54	54	58	55	54	54	55	56	57	58	56	55	58	56	56	56	58	59	56	
April																																	
Maximum .....	64	61	63	66	61	62	59	56	53	56	58	60	57	58	58	58	57	57	62	60	64	64	66	68	70	72	70	70	70	70	70	62	
Minimum .....	57	58	56	57	59	57	55	52	52	52	51	54	56	56	56	56	54	56	57	59	59	57	58	59	61	62	63	64	62	61	--	57	
May																																	
Maximum .....	67	66	68	68	66	66	68	69	70	71	72	72	68	72	74	74	73	74	74	70	67	67	69	70	71	72	72	73	72	72	70	70	
Minimum .....	59	58	58	60	58	57	57	59	61	61	62	63	64	62	63	64	64	64	66	66	65	65	65	64	64	62	63	64	66	65	--	62	
June																																	
Maximum .....	68	69	69	69	69	67	66	66	69	70	71	70	69	67	67	68	68	68	70	70	69	68	68	68	67	68	69	70	70	68	--	68	
Minimum .....	62	64	64	65	65	64	64	63	62	64	66	66	63	63	63	64	65	64	66	66	65	65	65	64	64	62	63	64	66	65	--	64	
July																																	
Maximum .....	70	71	70	70	71	69	69	70	70	71	72	74	73	74	75	75	74	75	73	74	74	76	74	72	70	70	70	71	72	71	72	72	
Minimum .....	65	66	65	66	66	65	64	65	65	65	65	66	68	67	68	70	69	68	68	67	68	68	68	68	67	66	67	67	69	70	70	67	
August																																	
Maximum .....	73	72	72	76	76	75	75	75	76	74	74	74	76	76	74	74	73	72	72	72	71	71	71	71	71	72	72	72	72	72	72	73	
Minimum .....	70	69	68	69	70	69	70	70	70	71	71	70	70	71	71	71	70	70	69	68	67	68	69	69	68	70	70	70	70	70	71	70	
September																																	
Maximum .....	71	70	68	66	66	65	65	65	65	65	65	65	65	65	65	65	64	61	61	61	61	62	62	63	63	63	63	62	62	62	--	64	
Minimum .....	68	68	66	65	64	65	63	63	63	64	65	64	64	63	64	64	60	59	58	59	59	61	62	62	63	63	62	61	61	62	--	63	

## SALMON CREEK BASIN

11-4609.2. SALMON CREEK AT BODEGA, CALIF.

LOCATION.--Temperature recorder at gaging station in Estero Americano Grant, on left bank 100 feet upstream from private road bridge, 0.3 mile upstream from unnamed tributary, and 0.4 mile northwest of Bodega, Sonoma County.

DRAINAGE AREA.--15.7 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 74°F Apr. 26; minimum, 35°F Nov. 19.

REMARKS.--No flow Oct. 1-29, Aug. 16 to Sept. 30; clock stopped Feb. 10 to Mar. 8.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	64	60	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	56	--	
November																																	
Maximum .....	59	63	63	62	63	59	57	58	58	56	54	57	52	50	50	50	49	48	47	47	44	50	51	49	51	53	51	52	54	52	--	54	
Minimum .....	57	56	55	54	53	51	53	56	54	51	51	50	45	40	40	39	37	36	35	37	37	42	42	44	49	48	46	50	50	50	--	47	
December																																	
Maximum .....	55	57	54	47	51	48	50	52	56	54	56	53	47	44	51	50	47	45	50	54	55	56	57	59	58	56	54	50	50	48	48	52	
Minimum .....	51	52	46	43	43	41	45	46	50	52	49	43	38	39	44	42	40	43	45	50	54	55	56	56	56	54	48	45	45	42	40	47	
January																																	
Maximum .....	44	47	49	50	53	52	52	49	50	52	54	52	50	53	51	50	50	54	50	52	53	53	52	51	49	50	52	54	54	53	49	51	
Minimum .....	37	41	47	47	50	47	43	40	44	44	49	47	45	43	44	44	45	46	46	47	48	50	49	46	43	40	43	43	44	42	46	45	
February																																	
Maximum .....	52	48	47	48	53	52	53	51	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	46	46	45	46	46	44	40	41	43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
March																																	
Maximum .....	--	--	--	--	--	--	--	--	50	51	54	54	57	56	55	54	54	56	59	60	62	60	58	58	56	52	55	54	52	53	57	--	
Minimum .....	--	--	--	--	--	--	--	--	48	48	45	48	47	44	48	47	47	44	45	46	47	50	49	48	45	50	48	45	46	48	49	--	
April																																	
Maximum .....	55	55	54	57	57	56	51	49	49	52	56	58	53	53	54	60	56	57	64	61	64	62	64	67	72	74	71	64	64	64	--	59	
Minimum .....	45	46	44	46	50	47	45	44	45	43	40	44	50	48	50	50	47	51	55	56	55	52	51	52	54	56	58	58	56	53	--	50	
May																																	
Maximum .....	61	62	62	62	59	60	62	63	66	69	70	67	60	64	68	68	69	67	64	64	64	66	65	66	68	69	69	68	70	64	64	65	
Minimum .....	51	49	50	54	50	52	50	52	54	56	59	59	54	52	54	56	56	56	58	57	56	54	55	57	55	56	59	60	60	59	59	55	
June																																	
Maximum .....	65	63	62	60	59	58	60	61	65	67	67	66	64	63	64	63	62	67	65	64	63	63	64	63	63	63	64	66	65	61	--	63	
Minimum .....	55	59	58	57	56	55	56	56	53	57	58	58	55	56	54	55	60	59	58	61	60	60	60	59	59	55	55	56	57	58	--	57	
July																																	
Maximum .....	64	65	64	65	65	64	63	64	65	64	66	64	65	66	66	66	66	66	66	66	67	66	66	66	66	65	66	66	63	62	63	65	
Minimum .....	58	59	59	58	59	60	60	60	58	58	58	57	60	60	60	61	62	61	61	60	60	57	61	60	60	60	59	58	56	54	54	57	59
August																																	
Maximum .....	63	61	62	63	63	63	62	--	--	--	58	61	64	64	63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	57	56	56	55	55	54	54	--	--	--	55	53	55	56	57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

## RUSSIAN RIVER BASIN

11-4610. RUSSIAN RIVER NEAR UKIAH, CALIF.

LOCATION.--At gaging station 200 feet downstream from York Creek, 0.7 mile upstream from East Fork, and 3.6 miles north of Ukiah, Mendocino County.

DRAINAGE AREA.--99.7 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

Sediment records: January 1964 to September 1965.

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, 9,480 ppm Dec. 22; minimum daily, no flow on many days.

Sediment loads: Maximum daily, 352,000 tons Dec. 22; minimum daily, 0 ton on many days.

EXTREMES, January 1964 to September 1965.--Sediment concentrations: Maximum daily, 9,480 ppm Dec. 22, 1964; minimum daily, no flow on many days in 1964.

Sediment loads: Maximum daily, 352,000 tons Dec. 22, 1964; minimum daily, 0 ton on many days in 1964.

REMARKS.--No flow Oct. 1-15.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November .....	--	--	--	--	--	--	--	--	54	51	53	52	50	50	51	45	53	52	53	51	50	51	52	51	50	--	50	50	50	50	--	--	
December .....	50	50	50	50	50	51	50	52	53	50	51	51	51	50	50	50	50	50	49	49	50	49	--	49	--	49	49	45	45	49	49	50	
January .....	50	49	49	49	--	49	49	49	49	49	49	48	45	49	50	50	50	50	50	50	50	50	49	49	49	49	49	49	--	--	50	49	
February .....	49	50	50	50	49	--	50	50	--	49	49	--	--	49	--	47	49	49	--	--	--	--	--	49	--	--	49	--	--	--	--	--	
March .....	--	49	--	--	--	--	--	--	50	52	52	51	53	54	52	51	52	53	53	50	54	52	53	53	53	52	52	--	51	51	51	--	
April .....	59	56	56	57	55	53	52	52	52	52	54	53	53	52	52	51	51	51	51	52	52	52	53	--	--	53	53	53	53	53	--	53	
May .....	53	--	53	53	52	52	53	52	53	53	55	58	56	56	56	56	56	--	56	--	71	--	--	72	--	--	71	72	--	--	75	--	
June .....	--	73	68	--	--	--	72	--	70	--	--	--	--	69	--	73	--	72	--	--	74	--	--	73	77	74	--	--	73	--	--	--	
July .....	--	72	--	--	74	--	75	--	--	--	--	73	--	--	--	--	--	--	76	--	75	--	--	--	--	--	--	78	81	--	80	--	
August .....	--	--	81	--	--	80	--	--	--	80	--	--	--	80	--	--	--	79	--	--	78	--	--	--	79	--	--	78	--	--	78	--	
September .....	--	--	75	--	--	--	76	--	--	77	--	--	--	78	--	--	77	--	--	--	76	--	--	--	76	--	--	--	78	--	--	--	--

## RUSSIAN RIVER BASIN--Continued

11-4610. RUSSIAN RIVER NEAR UKIAH, CALIF.--Continued

 Suspended sediment, water year October 1964 to September 1965  
 (Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	0			1	--	T	851	181	S 443
2..	0			5		.1	662	135	S 252
3..	0			10	--	.3	389	38	S 43
4..	0			12	--	.3	256	17	12
5..	0			12	--	.3	188	13	6.6
6..	0			12	--	.3	140	42	16
7..	0			12	--	.3	113	46	14
8..	0			26	50	K 5.1	97	62	16
9..	0			136	317	S 120	85	98	22
10..	0			721	559	S 1240	156	117	S 77
11..	0			634	392	S 1030	441	117	S 177
12..	0			588	204	S 386	223	23	14
13..	0			364	56	S 59	154	10	4.2
14..	0			219	18	11	152	19	7.8
15..	0			137	4	1.5	165	19	8.5
16..	.1			100	12	3.2	129	6	2.1
17..	.1			78	98	21	113	5	1.5
18..	.1			561	179	27	101	15	4.1
19..	.1			55	13	1.9	380	216	S 283
20..	.1			50	52	7.0	971	245	S 681
21..	.1			48	57	7.4	7310	4830	S 128000
22..	.1			76	51	10	13300	9480	S 352000
23..	.1			58	--	1.9	7570	4600	K 110000
24..	.1			54	9	1.3	4300	3000	S 392000
25..	.1			195	83	S 51	2000	1000	K 5600
26..	.1			138	8	3.0	2360	1610	S 12400
27..	.1			158	42	S 23	2100	1010	S 6080
28..	.1			1690	1070	S 6080	1860	753	3780
29..	.1			721	147	S 350	1920	997	5170
30..	.1			491	78	S 195	1680	680	3080
31..	.1			--	--	--	1380	480	1790
Total	1.6	--	0.1	6857	--	9636.9	51546	--	669184.8
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	968	320	836	172	--	19	107	9	2.6
2..	1100	420	1250	161	162	70	116	7	2.2
3..	2090	1270	S 7480	152	195	80	116	15	4.7
4..	1940	1390	S 7820	134	50	18	113	13	4.0
5..	5460	2500	K 46000	204	114	63	104	12	3.4
6..	3430	1900	17600	192	35	18	95	5	1.3
7..	1910	1020	S 5730	210	12	6.8	86	4	.9
8..	1170	440	1390	210	29	16	70	5	.9
9..	770	240	499	201	19	10	60	9	1.5
10..	622	320	537	204	14	7.7	49	8	1.1
11..	634	330	565	204	25	14	42	10	1.1
12..	505	110	150	182	17	8.4	42	12	1.4
13..	418	60	68	192	11	5.7	43	9	1.0
14..	328	120	106	188	7	3.6	43	12	1.4
15..	296	46	37	163	8	3.5	41	46	5.1
16..	276	40	30	154	6	2.5	39	19	2.0
17..	255	43	30	132	9	3.2	37	105	10
18..	243	53	35	105	10	2.8	36	33	3.2
19..	231	170	106	93	10	2.5	35	9	.9
20..	213	196	113	88	6	1.4	34	12	1.1
21..	201	184	100	82	5	1.1	32	5	.4
22..	190	190	97	80	6	1.3	31	7	.6
23..	516	2200	S 4450	75	4	.8	31	5	.4
24..	1250	1990	S 9920	80	--	.6	30	8	.6
25..	510	241	332	78	6	1.3	30	5	.4
26..	344	154	143	72	8	1.6	43	52	S 7.7
27..	306	169	140	135	60	S 24	186	507	S 298
28..	273	150	111	111	11	3.3	115	--	28
29..	234	98	62	--	--	--	92	25	6.2
30..	195	35	18	--	--	--	81	5	1.1
31..	180	27	13	--	--	--	73	10	2.0
Total	27058	--	105768	4054	--	390.1	2052	--	395.2

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

RUSSIAN RIVER BASIN--Continued

11-4610. RUSSIAN RIVER NEAR UKIAH, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	67	20	3.6	78	6	1.3	14	--	0.3
2..	61	11	1.8	72	--	1.2	14	5	.2
3..	57	5	.8	66	5	.9	12	11	.4
4..	53	6	.9	57	4	.6	13	--	.3
5..	50	9	1.2	49	5	.7	13	--	.2
6..	48	10	1.3	44	20	2.4	14	--	.2
7..	80	125	27	43	18	2.1	13	3	.1
8..	180	250	S 137	42	5	.6	13	--	.1
9..	540	926	S 1420	41	5	.6	14	6	.2
10..	472	380	S 484	40	7	.8	15	--	.4
11..	364	80	79	38	11	1.1	13	--	.3
12..	276	40	30	36	10	1.0	12	--	.2
13..	231	40	25	34	12	1.1	13	--	.1
14..	213	30	17	33	--	.5	13	2	.1
15..	675	727	S 2260	32	7	.6	13	--	.1
16..	828	464	S 1220	29	11	.9	13	6	.2
17..	525	80	S 116	27	12	.9	13	--	.2
18..	905	398	S 1050	25	--	.8	13	3	.1
19..	704	40	76	25	10	.7	13	--	.1
20..	600	105	S 190	25	--	.5	12	--	.1
21..	573	100	155	25	7	.5	11	4	.1
22..	422	72	82	25	--	.5	11	--	.2
23..	348	44	41	23	--	.4	10	5	.1
24..	273	--	18	22	6	.4	6.2	22	.4
25..	210	--	14	20	--	.3	8.1	2	T
26..	163	29	13	20	--	.4	9.6	--	T
27..	126	18	6.1	18	9	.4	10	--	T
28..	107	14	4.0	18	8	.4	9.1	1	T
29..	95	40	10	16	--	.2	7.2	--	T
30..	84	8	1.8	16	--	.3	6.7	4	.1
31..	--	--	--	15	11	.4	--	--	--
Total	9330	--	7485.5	1054	--	23.5	351.9	--	4.8
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	5.8	--	0.1	1.5	--	--	0.8	--	--
2..	4.8	15	.2	1.6	--	--	.8	--	--
3..	4.4	--	.2	1.4	4	--	.8	3	--
4..	4.8	--	.1	1.1	--	--	.7	--	--
5..	4.4	2	T	1.0	--	--	.7	--	--
6..	3.4	--	T	1.0	2	--	.6	--	--
7..	2.6	2	T	.8	--	--	.5	3	--
8..	2.7	--	T	.8	--	--	.5	--	--
9..	2.7	--	T	.8	--	--	.6	--	--
10..	2.7	--	T	.8	2	--	.5	3	--
11..	2.4	--	T	.9	--	--	.5	--	--
12..	3.0	3	T	1.2	--	--	.6	--	--
13..	2.7	--	T	1.4	1	--	.6	--	--
14..	2.0	--	T	1.2	--	--	.6	4	--
15..	2.4	--	T	1.0	--	--	.5	--	--
16..	1.6	--	T	1.0	--	--	.4	--	--
17..	1.6	--	T	1.0	1	--	.3	3	--
18..	1.5	--	T	1.0	--	--	.2	--	--
19..	1.6	2	T	1.0	--	--	.2	--	--
20..	1.2	--	T	1.0	1	--	.4	--	--
21..	1.1	5	T	.9	--	--	.2	3	--
22..	1.2	--	T	.9	--	--	.1	--	--
23..	1.0	--	T	1.0	--	--	.2	--	--
24..	1.0	--	T	1.0	8	--	.3	4	--
25..	1.0	--	T	.9	--	--	.5	--	--
26..	1.0	5	T	1.0	--	--	.5	--	--
27..	1.0	2	T	.8	2	--	.6	--	--
28..	1.2	5	T	.8	--	--	.6	--	--
29..	1.5	--	T	.9	--	--	.7	--	--
30..	1.5	4	T	.8	--	--	.7	--	--
31..	1.5	--	T	.8	2	--	--	--	--
Total	71.3	--	1.0	31.3	--	0.2	15.2	--	0.1
Total discharge for year (cfs-days).....									102,422.3
Total load for year (tons).....									792,890.2

S Computed by subdividing day.

T Less than 0.05 ton.

## RUSSIAN RIVER BASIN--Continued

## 11-4610. RUSSIAN RIVER NEAR UKIAH, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 9, 1964.....	0800	54		137	472		--	--	--	--	--	100	--	--	--	--	S
Nov. 11.....	1625	53		593	664		--	--	--	--	--	73	86	97	100	--	VPWC
Nov. 28.....	1105	50		2830	2100		26	33	46	59	75	86	97	100	--	--	VPWC
Dec. 21.....	1625	50		9090	5770		29	34	47	59	73	83	98	100	--	--	VPWC
Dec. 26.....	1620	49		2800	2400		24	33	46	60	73	88	99	100	--	--	VPWC
Dec. 28.....	1115	45		1780	799		--	--	--	--	--	71	85	93	100	--	V
Dec. 29.....	1005	45		1920	1350		18	23	33	41	52	62	81	93	98	100	VPWC
Jan. 3, 1965.....	1300	49		2230	1300		--	--	--	--	--	47	65	86	100	--	V
Jan. 6.....	1610	49		3470	2240		16	21	28	36	49	58	79	95	100	--	VPWC
Jan. 19.....	1615	50		231	212		--	--	--	--	--	96	98	100	--	--	S
Jan. 23.....	1620	49		1120	4660		17	22	28	37	51	61	87	98	100	--	VPWC
Mar. 27.....	1040	52		276	723		--	--	--	--	--	99	100	--	--	--	S
Apr. 15.....	1710	52		1200	1750		68	77	89	98	99	100	--	--	--	--	SPWC
Apr. 22.....	1530	64		418	84		--	--	--	--	--	96	98	100	--	--	S

RUSSIAN RIVER BASIN--Continued

11-4615. EAST FORK RUSSIAN RIVER NEAR CALPELLA, CALIF.

LOCATION.--At gaging station 0.5 mile downstream from Cold Creek, and 3.6 miles east of Calpella, Mendocino County.

DRAINAGE AREA.--93.0 square miles.

RECORDS AVAILABLE.--Water temperatures: March 1964 to September 1965.

Sediment records: March 1964 to September 1965.

REMARKS.--Where no maximum or minimum is shown, temperature is once-daily reading.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																																Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October	68	70	70	65	63	--	--	67	--	--	--	--	60	--	--	58	--	--	68	--	60	--	--	--	--	--	--	--	60	60	60	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
November	59	60	60	--	--	--	--	--	54	50	--	52	50	48	48	47	49	48	48	--	--	--	--	49	51	49	49	50	--	50	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
December	51	52	50	49	50	50	--	50	51	--	48	46	50	52	--	--	--	--	--	--	--	--	--	--	--	--	54	45	43	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
January	--	--	--	--	--	--	--	--	--	--	--	--	44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
February	49	54	46	51	53	50	48	49	52	48	50	57	49	55	53	43	54	53	59	52	51	--	51	48	--	--	--	--	--	--	--	51	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
March	54	49	--	--	--	--	53	48	52	55	55	57	56	57	55	57	55	55	59	58	59	56	58	57	55	--	54	55	55	58	59	55	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
April	53	52	55	55	53	52	--	49	52	55	56	51	56	57	58	52	57	58	--	--	60	--	54	--	--	--	--	--	--	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
May	58	59	58	58	56	56	60	59	60	61	62	63	61	62	--	--	59	61	62	59	--	60	63	59	62	64	65	63	66	65	64	61	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
June	68	67	69	66	68	67	62	63	62	63	65	65	--	59	63	65	66	68	69	68	--	--	65	64	64	67	69	72	70	--	--	66	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
July	69	--	68	71	73	68	71	67	68	70	69	70	68	69	--	73	75	70	68	68	60	68	70	--	69	--	--	71	--	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
August	--	--	68	--	--	65	--	--	--	--	--	68	--	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	71	71	71	71	70	70	70	71	72	71	71	71	72	72	72	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	66	65	65	64	64	64	64	65	66	66	65	66	66	66	65	--	
September	71	71	70	70	70	70	70	69	69	69	69	69	69	69	69	69	67	67	67	67	66	67	68	69	68	68	66	65	66	66	66	--	68
Maximum .....	66	65	65	65	65	65	64	64	64	64	64	64	64	66	66	67	64	62	62	62	62	62	63	64	64	63	62	61	62	62	--	64	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	



## RUSSIAN RIVER BASIN--Continued

11-4615. EAST FORK RUSSIAN RIVER NEAR CALPELLA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	198	10	5.3	305	15	12			
2..	202	8	4.4	310	13	11			
3..	200	8	4.3	302	14	11			
4..	202	10	5.5	300	12	9.7			
5..	185	11	5.5	300	11	8.9			
6..	174	--	5.6	292	--	7.9			
7..	284	--	28	294	10	7.9			
8..	308	30	25	325	39	37			
9..	313	--	22	430	127	147			
10..	305	--	18	790	209	468			
11..	301	--	15	754	165	452			
12..	279	--	12	526	122	173			
13..	29	13	1.0	403	44	48			
14..	226	--	6.7	316	40	34			
15..	274	--	7.4	287	42	33			
16..	276	10	7.4	308	37	31			
17..	292	--	7.9	302	28	23			
18..	297	--	8.0	300	25	20			
19..	307	10	8.3	300	23	19			
20..	307	--	8.3	297	--	18			
21..	302	--	8.2	302	--	19			
22..	302	--	8.2	310	21	18			
23..	294	--	7.9	305	15	12			
24..	297	--	8.8	308	16	13			
25..	294	--	9.5	346	36	34			
26..	294	--	9.5	325	18	16			
27..	297	13	10	307	20	18			
28..	297	--	10	1220	473	1790			
29..	300	14	11	528	150	240			
30..	297	15	12	490	75	143			
31..	287	12	9.3	--	--	--			
Total	8220	--	310.0	11882	--	3874.4			
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..				445	109	131	364	--	94
2..				430	106	123	359	95	92
3..				422	101	115	357	--	91
4..				398	114	123	326	--	84
5..				480	93	121	192	--	49
6..				442	31	37	194	--	51
7..				419	67	76	198	--	52
8..				410	113	125	188	100	51
9..				402	110	119	184	99	49
10..				397	109	117	204	93	51
11..				392	114	121	153	66	29
12..				387	125	131	104	37	12
13..				386	130	135	182	69	34
14..				385	--	140	165	68	30
15..				381	--	150	172	68	32
16..				377	163	166	170	73	34
17..				374	--	150	170	70	32
18..				372	126	127	173	68	32
19..				369	108	108	164	65	29
20..				368	119	118	164	55	24
21..				365	120	118	163	60	26
22..				361	--	110	161	56	24
23..				359	--	110	160	59	25
24..				356	111	107	119	59	19
25..				357	--	110	92	44	11
26..				359	--	97	172	--	33
27..				447	--	120	323	172	160
28..				371	--	98	225	70	43
29..				--	--	--	202	47	29
30..				--	--	--	328	118	105
31..				--	--	--	337	86	78
Total				11011	--	3303	6465	--	1505

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## RUSSIAN RIVER BASIN--Continued

11-4615, EAST FORK RUSSIAN RIVER NEAR CALPELLA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	250	93	S 65	372	39	39	206	26	14
2..	344	100	93	368	60	60	207	29	16
3..	339	75	69	361	81	79	204	31	17
4..	339	94	86	363	47	46	204	26	14
5..	338	110	100	360	40	39	210	31	18
6..	337	92	84	335	38	34	207	27	15
7..	345	--	62	361	36	35	216	25	15
8..	508	522	S 820	361	43	42	226	24	15
9..	747	947	S 1950	361	46	45	217	23	13
10..	524	170	241	340	56	51	207	26	15
11..	438	77	91	339	60	55	223	26	16
12..	272	80	59	336	41	37	209	21	12
13..	356	64	62	319	38	33	204	--	8.8
14..	400	--	51	317	45	39	212	--	9.2
15..	928	124	S 414	308	--	37	192	17	8.8
16..	764	146	301	306	--	32	199	21	11
17..	582	127	200	308	32	27	202	21	11
18..	1080	137	S 421	305	27	22	207	21	12
19..	746	--	120	307	28	23	203	22	12
20..	704	100	K 210	310	35	29	198	25	13
21..	647	152	266	337	--	34	193	--	16
22..	534	--	170	342	35	32	197	--	14
23..	481	98	127	337	39	35	195	20	11
24..	447	--	100	333	31	28	194	22	12
25..	429	--	89	317	31	27	193	23	12
26..	415	--	77	311	32	27	193	19	9.9
27..	395	--	66	300	29	23	199	21	11
28..	391	--	58	278	40	30	192	23	12
29..	383	--	51	224	40	24	187	22	11
30..	376	--	44	218	25	15	184	--	12
31..	--	--	--	211	29	17	--	--	--
Total	14839	--	6547	9945	--	1096	6080	--	386.7
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	188	34	17	190	--	8.2			
2..	195	39	21	188	--	9.1			
3..	198	30	16	186	22	11			
4..	203	28	15	192	--	12			
5..	200	--	16	193	--	13			
6..	192	30	16	196	23	12			
7..	187	35	18	198	--	12			
8..	188	43	22	205	--	11			
9..	177	43	21	202	--	9.8			
10..	185	--	19	194	--	8.4			
11..	187	29	15	206	16	8.9			
12..	178	30	14	234	--	12			
13..	182	24	12	246	19	13			
14..	192	--	11	234	--	10			
15..	195	--	12	236	--	11			
16..	197	21	11	236	--	14			
17..	189	--	9.2	205	25	14			
18..	199	17	9.1	193	--	14			
19..	192	18	9.3	195	--	14			
20..	189	17	8.7	192	26	13			
21..	191	18	9.3	204	--	14			
22..	192	18	9.3	202	--	14			
23..	198	16	8.6	206	--	14			
24..	183	14	6.9	190	--	12			
25..	181	15	7.3	189	--	11			
26..	190	--	8.2	197	--	11			
27..	202	--	8.7	209	--	11			
28..	200	16	8.6	234	--	12			
29..	187	--	8.1	233	18	11			
30..	190	--	8.2	199	--	9.7			
31..	192	--	8.3	190	17	8.7			
Total	5919	--	383.8	6374	--	358.8			

Total discharge for period October, November, February to August (cfs-days)..... 80,735  
 Total load for period October, November, February to August (tons)..... 17,764.7

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## RUSSIAN RIVER BASIN--Continued

## 11-4615. EAST FORK RUSSIAN RIVER NEAR CALPELLA, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Nov. 10, 1964.....	1000	50		909	248	--						76	83	89	97	100		S
Nov. 28.....	1100	50		1850	736	--						81	94	100	--	--		V
Dec. 1.....	1600	--		566	51	78						--	--	--	--	--		
Dec. 2.....	1530	--		534	56	81						--	--	--	--	--		
Dec. 3.....	1500	--		412	17	19						--	--	--	--	--		
Dec. 4.....	1600	--		270	16	12						--	--	--	--	--		
Dec. 5.....	1530	--		334	14	13						--	--	--	--	--		
Dec. 6.....	1600	--		364	21	21						--	--	--	--	--		
Dec. 8.....	1630	--		343	18	17						--	--	--	--	--		
Dec. 9.....	1310	--		340	16	15						--	--	--	--	--		
Dec. 9.....	1630	--		340	18	17						--	--	--	--	--		
Dec. 11.....	1000	--		424	15	17						--	--	--	--	--		
Dec. 12.....	0815	--		370	15	15						--	--	--	--	--		
Dec. 13.....	1400	--		352	12	11						--	--	--	--	--		
Dec. 14.....	0800	--		227	13	8.0						--	--	--	--	--		
Dec. 27.....	1300	54		1750	964	4550						74	95	95	97	100		V
Dec. 28.....	1415	--		1810	745	3640						--	--	--	--	--		
Dec. 29.....	1050	43		2170	1090	6390						50	62	76	83	97	100	V
Jan. 13, 1965.....	1045	44		650	242	425						87	91	96	100	--		S
Feb. 14.....	1630	55		386	627	--						27	64	95	100	--		S
Feb. 16.....	0930	43		377	164	--						95	96	98	99	100		S
Apr. 8.....	1700	49		536	823	--						98	99	100	--	--		V
Apr. 23.....	1030	54		492	98	--						83	85	88	100	--		S
Sept. 1.....	0830	--		180	13	6.3						--	--	--	--	--		
Sept. 29.....	0900	--		292	18	14						--	--	--	--	--		

RUSSIAN RIVER BASIN--Continued

11-4620. EAST FORK RUSSIAN RIVER NEAR UKIAH, CALIF.

LOCATION.--At gaging station 500 feet downstream from Coyote Dam, 1,300 feet upstream from mouth, and 3.2 miles northeast of Ukiah, Mendocino County.

DRAINAGE AREA.--105 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1952 to March 1955.

Water temperatures: December 1952 to March 1955, October 1964 to September 1965.

Sediment records: December 1952 to March 1955, January 1964 to September 1965.

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, (estimated) 1,900 ppm Dec. 25; minimum daily, 1 ppm on several days.

Sediment loads: Maximum daily, (estimated) 22,000 tons Dec. 25; minimum daily, 0.4 ton Nov. 29.

EXTREMES, January 1964 to September 1965.--Sediment concentrations: Maximum daily, (estimated) 1,900 ppm Dec. 25, 1964; minimum daily, 1 ppm on several days in 1965.

Sediment loads: Maximum daily, (estimated) 22,000 tons Dec. 25, 1964; minimum daily, 0.4 ton Nov. 29, 1964.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	--	64	--	--	65	--	65	66	65	--	--	64	--	64	--	64	--	--	64	--	64	--	63	--	--	63	--	--	59	60	61	59	--
November .....	--	60	--	59	--	59	59	58	54	53	52	57	53	52	52	51	54	54	53	53	52	52	53	52	52	52	52	52	52	51	--	54	
December .....	51	51	51	51	51	51	51	48	49	49	49	49	49	49	49	49	49	49	49	49	50	50	--	49	--	49	53	--	51	48	49	50	
January .....	49	49	49	49	--	48	48	48	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	--	--	50	49	
February .....	--	49	49	--	--	50	--	49	49	49	49	49	49	49	49	48	49	48	48	48	48	48	48	47	47	48	48	49	--	--	48	49	
March .....	48	48	48	48	48	48	48	48	49	47	49	49	49	49	49	49	49	49	49	49	48	49	49	49	49	49	49	49	--	49	49	49	
April .....	49	49	49	49	47	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	52	49	--	--	--	49	50	--	50	--	49	
May .....	50	--	50	52	51	52	50	50	50	50	50	52	52	52	52	52	51	51	52	52	55	54	--	55	55	--	55	55	--	--	55	52	
June .....	55	55	52	--	--	--	55	--	56	--	--	--	--	55	--	57	--	56	--	--	--	56	--	--	56	54	56	--	--	58	--	57	--
July .....	--	57	--	--	58	--	58	--	--	--	--	57	--	--	--	--	--	--	--	60	--	60	--	--	--	--	--	56	57	--	58	--	--
August .....	--	--	57	--	--	58	--	--	--	58	--	--	--	58	--	--	--	58	--	--	--	--	--	--	--	--	60	--	--	--	60	--	--
September .....	60	--	58	--	--	--	59	--	--	59	--	--	--	59	--	--	59	--	--	--	59	--	--	--	58	--	--	58	65	--	--	--	--

RUSSIAN RIVER BASIN--Continued

11-4620, EAST FORK RUSSIAN RIVER NEAR UKIAH, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	215	--	3.5	195	--	2.6	33	6	0.5
2..	208	4	2.2	175	6	2.8	32	7	.6
3..	207	--	2.8	159	--	4.3	32	7	.6
4..	205	--	3.3	157	19	8.1	31	8	.7
5..	205	7	3.9	157	--	10	31	9	.8
6..	205	--	3.3	154	16	6.7	31	15	1.3
7..	208	5	2.8	152	15	6.2	31	18	1.5
8..	208	4	2.2	154	17	7.1	43	10	1.2
9..	223	6	3.6	100	22	5.9	50	12	1.6
10..	230	--	3.7	68	15	2.8	64	12	2.1
11..	230	--	3.7	68	62	11	46	10	1.2
12..	230	6	3.7	66	63	11	32	10	.9
13..	230	--	3.7	65	51	9.0	32	9	.8
14..	230	6	3.7	65	49	8.6	32	9	.8
15..	230	--	3.7	64	30	5.2	32	9	.8
16..	230	5	3.1	62	23	3.9	32	13	1.1
17..	230	--	3.1	77	18	3.7	49	11	1.5
18..	233	--	4.4	84	14	3.2	60	8	1.3
19..	235	10	6.3	82	13	2.9	60	6	1.0
20..	237	--	4.5	106	9	2.6	60	15	2.4
21..	235	5	3.2	120	11	3.6	27	139	10
22..	235	--	3.2	118	10	3.2	10	202	5.5
23..	235	5	3.2	118	9	2.9	10	440	12
24..	235	--	3.2	116	9	2.8	386	1570	1640
25..	235	--	3.2	114	8	2.5	4370	1900	22000
26..	213	6	3.5	114	7	2.2	3300	1130	10100
27..	202	--	3.3	112	9	2.7	4010	1000	10800
28..	202	6	3.3	56	34	3.8	5450	360	5300
29..	200	6	3.2	14	10	4.4	6430	540	9370
30..	200	5	2.7	24	8	5	5980	336	5580
31..	198	5	2.7	--	--	--	5640	316	4810
Total	6819	--	105.9	3116	--	142.2	36426	--	69650.2
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3380	245	S 2310	1180	148	S 440	192	103	53
2..	2420	220	1440	1890	142	725	293	105	83
3..	1250	206	695	1200	136	S 431	346	99	92
4..	2270	190	1160	30	132	11	374	88	89
5..	745	270	K 420	30	136	11	251	91	62
6..	1040	852	S 2450	30	132	11	186	92	46
7..	3260	632	S 5160	30	127	10	186	97	49
8..	4110	420	4660	30	126	10	186	100	50
9..	4010	348	3770	30	128	10	186	97	49
10..	3030	281	2300	30	115	9.3	186	107	54
11..	2390	267	1720	30	129	10	186	98	49
12..	2360	243	1550	30	119	9.6	108	107	31
13..	2330	256	1610	30	137	11	57	96	15
14..	1040	420	S 946	30	127	10	57	98	15
15..	30	450	36	1990	116	S 401	140	93	35
16..	30	395	32	1350	117	S 396	186	86	43
17..	30	382	31	36	123	12	186	91	46
18..	30	375	30	36	125	12	186	87	44
19..	30	349	28	36	123	12	168	81	37
20..	30	343	28	36	107	10	160	85	37
21..	30	340	28	36	102	9.9	160	84	36
22..	30	303	25	36	122	12	160	81	35
23..	30	289	23	790	119	S 238	160	92	40
24..	30	213	17	650	111	S 190	145	84	33
25..	635	164	281	43	119	14	98	66	17
26..	995	169	454	43	116	13	61	63	10
27..	990	159	425	43	113	13	61	91	15
28..	458	182	S 205	33	111	9.9	61	80	13
29..	30	166	13	--	--	--	102	57	16
30..	30	164	13	--	--	--	286	52	40
31..	30	167	14	--	--	--	349	68	64
Total	37103	--	31874	9158	--	3051.7	5463	--	1298

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

RUSSIAN RIVER BASIN--Continued

11-4620. EAST FORK RUSSIAN RIVER NEAR UKIAH, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	279	67	50	450	56	68	240	29	19
2..	186	73	37	450	--	67	181	33	16
3..	162	71	31	140	56	21	171	30	14
4..	162	65	28	4.4	--	.4	171	--	12
5..	125	60	20	90	13	3.2	171	--	12
6..	100	66	18	363	14	14	171	--	12
7..	100	63	17	363	21	21	171	27	12
8..	135	58	21	363	39	38	171	--	8.8
9..	318	51	44	363	43	42	171	6	2.8
10..	446	53	64	378	41	42	171	--	2.8
11..	474	68	87	386	38	40	171	--	3.7
12..	418	68	77	386	42	44	171	--	5.1
13..	378	63	64	120	42	14	171	--	6.5
14..	378	56	57	33	23	2.0	171	18	8.3
15..	378	72	73	33	48	4.3	171	--	10
16..	522	52	73	33	44	3.9	171	26	12
17..	615	50	83	33	42	3.7	171	--	13
18..	615	51	85	33	52	4.6	171	31	14
19..	815	50	110	33	52	4.6	171	--	9.2
20..	930	35	88	165	17	7.6	171	--	5.1
21..	745	32	64	307	14	12	171	8	3.7
22..	546	44	65	311	13	11	171	--	3.2
23..	438	61	72	311	--	18	171	8	3.7
24..	402	65	71	311	36	30	171	24	11
25..	402	65	71	311	36	30	171	30	14
26..	402	59	64	311	--	29	174	--	16
27..	148	59	24	311	36	30	174	--	16
28..	268	55	40	311	16	13	174	33	16
29..	378	43	44	311	--	11	174	--	14
30..	426	51	59	311	--	17	174	27	13
31..	--	--	--	311	30	25	--	--	--
Total	11691	--	1701	7636.4	--	671.3	5224	--	308.9
	JULY			AUGUST			SEPTEMBER		
1..	177	--	14	285	--	18	269	11	8.0
2..	177	32	15	283	--	18	269	--	3.6
3..	177	--	13	283	25	19	269	1	.7
4..	177	--	12	283	--	17	269	--	.7
5..	175	20	9.5	283	--	15	269	--	.7
6..	177	--	12	279	16	12	269	--	.7
7..	177	30	14	279	--	12	269	1	.7
8..	177	--	14	279	--	13	269	--	.7
9..	194	--	16	279	--	13	269	--	2.2
10..	213	--	17	279	18	14	269	6	4.4
11..	216	--	17	279	--	14	265	--	2.9
12..	235	31	20	279	--	14	265	--	2.1
13..	244	--	20	279	18	14	263	--	2.1
14..	244	--	19	277	--	15	265	3	2.1
15..	248	--	19	276	--	17	265	--	2.1
16..	269	--	20	276	--	19	265	--	2.1
17..	279	--	20	276	28	21	265	3	2.1
18..	279	--	19	276	--	19	263	--	2.1
19..	279	24	18	276	--	15	262	--	2.1
20..	283	--	18	276	17	13	262	--	2.1
21..	269	23	17	276	--	11	259	3	2.1
22..	274	--	15	276	--	9.7	259	--	2.1
23..	283	--	11	276	--	8.9	258	--	2.1
24..	283	--	9.2	272	11	8.1	258	3	2.1
25..	286	--	7.7	270	--	9.5	258	--	2.1
26..	286	11	8.5	269	--	11	258	--	2.1
27..	286	20	15	269	16	12	258	--	2.1
28..	286	35	27	269	--	8.0	258	--	2.1
29..	286	--	19	269	--	6.5	258	3	2.1
30..	286	20	15	268	--	3.6	258	--	2.1
31..	286	--	16	269	3	2.2	--	--	--
Total	7508	--	486.9	8565	--	402.5	7912	--	65.2

Total discharge for year (cfs-days)..... 146,621.4  
 Total load for year (tons)..... 109,757.8

B Computed from estimated-concentration graph.

## RUSSIAN RIVER BASIN--Continued

11-4620. EAST FORK RUSSIAN RIVER NEAR UKIAH, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Dec. 24, 1964.....	1645	49		D 386	1960		68	86	98	99	99	100	--	--				SPWC
Dec. 27.....	0905	53		D 4010	1170		80	92	94	96	96	98	99	100				SPWC
Dec. 29.....	0915	51		6580	513		84	94	94	98	98	98	99	100				SPWC
Dec. 31.....	1530	49		4940	324		--	--	--	--	--	97	100	--				S
Jan. 12, 1965.....	1710	49		2360	236		--	--	--	--	--	100	--	--				S
Jan. 21.....	1640	49		D 30	325		--	--	--	--	--	100	--	--				S
Jan. 28.....	1020	49		155	184		--	--	--	--	--	100	--	--				S
Feb. 16.....	1115	48		2080	117		--	--	--	--	--	97	100	--				S
Mar. 10.....	0930	47		186	107		--	--	--	--	--	98	100	--				S
Apr. 22.....	1715	52		502	49		--	--	--	--	--	99	100	--				S

D Daily mean discharge.

RUSSIAN RIVER BASIN--Continued

11-4625. RUSSIAN RIVER NEAR HOPLAND, CALIF.

LOCATION.--At gaging station, in Rancho de Sanel Grant, 0.2 mile downstream from McNab Creek, 4 miles north of Hopland, Mendocino County, and 17 miles upstream from Sulfur Creek.

DRAINAGE AREA.--362 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965 (discontinued).

Water temperatures: September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 16, 1964....	230	--	--	--	--	8.4	--	118	0	--	4.2	--	--	0.4	--	--	--	92	0	0.4	212	7.8
Nov. 10, .....	1670	--	--	--	--	6.5	--	60	0	--	4.4	--	--	.3	--	--	--	57	8	.4	141	7.0
Dec. 2, .....	1120	--	--	--	--	6.2	--	66	0	--	2.8	--	--	.2	--	--	--	56	2	.4	137	7.9
Jan. 6, 1965....	8380	--	--	--	--	6.8	--	52	0	--	2.4	--	--	.1	--	--	--	42	0	.5	105	7.5
Feb. 3, .....	2040	--	--	--	--	5.7	--	79	0	--	2.6	--	--	.1	--	--	--	69	4	.3	155	7.6
Mar. 12, .....	296	--	--	--	--	7.6	--	110	0	--	3.9	--	--	.3	--	--	--	91	1	.3	206	7.8
Apr. 14, .....	815	--	--	--	--	7.2	--	94	0	--	3.8	--	--	.2	--	--	--	80	3	.3	184	7.4
May 12, .....	693	12	--	19	8.4	6.6	1.5	93	2	9.0	3.7	--	2.2	.2	125	0.17	--	82	2	.3	188	8.4
June 2, .....	300	--	--	--	--	7.2	--	101	0	--	3.7	--	--	.3	--	--	--	86	3	.3	189	8.2
July 13, .....	213	--	--	--	--	6.8	--	92	2	--	3.7	--	--	.2	--	--	--	81	2	.3	185	8.4
Sept. 14, .....	245	12	--	20	8.3	7.2	1.2	100	0	10	2.8	--	.8	.1	111	.15	--	84	2	.3	191	7.7

Temperature (°F) of water, September 1965

Temperature (°F) of Water, September 1955																																		
Month	Day																															Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
September																																		
Maximum ....	66	66	66	65	65	64	66	66	66	66	66	67	67	67	67	68	65	65	65	65	66	67	67	67	67	67	65	65	65	66	67	68	---	66
Minimum ....	58	57	57	58	58	58	57	59	58	58	59	58	58	59	59	59	60	56	57	57	57	58	59	60	61	61	61	62	60	60	60	---	59	



## RUSSIAN RIVER BASIN--Continued

11-4630. RUSSIAN RIVER NEAR CLOVERDALE, CALIF.

LOCATION.--At gaging station 400 feet downstream from Cumisky Creek, and 5 miles northwest of Cloverdale, Sonoma County.

DRAINAGE AREA.--502 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1963 to September 1965.

Sediment records: November 1963 to September 1965.

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, 4,600 ppm Dec. 23, 1964; minimum daily, 3 ppm Oct. 20-22, 1964.

Sediment loads: Maximum daily, 495,000 tons Dec. 22, 1964; minimum daily, 1.9 tons Oct. 20-22, 1964.

REMARKS.--Where no maximum or minimum is shown, temperature is once-daily reading.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	--	--	71	--	66	--	68	67	68	--	--	62	--	68	--	67	--	--	66	--	64	--	62	--	--	60	--	60	60	--	--	--
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November	61	61	--	61	--	58	--	55	52	52	53	50	--	--	--	47	49	49	50	50	50	51	51	52	54	53	52	51	52	52	--	--
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	47	46	46	47	47	49	50	50	52	52	50	49	50	52	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December	53	53	52	49	50	50	51	53	55	55	54	50	46	47	49	49	46	45	47	49	50	53	53	52	52	51	52	52	52	50	49	51
Maximum .....	52	52	48	48	48	48	49	50	53	54	50	45	44	45	47	46	45	44	45	47	49	49	52	52	51	51	52	51	50	48	46	49
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January	49	49	50	49	49	51	52	53	52	52	53	53	53	52	52	54	55	56	55	55	55	55	55	54	55	55	52	49	48	49	50	51
Maximum .....	47	47	47	48	48	49	50	50	51	52	51	50	51	50	50	52	53	54	55	54	54	53	53	52	48	46	46	47	48	49	50	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	51	50	49	49	48	49	50	49	49	48	48	48	48	48	49	49	49	48	49	50	51	51	51	51	49	49	49	50	--	--	49	--
Maximum .....	49	48	49	48	47	47	47	47	46	44	44	44	46	46	45	47	45	45	47	47	47	47	46	48	47	47	47	46	--	--	47	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March	52	50	50	50	51	52	53	53	54	56	55	55	56	58	58	57	55	54	55	57	57	57	56	56	55	55	55	55	54	53	53	54
Maximum .....	46	47	48	48	50	50	49	51	53	52	51	52	50	50	50	53	50	50	50	51	52	51	52	51	50	51	52	50	51	51	52	50
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April	53	53	54	57	57	55	55	51	51	49	52	55	55	51	51	54	53	53	57	56	57	58	58	60	61	62	62	65	62	60	--	56
Maximum .....	50	50	51	52	55	52	51	49	47	45	45	49	50	50	49	50	49	50	53	53	53	52	52	53	54	56	56	60	57	55	--	52
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May	58	58	58	62	61	57	59	60	61	62	62	62	62	66	68	69	68	68	65	64	61	62	63	62	64	64	65	65	65	65	64	63
Maximum .....	52	51	52	55	54	54	53	55	55	56	56	57	56	57	59	61	61	61	62	60	57	56	59	58	59	60	61	61	61	61	61	57
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June	63	67	68	68	68	67	66	63	68	71	72	70	68	64	67	69	69	70	72	71	71	70	71	71	66	68	70	72	72	73	73	69
Maximum .....	59	61	62	62	62	62	61	59	63	65	63	61	61	58	61	63	64	65	65	66	65	65	64	61	60	62	63	65	65	65	65	63
Minimum .....	--	--	--	--	--	--	--	--	--	65	--	--	--	--	--	--	--	75	--	73	--	75	--	--	--	--	74	71	73	--	--	--
July	74	73	75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum .....	66	66	67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August	72	72	--	73	--	74	--	--	72	--	--	66	68	70	70	70	70	71	71	71	69	68	69	69	68	69	67	68	69	69	69	--
Maximum .....	65	67	--	--	--	--	--	--	--	--	--	62	61	65	66	66	67	66	66	66	64	64	64	64	66	65	63	65	65	65	64	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September	68	68	68	67	67	67	67	68	68	67	67	67	67	67	68	68	64	64	65	65	66	67	68	68	66	65	65	65	66	67	--	67
Maximum .....	64	64	64	64	64	63	63	64	64	64	63	63	63	63	64	63	60	60	60	61	62	64	64	65	65	64	63	60	62	63	--	63
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## RUSSIAN RIVER BASIN--Continued

11-4630. RUSSIAN RIVER NEAR CLOVERDALE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	219	--	3.5	268	19	14	1580	198	S 880
2..	203	--	3.8	284	15	12	1420	95	364
3..	201	7	3.8	225	--	4.9	1090	54	159
4..	203	--	4.4	209	5	2.8	750	22	45
5..	205	10	5.5	206	--	2.2	606	--	21
6..	207	--	6.7	203	4	2.2	510	--	14
7..	204	15	8.3	200	--	2.2	447	8	9.7
8..	203	24	13	350	--	9.5	403	8	8.7
9..	204	4	2.2	1560	930	S 4450	386	10	10
10..	221	--	4.2	2920	1060	S 9270	365	--	11
11..	223	--	6.0	1490	288	S 1290	786	193	S 479
12..	226	11	6.7	2100	541	S 3570	588	--	170
13..	227	--	4.9	1260	81	276	480	--	32
14..	226	4	2.4	878	--	76	436	10	12
15..	226	--	2.4	695	--	26	469	--	10
16..	230	4	2.5	580	10	16	425	7	8.0
17..	231	--	2.5	510	--	12	386	--	6.3
18..	233	--	2.5	471	9	11	392	5	5.3
19..	234	4	2.5	441	--	9.5	1130	201	S 820
20..	233	--	1.9	417	6	6.8	3750	622	S 6340
21..	235	3	1.9	446	--	6.0	16000	2040	S 102000
22..	238	--	1.9	484	--	7.8	42800	4070	S 495000
23..	238	4	2.6	472	8	10	36500	4600	S 487000
24..	242	--	2.6	453	--	8.6	14500	3100	K 120000
25..	245	--	2.6	539	10	15	10300	1900	K 52000
26..	242	4	2.6	590	--	14	10000	1780	S 49500
27..	228	--	4.3	575	--	11	10400	1520	42700
28..	249	10	6.7	2150	245	S 2280	10300	1110	30900
29..	275	48	36	2120	260	K 1800	10900	890	26200
30..	242	--	13	918	73	S 195	10500	820	23200
31..	232	8	5.0	--	--	--	9730	730	19200
Total	7025	--	168.9	24014	--	23410.5	198329	--	1457105
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	6660	590	10600	1150	74	S 287	420	23	26
2..	5920	785	S 13600	2370	--	2100	564	--	110
3..	8210	1570	S 35700	2290	192	1190	576	75	117
4..	8420	1200	K 30000	930	113	284	624	--	160
5..	23000	3930	S 259000	1030	115	320	606	87	142
6..	14000	2390	S 93500	888	71	170	480	49	64
7..	9810	1370	36300	780	--	76	464	--	53
8..	7770	810	17000	732	32	63	436	47	55
9..	6540	670	11800	684	45	83	425	60	69
10..	5430	550	8060	654	46	81	414	75	84
11..	4270	450	5190	612	42	69	436	--	100
12..	3910	400	4220	570	--	60	420	67	76
13..	3620	420	4100	522	--	47	350	--	49
14..	2890	350	2730	492	--	33	306	--	41
15..	1170	163	515	822	64	S 246	293	68	54
16..	942	131	333	2080	227	1270	365	--	82
17..	822	83	184	720	75	146	365	77	76
18..	720	67	130	582	22	35	355	--	71
19..	654	90	159	528	--	24	355	--	68
20..	582	82	129	486	--	21	335	69	62
21..	510	50	69	447	--	18	330	--	57
22..	458	48	59	425	15	17	325	60	53
23..	1440	748	S 5100	498	24	K 46	320	--	49
24..	3870	1870	S 21100	1240	150	K 520	311	58	49
25..	2300	382	2370	576	--	86	293	--	49
26..	2450	262	1730	492	--	40	275	--	48
27..	2270	212	1300	600	55	89	447	89	107
28..	1850	178	889	464	--	43	350	--	76
29..	1100	120	356	--	--	--	284	--	50
30..	996	82	221	--	--	--	360	--	78
31..	924	54	135	--	--	--	498	108	145
Total	133508	--	566579	23664	--	7464	12382	--	2320

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.

## RUSSIAN RIVER BASIN--Continued

11-4630. RUSSIAN RIVER NEAR CLOVERDALE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	498	--	130	717	--	130	295	--	22
2..	386	84	88	699	--	110	236	24	15
3..	335	--	71	625	53	89	212	--	13
4..	335	--	70	369	--	30	203	--	11
5..	320	73	63	306	21	17	200	19	10
6..	271	--	51	457	--	37	199	--	9.7
7..	284	72	55	510	--	90	203	18	9.9
8..	948	660	S 2360	502	--	81	199	--	9.1
9..	2890	998	S 7530	494	--	73	198	17	9.1
10..	2590	380	S 2660	482	48	62	195	--	8.4
11..	1920	--	1100	488	47	62	193	--	8.3
12..	1450	140	548	476	32	41	190	--	7.7
13..	1150	--	310	427	--	36	190	--	7.7
14..	1090	80	235	241	--	20	191	15	7.7
15..	3300	1330	S 17300	213	29	17	189	--	7.7
16..	3480	901	S 9360	194	--	10	186	15	7.5
17..	2130	250	1440	185	13	6.5	184	--	7.5
18..	2550	200	1380	176	--	6.2	188	15	7.6
19..	2230	210	1260	170	30	14	191	--	8.3
20..	2130	220	1270	167	--	14	193	--	8.9
21..	2170	250	1460	284	--	27	191	18	9.3
22..	1570	123	521	321	--	35	188	--	9.1
23..	1290	--	350	326	--	42	185	--	9.5
24..	1100	92	273	326	48	42	185	--	10
25..	1010	--	250	325	--	42	186	22	11
26..	935	--	220	325	--	35	186	--	10
27..	819	74	164	320	39	34	186	--	9.0
28..	618	--	100	315	--	30	186	17	8.5
29..	721	--	150	312	30	25	185	--	8.5
30..	703	62	118	309	--	26	183	17	8.4
31..	--	--	--	307	32	27	--	--	--
Total	41223	--	50887	11368	--	1310.7	5896	--	289.4
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	182	--	8.4	265	--	27	239	17	11
2..	179	17	8.2	265	--	26	240	--	11
3..	177	--	9.6	265	--	26	237	16	10
4..	179	--	12	264	36	26	236	--	10
5..	179	29	14	261	--	26	240	--	10
6..	174	--	14	261	39	27	244	16	11
7..	176	29	14	262	--	28	241	--	11
8..	175	--	13	264	--	29	238	18	12
9..	174	--	13	261	40	28	237	--	6.4
10..	184	27	13	260	--	29	238	8	5.1
11..	188	--	15	266	43	31	241	--	5.2
12..	190	32	16	273	--	27	243	--	5.2
13..	199	--	17	269	31	23	242	8	5.2
14..	202	30	16	264	--	20	236	--	7.0
15..	200	--	17	262	--	18	236	15	9.6
16..	203	--	19	262	22	16	235	--	8.2
17..	217	36	21	263	--	15	236	11	7.0
18..	223	--	23	262	21	15	237	--	7.0
19..	224	40	24	255	--	21	239	--	6.5
20..	221	--	21	255	40	28	239	10	6.5
21..	219	33	20	255	--	28	237	--	7.0
22..	209	--	17	255	--	28	237	12	7.7
23..	218	--	19	252	40	27	237	--	6.4
24..	245	--	24	249	--	26	238	8	5.1
25..	269	--	29	250	35	24	240	--	5.8
26..	267	43	31	248	--	25	241	--	6.5
27..	263	34	24	248	--	27	245	11	7.3
28..	264	48	34	243	41	27	245	11	7.3
29..	264	--	32	240	--	25	242	11	7.2
30..	264	43	31	240	35	23	242	--	7.2
31..	263	--	28	239	25	16	--	--	--
Total	6591	--	597.2	7978	--	762	7178	--	232.4

Total discharge for year (cfs-days)..... 479,156  
 Total load for year (tons)..... 2,111,126.1

S Computed by subdividing day.

## RUSSIAN RIVER BASIN--Continued

## 11-4630. RUSSIAN RIVER NEAR CLOVERDALE, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis
							Percent finer than size indicated, in millimeters										
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 9, 1964.....	0900	55		2250	1760		24	28	37	46	58	64	78	91	100	--	VPWC
Nov. 10.....	0900	52		3240	1180		36	41	54	67	77	83	88	94	99	100	VPWC
Nov. 11.....	1235	52		1210	116		--	--	--	--	--	91	94	97	100	--	S
Dec. 11.....	1700	54		864	238		--	--	--	--	--	97	100	--	--	--	S
Dec. 20.....	1300	49		3700	619		--	--	--	--	--	75	82	89	98	100	V
Dec. 21.....	1600	50		22500	2450		18	26	34	42	53	60	75	90	98	100	VPWC
Dec. 26.....	1625	51		10800	2030		26	32	42	50	59	67	84	94	100	--	VPWC
Jan. 13, 1965.....	0800	51		3660	425		--	--	--	--	--	77	94	100	--	--	V
Jan. 24.....	1000	53		4990	2500		25	35	47	60	72	82	95	100	--	--	VPWC
Mar. 9.....	1330	53		436	61		--	--	--	--	--	98	100	--	--	--	S
Apr. 8.....	1700	49		1210	1070		49	50	63	73	88	93	98	100	--	--	VPWC
Apr. 15.....	1600	51		5030	2930		43	49	56	66	75	84	95	100	--	--	VPWC
Apr. 16.....	0800	51		3870	1040		--	--	--	--	--	81	91	100	--	--	V
Apr. 21.....	1540	56		2050	183		--	--	--	--	--	75	87	100	--	--	V

RUSSIAN RIVER BASIN--Continued

11-4640. RUSSIAN RIVER NEAR HEALDSBURG, CALIF.

LOCATION.--At gaging station 2 miles east of Healdsburg, Sonoma County, and 3.5 miles upstream from Dry Creek.

DRAINAGE AREA.--793 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965 (discontinued).

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 16, 1964....	454	--	--	--	--	9.2	--	148	0	--	4.9	--	--	0.5	--	--	--	117	0	0.4	257	8.2
Nov. 10.....	1120	--	--	--	--	5.5	--	67	0	--	4.5	--	--	.2	--	--	--	64	9	.3	152	7.2
Dec. 2.....	605	--	--	--	--	6.7	--	88	0	--	3.5	--	--	.2	--	--	--	77	5	.3	179	7.7
Jan. 6, 1965....	392	--	--	--	--	4.4	--	57	0	--	1.9	--	--	.2	--	--	--	48	1	.3	112	7.7
Feb. 3.....	947	--	--	--	--	6.1	--	97	0	--	3.0	--	--	.2	--	--	--	84	4	.3	186	8.1
Mar. 12.....	1110	--	--	--	--	8.6	--	151	0	--	5.2	--	--	.4	--	--	--	130	6	.3	278	8.2
Apr. 14.....	323	--	--	--	--	7.8	--	118	0	--	3.9	--	--	.1	--	--	--	101	4	.3	222	7.5
May 12.....	166	14	--	28	11	7.4	1.3	137	0	14	4.2	--	2.4	.3	153	0.21	--	116	4	.3	252	8.2
June 2.....	150	--	--	--	--	8.1	--	134	4	--	3.9	--	--	.4	--	--	--	121	5	.3	256	8.5
July 13.....	200	--	--	--	--	9.6	--	158	0	--	5.4	--	--	.3	--	--	--	134	4	.4	282	8.2
Sept. 14.....	172	13	--	26	12	8.3	1.3	140	0	10	4.0	--	.8	.2	148	.20	--	116	1	.3	251	8.0

RUSSIAN RIVER BASIN--Continued

11-4645. DRY CREEK NEAR CLOVERDALE, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank 300 feet downstream from Smith Creek, and 5 miles southwest of Cloverdale, Sonoma County.

DRAINAGE AREA.--87.8 square miles.

RECORDS AVAILABLE.--Water temperatures: May to September 1965.

EXTREMES, May to September 1965.--Water temperatures: Maximum, 82°F on several days during July and August.

REMARKS.--Clock stopped Sept. 4-30; temperature range 55°F to 75°F.

Temperature (°F) of water, May to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May																																
Maximum .....	67	68	68	69	67	68	70	72	71	74	75	77	73	75	76	76	77	75	71	70	70	75	75	75	78	79	80	80	81	80	79	74
Minimum .....	54	53	54	55	53	52	53	55	56	57	58	59	61	58	58	59	59	60	60	60	59	57	58	58	59	60	62	62	62	63	64	58
June																																
Maximum .....	77	79	79	77	78	75	69	70	79	81	81	77	77	72	78	79	75	81	82	81	79	79	77	78	72	77	78	79	80	79	—	78
Minimum .....	61	63	64	64	64	64	63	61	60	63	64	61	60	60	59	61	64	63	65	66	67	67	66	65	60	60	61	64	64	66	—	63
July																																
Maximum .....	82	82	80	82	82	80	80	81	78	77	80	81	80	82	82	81	81	82	80	81	82	82	80	80	79	79	80	81	82	76	80	80
Minimum .....	66	66	66	66	66	66	67	66	64	63	63	65	65	65	66	67	67	67	66	66	66	66	66	66	67	66	67	66	66	67	68	66
August																																
Maximum .....	82	80	79	80	80	80	80	82	82	79	70	81	82	82	81	82	80	80	80	78	78	79	80	79	79	80	80	80	80	77	77	80
Minimum .....	68	68	66	66	66	66	66	66	67	68	67	66	66	66	67	68	67	67	67	66	66	65	66	66	68	68	66	67	66	66	66	67
September																																
Maximum .....	78	77	75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Minimum .....	65	65	63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

11-4652. DRY CREEK NEAR GEYSERVILLE, CALIF.

DRAINAGE AREA.--162 square miles.

RECORDS AVAILABLE.--Water temperatures: March 1964 to September 1965.

Sediment records: March 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 77°F Sept. 15, 30; minimum, 43°F Jan. 2, 3, 26.

Sediment concentrations: Maximum daily, (estimated) 15,000 ppm Dec. 22; minimum daily, no flow on many days.

Sediment loads: Maximum daily, (estimated) 830,000 tons Dec. 22; minimum daily, 0 ton on many days.

EXTREMES. March 1964 to September 1965.--Water temperatures: Maximum, 77°F Sept. 15, 30, 1965; minimum, 43°F Jan. 2, 3, 26, 1965.

Sediment concentrations: Maximum daily, (estimated) 15,000 ppm Dec. 22, 1964; minimum daily, no flow on many days in 1964.

Sediment loads: Maximum daily, (estimated) 830,000 tons Dec. 22, 1964; minimum daily, 0 ton on many days in 1964.

REMARKS.--No flow Oct. 1-28.

Temperature (°F) of water, water year October 1964 to September 1965																																
Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																
Maximum .....	56	55	52	51	51	50	52	54	55	55	54	51	49	49	52	49	48	47	48	51	53	55	54	54	54	55	56	55	53	53	55	55
Minimum .....	53	52	49	48	48	47	50	50	52	53	51	48	45	47	48	46	45	46	46	48	51	53	52	52	52	54	54	54	51	49	49	51
January																																
Maximum .....	52	51	47	48	51	51	50	48	49	50	51	50	48	48	48	47	48	49	50	49	51	50	51	50	49	47	47	48	48	55	53	51
Minimum .....	51	43	43	47	48	49	46	45	47	48	49	46	46	45	45	45	45	47	47	47	48	49	49	45	44	43	45	45	51	51	51	51
February																																
Maximum .....	54	52	51	51	53	52	52	52	51	51	51	52	50	53	52	53	53	54	54	56	55	55	55	54	54	55	52	54	54	---	---	---
Minimum .....	51	50	50	50	50	48	46	47	46	45	45	45	46	47	45	46	46	47	48	48	48	48	47	47	46	47	48	46	---	---	---	---
March																																
Maximum .....	57	57	57	56	56	56	60	59	55	54	60	57	58	60	60	59	58	60	61	61	62	62	62	61	60	59	60	61	56	57	57	59
Minimum .....	47	47	48	50	53	52	51	53	53	52	51	53	52	50	50	53	51	50	51	50	51	51	52	52	51	51	53	53	51	52	53	53
April																																
Maximum .....	59	58	59	64	58	61	54	50	50	53	56	58	53	52	52	56	54	54	59	57	61	61	62	62	62	61	60	59	60	61	56	57
Minimum .....	51	51	50	52	54	51	49	48	49	48	47	49	52	51	50	51	50	51	54	54	54	52	52	52	52	54	55	57	58	58	56	---
May																																
Maximum .....	63	64	64	65	63	63	65	67	67	68	69	70	66	69	71	71	70	70	65	65	67	69	69	69	70	71	71	72	70	72	70	68
Minimum .....	53	52	53	54	52	51	52	54	55	55	57	57	58	57	57	57	57	58	58	57	57	57	57	57	56	57	59	59	60	61	60	56
June																																
Maximum .....	69	70	71	69	69	67	64	64	71	73	73	70	70	66	71	70	66	72	73	73	71	71	71	72	72	70	72	73	74	73	73	---
Minimum .....	60	60	60	60	60	60	60	60	58	59	60	60	58	59	57	59	60	61	62	63	63	63	63	62	62	60	59	60	61	61	62	---
July																																
Maximum .....	74	75	74	75	75	74	74	74	74	73	74	74	74	74	74	74	74	74	74	73	74	74	76	75	75	73	74	75	75	76	71	74
Minimum .....	63	62	63	62	62	63	62	62	61	60	61	62	62	62	62	64	63	63	63	63	62	62	62	62	62	62	62	62	61	62	62	64
August																																
Maximum .....	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	74	76	76	76	76	76	76	76	76	76	76
Minimum .....	62	64	63	62	62	62	62	62	62	62	63	61	62	62	62	64	63	63	63	62	62	62	62	62	62	62	62	62	62	62	62	62
September																																
Maximum .....	76	76	74	73	74	75	75	76	75	74	75	75	76	77	76	72	74	75	74	74	75	74	75	74	72	71	70	69	75	76	77	---
Minimum .....	62	62	62	63	62	61	62	60	62	62	62	62	62	60	60	59	58	58	58	58	60	61	61	60	60	60	59	58	58	59	---	---

RUSSIAN RIVER BASIN--Continued

11-4652, DRY CREEK NEAR GEYSERVILLE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	0	--	0	127	144 S	78	210	44	25
2..	0	--	0	308	230 K	210	175	15	7.1
3..	0	--	0	147	54	21	150	14	5.7
4..	0	--	0	87	23	5.4	136	18	6.6
5..	0	--	0	69	10	1.9	134	5	1.8
6..	0	--	0	55	2	.3	122	4	1.3
7..	0	--	0	46	1	.1	112	3	.9
8..	0	--	0	271	541 S	1250	100	4	1.1
9..	0	--	0	1410	1660 S	7040	95	8	2.1
10..	0	--	0	1030	1200 S	4200	89	3	.7
11..	0	--	0	876	526 S	1590	93	3	.8
12..	0	--	0	879	492 S	1300	87	9	2.1
13..	0	--	0	463	210	263	79	4	.9
14..	0	--	0	285	75	58	79	--	.9
15..	0	--	0	200	45	24	84	--	.9
16..	0	--	0	156	25	11	79	--	.6
17..	0	--	0	134	17	6.2	71	--	.6
18..	0	--	0	120	15	4.9	69	--	.6
19..	0	--	0	105	8	2.3	436	--	100
20..	0	--	0	95	4	1.0	760	--	320
21..	0	--	0	90	4	1.0	8030	--	240000
22..	0	--	0	95	5	1.3	18800	--	830000
23..	0	--	0	80	4	.9	12100	--	390000
24..	0	--	0	75	11	2.2	5150	--	78000
25..	0	--	0	85	12	2.8	2870	--	18000
26..	0	--	0	75	20	4.1	2710	1680 S	13000
27..	0	--	0	70	18	3.4	2590	--	10000
28..	0	--	0	340	30	28	2260	--	7900
29..	59	77 K	31	250	100	68	1990	1050	5640
30..	83	73 S	18	195	80	42	1800	--	4400
31..	41	50	5.5	--	--	--	1620	--	3500
Total	183	--	54.5	8218	--	16220.8	63080	--	1600919.7
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1250	--	2400	349	--	80	144	--	10
2..	1800	--	8100	307	--	66	134	--	7.6
3..	3280	--	16000	279	--	53	128	16	5.5
4..	2790	--	11000	284	87 K	78	120	12	3.9
5..	11700	--	410000	732	544 S	1150	122	--	3.6
6..	6220	5180 S	88900	508	140	192	136	14	5.1
7..	3530	3420	32600	430	90	104	120	11	3.6
8..	2280	2270	14000	386	82	85	110	--	2.1
9..	1730	1100	5140	349	48	45	106	5	1.4
10..	1400	580	2190	321	40	35	104	9	2.5
11..	1220	420	1380	297	27	22	100	--	2.4
12..	1030	220	612	276	24	18	98	10	2.6
13..	862	--	350	258	19	13	108	--	2.3
14..	755	160	326	246	18	12	98	--	1.3
15..	666	210	378	234	14	8.8	93	4	1.0
16..	594	225	361	216	--	7.0	87	--	.9
17..	540	180	262	202	--	6.5	84	--	.7
18..	490	100	132	192	--	6.7	82	--	.4
19..	466	80	101	182	13	6.4	79	2	.4
20..	438	120	142	175	--	5.7	76	4	.8
21..	398	30	32	162	10	4.4	74	5	1.0
22..	363	28	27	154	--	3.3	71	7	1.3
23..	1050	135	383	148	--	2.4	69	--	.9
24..	1500	1580	6400	142	6	2.3	68	3	.6
25..	1000	850	2300	136	--	2.6	63	--	.5
26..	820	--	1000	132	8	2.9	71	6	1.2
27..	690	260	484	284	56 K	47	146	30 K	13
28..	600	--	240	165	35	16	104	14	3.9
29..	510	--	140	--	--	--	84	4	.9
30..	450	--	120	--	--	--	82	--	.9
31..	390	--	95	--	--	--	136	26 S	12
Total	50812	--	605595	7546	--	2075.0	3097	--	94.3

S Computed by subdividing day.

K Computed from estimated-concentration graph and subdividing day.



## RUSSIAN RIVER BASIN--Continued

11-4652. DRY CREEK NEAR GEYSERVILLE, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	154	--	12	237	31	20	34	--	0.4
2..	116	--	4.8	216	32	19	32	3	.3
3..	108	7	2.0	202	--	17	31	--	.3
4..	98	4	1.1	190	30	15	30	6	.5
5..	91	--	1.0	188	22	11	29	--	.5
6..	89	5	1.2	65	16	7.1	29	--	.4
7..	127	42 S	34	158	--	5.1	29	--	.4
8..	933	784 S	2440	150	--	3.6	29	--	.4
9..	1900	1500 K	7600	140	6	2.3	29	--	.4
10..	1380	1010 S	3860	134	--	1.4	28	--	.3
11..	886	--	1100	130	3	1.1	28	4	.3
12..	620	240	402	122	--	1.0	28	--	.3
13..	462	195	243	114	--	1.2	28	--	.4
14..	414	210	235	112	--	1.5	27	5	.4
15..	2380	1600 K	15000	110	8	2.4	27	--	.3
16..	2350	1650 S	11000	100	--	2.7	26	3	.2
17..	1370	--	4400	95	10	2.6	26	--	.3
18..	1270	1170	4010	91	--	2.2	25	5	.3
19..	1090	870	2560	82	--	1.5	25	--	.3
20..	916	490	1210	77	--	1.0	25	--	.3
21..	916	550	1360	69	4	.7	24	3	.2
22..	745	440	885	65	--	.7	24	--	.1
23..	630	230	391	60	--	.8	23	1	.1
24..	544	190	279	55	--	.7	22	--	.2
25..	470	130	165	51	--	.7	21	7	.4
26..	414	110	123	46	--	.7	20	--	.3
27..	370	100	100	41	--	.8	19	--	.3
28..	338	--	66	39	8	.8	18	4	.2
29..	300	47	38	38	--	.8	17	--	.2
30..	264	32	23	36	--	.7	16	--	.2
31..	--	--	--	35	6	.6	--	--	--
Total	21747	--	57546.1	3348	--	126.7	769	--	9.2
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	16	--	0.2	5.6	--	0.1	3.1	--	
2..	15	--	.2	5.6	--	.1	2.9	--	
3..	14	--	.2	5.6	--	.1	2.7	--	
4..	14	--	.2	5.4	--	.1	2.9	--	
5..	13	6	.2	5.1	--	.1	3.2	--	
6..	12	--	.2	4.2	--	.1	3.4	--	
7..	11	5	.1	4.8	--	.1	3.4	--	
8..	11	--	.1	4.8	--	.1	3.4	--	
9..	10	3	.1	4.8	--	.1	3.1	--	
10..	9.8	--	.1	4.0	10	.1	3.1	--	
11..	9.5	--	.1	4.2	--	.1	3.1	--	
12..	9.0	6	.1	4.2	10	.1	3.1	--	
13..	8.7	--	.1	4.8	--	.1	2.9	--	
14..	8.4	--	.1	5.4	--	.1	3.1	--	
15..	8.1	--	.1	5.6	--	.1	2.9	--	
16..	7.8	--	.1	5.4	--	.1	2.6	--	
17..	7.6	--	.1	5.4	--	.1	2.2	--	
18..	7.4	--	.1	5.4	--	.1	2.2	--	
19..	7.2	--	.1	5.4	--	T	2.2	--	
20..	7.1	--	.1	4.8	3	T	2.2	--	
21..	6.9	--	.1	4.5	--	T	2.2	--	
22..	6.7	--	.1	4.2	--	T	2.2	--	
23..	6.6	--	.1	4.5	--	.1	2.0	--	
24..	6.4	--	.1	4.2	--	.1	2.2	--	
25..	6.3	--	.1	4.0	--	.1	2.0	--	
26..	6.3	--	.1	3.7	--	.1	1.6	--	
27..	6.2	7	.1	3.7	9	.1	1.4	--	
28..	6.2	--	.1	3.2	--	.1	1.3	--	
29..	6.2	--	.1	3.2	--	.1	1.2	--	
30..	5.9	--	.1	3.1	--	.1	1.0	--	
31..	5.9	--	.1	3.1	--	T	--	--	
Total	276.2	--	3.7	141.9	--	2.8	74.8	--	0.7

Total discharge for year (cfs-days)..... 159,292.9  
 Total load for year (tons)..... 2,282,648.5

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## RUSSIAN RIVER BASIN--Continued

## 11-4652. DRY CREEK NEAR GEYSERVILLE, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 9, 1964.....	0700	58		1570	1890		--	33	--	53	--	71	80	90	99	100		VPWC
Nov. 10.....	0900	53		1960	2560		--	29	--	48	--	69	82	90	99	100		VPWC
Nov. 10.....	1710	53		1150	425		31	39	54	65	68	84	91	95	99	100		VPWC
Nov. 12.....	0715	55		1020	515		--	--	--	--	--	80	88	97	100	--		V
Dec. 26.....	1440	55		2830	2390		17	23	33	42	59	60	79	96	99	100		VPWC
Dec. 29.....	1530	50		2040	1020		18	26	35	43	56	57	69	89	100	--		VPWC
Jan. 24, 1965.....	0915	49	D	1500	2280		--	--	--	--	--	38	55	85	99	100		V
Jan. 27.....	1500	48	D	690	248		--	--	--	--	--	59	64	78	95	100		S
Feb. 5.....	0905	50		892	764		--	--	--	--	--	67	82	96	99	100		V
Feb. 15.....	1315	52		237	8		--	--	--	--	--	52	63	98	100	--		V
Apr. 23.....	1420	62		630	165		--	--	--	--	--	59	68	85	100	--		V

Particle-size analyses of bed material, March 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Bed material											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.062	0.125	0.25	0.50	1.0	2.0	4.0	8.0	16.0	32.0	64.0	
Apr. 15, 1964.....	1500		5	41				1	5	9	12	18	34	56	80	98	100	S
Feb. 15, 1965.....	1315		4	237				1	8	32	47	62	75	86	94	100		S

D Daily mean discharge.

## RUSSIAN RIVER BASIN--Continued

11-4670. RUSSIAN RIVER AT GUERNEVILLE, CALIF.

LOCATION.--On State Highway 12 bridge in Guerneville, Sonoma County, 5.3 miles downstream from gaging station, and 6.5 miles upstream from Austin Creek.

DRAINAGE AREA.--1,340 square miles upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: January 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 79°F Aug. 16, 17.

EXTREMES, January 1964 to September 1965.--Water temperatures: Maximum, 83°F June 24, 1964.

REMARKS.--No temperature record Dec. 22 to Feb. 26 because of flood.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	173	--	--	--	--	11	--	154	4	--	7.4	--	--	0.4	--	--	--	127	0	0.4	292	8.4
Nov. 11.....	6550	--	--	--	--	7.2	--	69	0	--	6.4	--	--	.2	--	--	--	68	11	.4	170	7.4
Dec. 2.....	2100	--	--	--	--	8.6	--	105	0	--	5.2	--	--	.3	--	--	--	90	4	.4	220	8.2
Jan. 7, 1965.....	43000	--	--	--	--	5.9	--	58	0	--	3.4	--	--	.2	--	--	--	50	2	.4	121	7.5
Feb. 5.....	3680	--	--	--	--	8.1	--	106	0	--	5.9	--	--	.2	--	--	--	93	6	.4	217	7.7
Mar. 10.....	824	--	--	--	--	10	--	155	0	--	7.9	--	--	.3	--	--	--	133	6	.4	290	8.2
Apr. 16.....	15700	--	--	--	--	5.2	--	64	0	--	2.8	--	--	.1	--	--	--	57	5	.3	129	7.1
May 12.....	884	15	--	26	14	9.4	1.1	136	4	14	5.9	--	3.5	.3	160	0.22	--	122	4	.4	269	8.6
June 4.....	417	--	--	--	--	9.6	--	144	4	--	6.0	--	--	.4	--	--	--	130	5	.4	279	8.5
July 14.....	195	--	--	--	--	12	--	160	6	--	7.6	--	--	.3	--	--	--	146	5	.4	314	8.5
Sept. 15.....	267	13	--	32	11	10	1.2	154	0	13	6.6	--	2.0	.3	165	.22	--	127	1	.4	270	7.9

## RUSSIAN RIVER BASIN--Continued

11-4670. RUSSIAN RIVER NEAR GUERNEVILLE, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	68	69	69	70	69	69	68	67	67	67	68	68	66	67	66	66	65	64	63	63	63	63	63	62	61	61	61	61	61	62	61	65	
Minimum .....	64	63	65	65	66	66	65	64	64	65	65	64	65	64	64	64	62	61	61	61	61	61	62	61	61	61	61	61	61	61	61	63	
November																																	
Maximum .....	61	61	61	61	61	60	59	59	59	57	54	54	54	54	52	52	52	52	52	52	52	52	53	53	54	54	54	54	54	54	—	55	
Minimum .....	61	61	61	61	60	59	59	59	57	54	54	54	54	52	52	52	52	52	52	52	52	52	52	53	53	54	54	54	54	54	—	55	
December																																	
Maximum .....	55	55	55	54	52	52	52	53	54	56	56	56	54	51	51	52	52	51	51	53	56	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....	54	55	54	52	52	52	52	53	54	56	54	51	51	51	51	51	51	51	51	53	53	—	—	—	—	—	—	—	—	—	—	—	
January																																	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
February																																	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	—	—	—	
Minimum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52	53	—	—	—	—	
March																																	
Maximum .....	54	55	55	55	55	55	56	56	56	56	56	57	57	58	59	58	58	58	58	59	60	61	60	59	57	57	57	58	57	57	57	57	
Minimum .....	53	54	55	55	55	55	55	56	56	56	56	56	57	57	57	58	58	58	57	56	57	58	59	58	58	57	57	57	57	57	57	57	
April																																	
Maximum .....	57	57	57	58	58	58	57	56	54	53	54	56	56	56	54	55	55	55	58	58	59	60	62	63	65	65	66	65	65	65	—	58	
Minimum .....	57	57	56	56	58	57	56	54	53	51	51	54	56	54	54	55	55	55	55	58	58	59	60	62	63	65	65	65	65	65	—	57	
May																																	
Maximum .....	65	63	61	61	61	59	59	60	62	63	64	65	64	63	65	67	67	67	65	64	61	62	64	63	65	66	68	69	71	69	69	64	
Minimum .....	63	60	60	60	57	56	57	59	60	62	63	64	62	61	63	64	66	65	64	61	60	59	62	61	62	63	66	66	66	68	68	62	
June																																	
Maximum .....	68	67	67	66	65	64	64	63	67	71	73	74	73	70	70	71	71	70	73	73	72	71	71	72	72	72	73	75	75	75	—	70	
Minimum .....	67	66	66	65	64	63	63	63	62	63	66	67	67	66	64	65	66	64	67	68	69	69	68	69	67	66	66	68	70	71	—	66	
July																																	
Maximum .....	75	76	74	76	76	76	74	75	75	75	76	76	76	76	76	77	77	76	76	76	76	77	77	76	76	75	73	74	76	78	77	76	
Minimum .....	70	70	71	71	71	71	70	70	70	70	70	71	72	72	72	72	73	72	72	72	70	71	71	72	72	71	70	70	71	73	74	71	
August																																	
Maximum .....	78	78	78	78	78	78	77	77	78	78	77	76	78	78	78	79	79	78	78	78	77	77	77	76	76	77	77	78	78	78	77	78	
Minimum .....	73	74	73	73	73	73	72	72	72	73	74	72	72	73	74	74	74	74	73	73	72	72	72	72	73	74	74	74	74	74	73	73	
September																																	
Maximum .....	75	74	73	73	72	71	71	71	71	71	70	71	71	71	71	72	72	68	66	66	67	67	68	68	67	66	66	66	66	67	68	—	70
Minimum .....	71	71	70	70	70	69	67	67	67	68	68	68	68	67	68	69	66	63	63	64	65	66	66	66	66	66	65	63	64	65	—	67	

MISCELLANEOUS ANALYSES OF STREAMS IN RUSSIAN RIVER BASIN

Periodic determinations of suspended sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
11-4632. BIG SULPHUR CREEK NEAR CLOVERDALE, CALIF.																		
Oct. 8, 1964.....	1645	66		2.3	1	T						--	--	--	--	--		VPWC
Nov. 10.....	1120	53		882	806	1920	29	31	44	56	67	73	86	94	98	100		
Dec. 8.....	1340	51		53	6	.9						--	--	--	--	--		
Dec. 29.....	1430	50		1100	443	1320						90	96	100	--	--		V S
Jan. 12, 1965.....	1450	52		466	112	141						83	88	92	100	--		
Feb. 15.....	1540	52		140	19	7.2						--	--	--	--	--		
Mar. 9.....	1245	52		70	15	2.8						--	--	--	--	--		S
Mar. 31.....	1700	57		129	21	7.3						--	--	--	--	--		
Apr. 21.....	1420	59		516	124	173						69	76	83	90	100		
May 11.....	1230	68		92	3	.7						--	--	--	--	--		
June 2.....	1150	68		36	3	.3						--	--	--	--	--		
June 25.....	1005	66		24	1	.1						--	--	--	--	--		
July 27.....	1420	79		12	12	.4						--	--	--	--	--		
Aug. 31.....	1425	77		5.8	1	T						--	--	--	--	--		
Sept. 28.....	1545	67		6.3	1	T						--	--	--	--	--		
11-4639. MAACAMA CREEK NEAR KELLOGG, CALIF.																		
Oct. 9, 1964.....	1020	59		0.3	1	T						--	--	--	--	--		
Nov. 9.....	1605	58		160	15	6.5						94	99	99	100	--		
Nov. 10.....	1335	54		535	46	66						--	--	--	--	--		
Dec. 8.....	1020	49		26	2	.1												
Dec. 26.....	1345	57		1200	713	2310						44	56	75	87	100		
Dec. 29.....	1645	50		614	306	507						16	22	36	83	100		
Jan. 12, 1965.....	1110	49		218	7	4.1												D
Feb. 15.....	1050	43	D	51	10	1.4						--	--	--	--	--		
Mar. 9.....	1040	51	D	26	3	.2						--	--	--	--	--		
Mar. 31.....	1345	54		27	2	.1						--	--	--	--	--		
Apr. 21.....	1040	57		304	17	14						--	--	--	--	--		
May 11.....	0945	54		30	2	.2						--	--	--	--	--		
June 2.....	0855	59		13	1	T						--	--	--	--	--		
June 23.....	0950	61		9.3	2	.1						--	--	--	--	--		
July 27.....	1000	64		2.8	1	T						--	--	--	--	--		
Aug. 31.....	1225	66		.3	1	T						--	--	--	--	--		
Sept. 28.....	0950	56		1.1	1	T						--	--	--	--	--		

D Daily mean discharge.

T Less than 0.05 ton.

## GUALALA RIVER BASIN

11-4675. SOUTH FORK GUALALA RIVER NEAR ANNAPOLIS, CALIF.

LOCATION.--Approximately 400 feet downstream from gaging station, 1,400 feet downstream from Wheatfield Fork Gualala River, and 4.8 miles west of Annapolis, Sonoma County.

DRAINAGE AREA.--161 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965 (discontinued).

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	3.5	--	--	--	--	13	--	146	2	--	8.7	--	--	0.1	--	--	--	114	0	0.5	270	8.3
Nov. 11.....	1010	--	--	--	--	7.6	--	73	0	--	6.8	--	--	.0	--	--	--	64	4	.4	164	7.9
Dec. 3.....	817	--	--	--	--	9.8	--	98	2	--	6.2	--	--	.1	--	--	--	82	0	.5	202	8.3
Jan. 7, 1965....	3840	--	--	--	--	6.7	--	53	0	--	5.4	--	--	.0	--	--	--	44	1	.4	115	7.8
Feb. 5.....	900	--	--	--	--	7.2	--	77	0	--	6.7	--	--	.1	--	--	--	68	5	.4	165	7.7
Mar. 10.....	140	--	--	--	--	9.5	--	112	0	--	6.4	--	--	.0	--	--	--	93	1	.4	217	8.0
Apr. 16.....	2740	--	--	--	--	6.9	--	65	0	--	5.2	--	--	.0	--	--	--	55	2	.4	132	7.4
May 14.....	113	17	--	24	8.8	10	1.3	115	2	12	6.7	--	1.1	.1	140	0.19	--	96	0	.4	227	8.4
June 4.....	59	--	--	--	--	11	--	130	0	--	6.2	--	--	.1	--	--	--	103	0	.5	246	8.2
July 15.....	16	--	--	--	--	13	--	130	2	--	7.6	--	--	.0	--	--	--	108	0	.5	251	8.5
Sept. 17.....	5.8	15	--	25	13	14	1.2	148	1	10	8.7	--	.4	.0	161	.22	--	114	0	.6	275	8.3

GARCIA RIVER BASIN

11-4676. GARCIA RIVER NEAR POINT ARENA, CALIF.

LOCATION.--Temperature recorder at gaging station 0.9 mile downstream from North Fork Garcia River, and 3.5 miles northeast of town of Point Arena, Mendocino County.

DRAINAGE AREA.--98.5 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1963 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 70°F on several days during August; minimum, 45°F Nov. 16-19.

EXTREMES, 1963-65.--Water temperatures: Maximum, 72°F June 22, 1964; minimum, 44°F Jan. 11, 15, Feb. 14, 1964.

REMARKS.--Clock stopped Feb. 2-22.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	64	65	66	64	64	63	64	64	63	63	63	61	63	63	62	61	61	62	62	62	62	59	58	59	60	58	57	58	59	59	59	62	
Minimum .....	58	56	57	58	58	59	57	58	58	58	57	57	57	56	56	56	54	54	54	54	54	56	56	55	54	56	56	56	55	55	55	56	
November																																	
Maximum .....	57	58	57	58	59	58	58	57	55	55	54	54	53	50	49	49	49	49	50	50	49	51	53	52	53	54	52	52	54	53	--	53	
Minimum .....	56	56	54	55	55	53	54	55	54	54	53	53	50	48	46	45	45	45	46	46	47	49	50	52	52	50	51	52	52	--	51		
December																																	
Maximum .....	54	54	53	51	51	50	52	54	55	55	55	50	49	50	53	50	49	50	52	54	56	57	57	57	57	56	54	52	51	51	49	53	
Minimum .....	53	53	50	49	48	48	50	51	54	54	49	47	47	48	49	47	46	48	50	52	54	56	57	56	56	54	52	50	49	49	47	51	
January																																	
Maximum .....	48	49	51	53	54	54	51	51	52	54	53	53	51	51	50	51	52	53	52	53	53	54	53	52	51	50	52	52	53	54	54	52	
Minimum .....	46	48	49	51	53	51	49	49	51	52	53	50	49	48	47	48	49	51	51	52	51	52	52	49	49	48	49	49	50	52	50	50	
February																																	
Maximum .....	52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	54	54	53	54	54	--	--	
Minimum .....	49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48	48	48	50	48	--	--	
March																																	
Maximum .....	55	56	55	53	52	54	55	56	54	53	53	56	57	57	57	57	56	55	57	59	58	57	54	56	56	53	55	55	53	55	54	55	
Minimum .....	48	49	49	50	50	50	50	52	52	52	51	52	51	50	51	51	50	49	49	50	49	50	50	50	49	51	50	49	50	51	52	50	
April																																	
Maximum .....	54	55	56	56	58	57	52	50	50	52	54	56	54	54	52	56	53	54	58	56	58	58	58	60	61	62	61	62	61	60	--	56	
Minimum .....	51	50	49	51	51	51	49	48	49	48	47	49	51	51	51	52	50	52	54	54	54	52	51	51	53	54	56	56	55	53	--	51	
May																																	
Maximum .....	59	59	58	58	57	57	58	59	60	62	62	62	58	61	61	63	61	62	58	59	58	61	61	61	61	63	62	63	64	63	64	62	
Minimum .....	52	51	51	52	50	49	50	51	51	54	54	54	55	52	52	54	53	53	54	54	54	52	53	53	53	54	55	55	55	54	55	53	
June																																	
Maximum .....	65	64	64	64	60	58	59	59	64	64	65	64	63	60	64	65	60	65	67	68	62	67	67	63	62	63	64	66	64	62	--	63	
Minimum .....	55	57	57	57	57	56	56	55	55	56	57	55	54	55	54	54	57	55	56	58	59	57	58	57	55	54	54	55	57	57	--	56	
July																																	
Maximum .....	66	64	63	65	64	65	67	66	65	65	65	66	67	68	68	68	69	68	66	67	67	69	69	67	63	67	69	69	67	62	67	66	
Minimum .....	56	57	56	56	57	56	58	58	56	56	56	56	58	58	58	58	59	58	58	57	59	58	59	59	59	59	61	58	59	59	58	58	
August																																	
Maximum .....	69	69	70	70	67	67	68	70	70	69	64	70	70	69	67	65	64	68	66	68	68	67	67	68	69	66	68	68	68	68	67	68	
Minimum .....	60	60	61	60	60	59	59	61	61	62	61	60	61	60	60	60	59	59	61	60	60	60	60	60	60	63	61	60	60	60	61	60	
September																																	
Maximum .....	66	67	65	65	62	64	65	65	65	64	64	63	64	65	65	66	66	64	62	62	63	64	64	64	64	63	63	63	62	63	--	64	
Minimum .....	60	60	59	59	60	59	59	61	59	59	60	59	60	60	60	61	60	58	56	56	57	57	57	58	58	58	58	59	58	56	57	--	59

## NAVARRO RIVER BASIN

11-4680. NAVARRO RIVER NEAR NAVARRO, CALIF.

LOCATION.--At gaging station 2.7 miles downstream from North Fork, 5.4 miles upstream from mouth, and 6.6 miles west of Navarro, Mendocino County.

DRAINAGE AREA.--303 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to July 1965 (discontinued).

Chemical analyses, in parts per million, October 1964 to July 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	7.1					13		148	0		8.8			0.2				113	0	0.5	274	7.5
Nov. 11.....	1030					9.0		76	0		6.9			.1				70	8	.5	181	7.5
Dec. 3.....	470					9.4		86	0		6.4			.1				70	0	.5	183	8.2
Jan. 7, 1965.....	6900					7.1		48	0		5.2			.2				39	0	.5	107	7.5
Feb. 5.....	726					9.2		92	0		6.4			.1				76	1	.5	188	7.6
Mar. 10.....	152					11		128	0		7.4			.1				103	0	.5	242	7.9
Apr. 16.....	4720					7.0		57	0		4.3			.1				48	1	.4	119	6.8
May 14.....	155	17		25	8.9	11	1.5	124	1	11	7.1		1.1	.2	148	0.20		99	0	.5	239	8.3
June 4.....	74					12		130	4		7.3			.2				109	0	.5	252	8.5
July 15.....	30					13		132	6		9.0			.1				112	0	.5	266	8.6



## BIG RIVER BASIN

11-4681. BIG RIVER NEAR MOUTH, NEAR MENDOCINO, CALIF.

LOCATION.--Approximately 200 feet upstream from Little North Fork Big River, and approximately 5.5 miles east of Mendocino, Mendocino County.

DRAINAGE AREA.--151 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965 (discontinued).

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....		--		--	--	13	--	124	0	--	7.9		--	0.4	--	--		87	0	0.6	225	7.8
Nov. 11.....		--		--	--	9.2	--	73	0	--	7.2		--	.2	--	--		65	5	.5	167	8.0
Dec. 3.....		--		--	--	7.8	--	63	0	--	5.4		--	.1	--	--		50	0	.5	135	7.9
Jan. 7, 1965....		--		--	--	6.6	--	39	0	--	4.5		--	.0	--	--		30	0	.5	88	7.6
Feb. 4.....		--		--	--	8.1	--	74	0	--	5.6		--	.1	--	--		57	0	.5	150	7.7
Mar. 10.....		--		--	--	9.5	--	92	0	--	6.4		--	.2	--	--		75	0	.5	182	8.0
May 13.....		23		19	6.0	9.7	1.5	93	1	8.0	6.3		0.9	.2	A 122	0.16		72	0	.5	184	8.3
June 4.....		--		--	--	10	--	93	1	--	--		--	.2	--	--		72	0	.5	187	8.4
July 15.....		--		--	--	12	--	108	3	--	7.8		--	.2	--	--		86	0	.6	206	8.4
Sept. 17.....		16		21	8.4	13	1.4	122	0	6.0	8.3		.2	.3	137	.19		87	0	.6	253	7.7

A Calculated from sum of determined constituents.

## NOYO RIVER BASIN

11-4685. NOYO RIVER NEAR FORT BRAGG, CALIF.

LOCATION.--At gaging station 0.7 mile downstream from South Fork, and 3.5 miles east of Fort Bragg, Mendocino County.

DRAINAGE AREA.--106 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965 (discontinued).

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	3.6	--	--	--	--	12	--	83	0	--	9.7	--	--	0.2	--	--	--	66	0	0.6	177	8.2
Nov. 11.....	131	--	--	--	--	9.0	--	58	0	--	9.5	--	--	.1	--	--	--	51	3	.5	146	7.2
Dec. 3.....	608	--	--	--	--	7.4	--	50	0	--	5.2	--	--	.1	--	--	--	40	0	.5	113	7.8
Jan. 7, 1965....	2460	--	--	--	--	6.0	--	31	0	--	4.6	--	--	.0	--	--	--	24	0	.5	75	7.6
Feb. 5.....	244	--	--	--	--	7.1	--	50	0	--	5.8	--	--	.0	--	--	--	40	0	.5	112	7.7
Mar. 10.....	66	--	--	--	--	8.3	--	52	0	--	6.4	--	--	.1	--	--	--	52	9	.5	146	6.9
Apr. 16.....	635	--	--	--	--	10	--	39	0	--	5.5	--	--	.0	--	--	--	39	7	.7	123	6.7
May 14.....	57	20	--	14	4.1	9.0	1.2	70	0	6.0	6.6	--	0.8	.1	96	0.13	--	52	0	.5	144	8.2
June 4.....	32	--	--	--	--	9.8	--	74	0	--	6.7	--	--	.1	--	--	--	56	0	.6	154	8.2
July 15.....	13	--	--	--	--	11	--	76	1	--	8.6	--	--	.0	--	--	--	60	0	.6	166	8.3
Sept. 17.....	4.2	16	--	16	5.8	12	1.0	88	0	5.0	9.9	--	.1	.0	109	.15	--	64	0	.6	181	7.7

## TENMILE RIVER BASIN

11-4686. MIDDLE FORK TENMILE RIVER NEAR FORT BRAGG, CALIF.

LOCATION.--Temperature recorder at gaging station on right bank 0.9 mile upstream from confluence with North Fork Tenmile River, and 15.4 miles northeast of Fort Bragg, Mendocino County.

DRAINAGE AREA.--32.9 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 67°F Aug. 29; minimum, 43°F Nov. 18.

REMARKS.--Thermograph installed Oct. 7.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	--	--	--	--	--	--	--	57	57	57	57	56	56	56	56	56	56	54	54	54	54	54	54	54	54	54	54	54	54	54	54	--
Minimum ....	--	--	--	--	--	--	--	56	57	57	56	56	56	56	56	56	54	54	53	53	54	54	54	54	54	54	53	54	54	54	54	--
November																																
Maximum ....	54	54	54	54	54	54	51	52	52	52	52	51	51	50	48	46	45	44	44	44	44	44	45	46	48	50	50	50	51	52	52	--
Minimum ....	54	54	54	54	54	51	51	51	52	52	51	51	50	48	46	45	44	43	44	44	44	44	45	46	48	50	50	50	51	52	--	49
December																																
Maximum ....	53	53	53	52	52	51	51	51	52	53	53	52	50	50	50	50	48	48	48	51	54	54	55	55	54	54	54	51	50	49	49	52
Minimum ....	52	53	53	52	51	50	51	51	51	53	52	50	49	49	50	48	47	47	47	48	51	52	54	54	54	54	51	50	49	49	49	51
January																																
Maximum ....	49	49	49	50	50	50	50	49	50	50	50	50	50	50	49	49	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	50
Minimum ....	49	49	49	49	50	50	49	49	49	49	50	50	49	49	49	49	49	50	50	50	50	50	49	49	49	49	49	49	49	49	49	49
February																																
Maximum ....	49	49	49	49	49	49	48	46	46	46	45	45	45	45	45	45	45	45	45	46	46	46	46	46	46	46	46	47	47	--	--	46
Minimum ....	49	49	49	49	49	48	46	46	46	45	45	44	44	45	45	45	45	45	45	45	46	46	46	46	46	46	46	46	46	--	--	46
March																																
Maximum ....	47	47	47	48	48	48	49	50	50	50	50	51	51	51	51	51	50	49	49	49	50	50	49	50	49	49	49	49	49	49	49	49
Minimum ....	46	45	45	46	48	48	48	49	50	50	50	50	50	49	49	49	49	47	46	47	47	47	47	47	48	48	48	48	49	49	49	48
April																																
Maximum ....	49	50	51	53	52	53	51	50	50	50	51	53	53	51	51	51	51	51	53	53	52	52	52	53	55	56	55	56	56	--	52	
Minimum ....	49	49	49	50	50	50	48	48	49	48	47	49	51	51	51	51	50	50	51	52	51	51	51	51	52	52	53	54	54	53	--	50
May																																
Maximum ....	54	53	53	53	52	54	54	55	57	58	58	58	58	58	58	59	58	58	57	56	56	58	58	58	59	60	61	61	61	62	61	57
Minimum ....	51	49	49	50	49	49	50	50	51	52	54	54	55	54	53	54	54	54	55	54	54	54	54	54	54	55	56	56	57	57	57	53
June																																
Maximum ....	60	60	59	59	59	58	57	56	59	60	61	61	58	57	59	60	59	60	61	60	59	58	59	58	58	58	60	59	60	--	59	
Minimum ....	55	57	57	57	58	57	56	56	56	56	57	57	54	55	54	54	57	56	57	57	58	58	58	57	55	54	54	55	56	59	--	56
July																																
Maximum ....	61	60	60	61	61	60	61	62	61	61	61	62	61	62	62	62	61	61	61	61	63	63	62	62	60	62	63	62	63	61	60	61
Minimum ....	59	58	58	58	58	58	58	58	56	56	56	57	58	58	58	59	58	58	58	58	59	59	59	59	59	59	60	58	60	59	59	58
August																																
Maximum ....	62	63	63	62	62	62	62	62	63	63	61	62	63	62	63	62	63	63	63	64	64	64	65	62	66	65	65	66	67	64	62	63
Minimum ....	59	60	59	58	58	58	58	57	58	59	59	59	59	58	58	59	59	59	59	61	60	58	59	61	59	62	61	61	60	59	59	59
September																																
Maximum ....	60	63	63	61	59	61	58	62	62	62	62	62	62	63	64	65	63	62	62	62	62	62	58	57	57	56	62	62	61	65	--	61
Minimum ....	59	58	58	58	58	58	56	58	55	55	57	56	56	55	56	56	53	53	52	52	54	54	55	56	56	55	54	53	54	--	56	

## MATTOLE RIVER BASIN

11-4690. MATTOLE RIVER NEAR PETROLIA, CALIF.

LOCATION.--At gaging station 0.2 mile downstream from Clear Creek, 1.2 miles southeast of Petrolia, Humboldt County, and 1.3 miles upstream from North Fork.  
 DRAINAGE AREA.--240 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1959 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	24	--	--	--	--	9.8	--	125	2	--	4.9	--	--	0.1	--	--	--	115	9	0.4	265	8.3
Nov. 5.....	140	--	--	--	--	8.5	--	94	2	--	4.4	--	--	.1	--	--	--	102	22	.4	239	8.3
Dec. 3.....	4580	--	--	--	--	5.9	--	46	0	--	3.1	--	--	.0	--	--	--	43	5	1.3	115	7.8
Feb. 11, 1965....	977	--	--	--	--	6.6	--	68	0	--	3.7	--	--	.0	--	--	--	60	4	.4	149	8.1
Mar. 9.....	317	--	--	--	--	6.5	--	84	0	--	3.3	--	--	.1	--	--	--	78	9	.3	181	8.0
Apr. 13.....	560	--	--	--	--	6.7	--	76	0	--	3.2	--	--	.2	--	--	--	72	10	.3	174	8.0
May 11.....	450	11	--	23	3.3	6.5	1.1	76	2	15	3.4	--	1.0	.1	105	0.14	--	71	5	.3	169	8.5
June 8.....	166	--	--	--	--	7.6	--	104	1	--	3.0	--	--	.1	--	--	--	94	7	.3	217	8.3
July 21.....	60	--	--	--	--	8.4	--	126	2	--	4.0	--	--	.0	--	--	--	115	8	.3	257	8.4
Aug. 4.....	48	--	--	--	--	8.5	--	126	4	--	4.6	--	--	.1	--	--	--	118	8	.3	264	8.5
Sept. 22.....	32	9.8	--	40	6.6	9.1	1.3	131	3	27	4.8	--	.3	.1	A 169	.23	--	127	15	.4	281	8.3

A Calculated from sum of determined constituents.

## MISCELLANEOUS ANALYSES OF STREAMS IN BEAR RIVER BASIN

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
11-4695.5. BEAR RIVER AT CAPETOWN, CALIF.																						
Oct. 14, 1964.....						11		143	3		7.4		--	0.2				140	18	0.4	318	8.3
Dec. 3.....						6.5		45	0		6.1		--	.1				53	0	.4	141	7.7
Feb. 11, 1965.....						8.8		76	0		--		--	.1				79	17	.4	199	8.1
May 11.....	10			30	4.9	7.7	1.5	93	3	25	5.4		1.3	.1	140	0.19		95	14	.3	223	8.4
June 8.....						8.6		118	5		6.1		.2	.0				122	17	.3	273	8.5
Aug. 4.....						11		149	2		7.5		--	.2				145	20	.4	324	8.4

## EEL RIVER BASIN

11-4705. EEL RIVER BELOW SCOTT DAM, NEAR POTTER VALLEY, CALIF.

LOCATION.--Temperature recorder at gaging station on left bank 0.4 mile upstream from Soda Creek, 0.7 mile downstream from Scott Dam, and 9.7 miles northeast of town of Potter Valley, Mendocino County.

DRAINAGE AREA.--290 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1963 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 67°F Oct. 1, Sept. 16, 17.

EXTREMES, 1963-65.--Water temperatures: Maximum, 67°F on several days during September 1964, Oct. 1, 1964, Sept. 16, 17, 1965.

REMARKS.--Recorder submerged during flood Dec. 22 to Jan. 12.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	67	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	64	64	63	63	63	63	63	63	63	62	62	62	62	62	62	64
Minimum ....	66	65	65	66	65	65	66	65	66	65	65	65	65	65	65	64	64	63	63	63	63	63	63	63	62	62	62	62	62	61	61	64
November																																
Maximum ....	61	60	59	58	58	58	57	56	56	57	55	53	52	52	51	51	51	50	49	48	48	47	47	47	47	47	47	47	47	47	--	52
Minimum ....	60	59	58	58	58	57	56	56	55	55	53	52	52	51	51	51	50	49	48	48	47	47	47	47	47	47	47	47	47	47	--	52
December																																
Maximum ....	47	47	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	45	45	45	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	47	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	45	45	45	--	--	--	--	--	--	--	--	--	--	--
January																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	44	43	42	43	43	43	44	44	44	45	45	44	44	44	44	44	44	44	44	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	43	42	42	42	42	43	43	44	44	44	44	44	44	44	44	44	44	44	44	--
February																																
Maximum ....	44	44	44	45	45	45	45	47	46	45	45	45	45	45	45	45	45	45	45	45	45	45	45	46	46	46	46	46	46	--	--	45
Minimum ....	44	44	44	44	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	46	46	46	46	--	--	45
March																																
Maximum ....	46	47	46	46	46	46	45	45	45	45	45	45	45	45	46	46	46	46	46	46	46	46	46	46	46	47	46	46	46	46	46	46
Minimum ....	46	46	46	46	46	45	45	45	45	45	45	45	45	45	45	46	46	46	46	45	45	45	45	45	45	46	46	45	45	46	46	45
April																																
Maximum ....	46	46	45	45	44	44	44	44	44	46	47	47	46	46	46	46	47	46	47	47	47	48	50	50	50	51	51	51	51	51	--	47
Minimum ....	46	45	45	44	44	44	44	44	44	44	46	46	46	46	46	46	46	46	46	46	46	47	47	47	48	50	50	51	50	51	50	--
May																																
Maximum ....	51	51	51	51	51	51	51	51	50	50	51	51	51	51	52	52	53	52	52	52	52	52	51	51	52	52	53	53	53	53	53	52
Minimum ....	50	51	51	50	51	51	51	50	50	50	50	50	51	51	51	52	52	52	52	52	52	52	51	51	51	52	52	53	52	53	53	51
June																																
Maximum ....	53	55	55	55	56	56	55	56	56	56	56	56	56	57	58	58	58	58	58	59	59	60	60	60	60	61	61	61	61	--	58	
Minimum ....	53	53	54	55	55	55	55	55	55	55	55	55	56	56	56	57	57	57	57	57	58	58	59	60	60	60	60	60	60	60	--	57
July																																
Maximum ....	61	60	60	59	59	59	59	59	58	58	58	58	58	59	59	58	58	58	59	59	59	59	59	58	58	58	58	59	59	58	57	59
Minimum ....	60	59	59	59	59	59	59	58	58	58	58	58	58	58	58	58	58	58	58	59	59	59	58	58	58	58	58	58	58	58	57	58
August																																
Maximum ....	57	57	57	56	56	56	56	57	57	57	57	57	58	58	58	58	59	60	61	62	62	62	62	62	62	62	62	63	63	63	63	59
Minimum ....	56	56	56	56	55	55	55	56	57	57	57	57	57	58	58	58	58	59	60	61	62	62	62	62	62	62	62	62	62	62	63	59
September																																
Maximum ....	64	63	63	64	63	65	65	66	66	66	66	66	66	66	66	67	67	66	66	66	66	66	66	65	64	64	64	64	64	64	--	65
Minimum ....	63	63	62	63	63	63	64	65	65	66	66	66	66	66	66	66	66	66	66	66	66	66	66	65	64	64	64	64	64	64	63	--

## EEL RIVER BASIN--Continued

11-4710. POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CALIF.

LOCATION.--At gaging station 100 feet downstream from powerhouse of Pacific Gas and Electric Company, 1.8 miles southwest of Van Arsdale Dam, and 2.9 miles northwest of town of Potter Valley, Mendocino County.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: March 1964 to September 1965.

Sediment records: March 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 40°F on several days during December to February.

Sediment concentrations: Maximum daily, 3,970 ppm Jan. 4; minimum daily, 4 ppm Sept. 20.

Sediment loads: Maximum daily, 3,280 tons Jan. 4; minimum daily, 0.5 ppm Oct. 13.

EXTREMES, March 1964 to September 1965.--Water temperatures: Minimum, 40°F on several days during winter months.

Sediment concentrations: Maximum daily, 3,970 ppm Jan. 4, 1965; minimum daily, 4 ppm on many days during 1964-65.

Sediment loads: Maximum daily, 3,280 tons Jan. 4, 1965; minimum daily, 0.3 ton Apr. 30, 1964.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....	286	--	--	--	--	6.8	--	103	0	--	3.7	--	--	0.5	--	--	--	89	5	0.3	190	8.0
Nov. 10.....	308	--	--	--	--	7.7	--	98	0	--	5.2	--	--	.7	--	--	--	82	2	.4	194	8.2
Dec. 2.....	304	--	--	--	--	6.4	--	76	0	--	3.3	--	--	.5	--	--	--	64	2	.4	153	8.1
Jan. 6, 1965....	294	--	--	--	--	3.4	--	46	0	--	1.0	--	--	.1	--	--	--	40	2	.2	87	7.5
Feb. 3.....	306	--	--	--	--	3.6	--	63	0	--	1.2	--	--	.1	--	--	--	52	0	.2	118	7.6
Mar. 12.....	81	--	--	--	--	5.1	--	85	0	--	2.2	--	--	.2	--	--	--	73	3	.3	157	7.7
Apr. 12.....	308	--	--	--	--	5.1	--	79	0	--	2.2	--	--	.2	--	--	--	68	3	.3	151	7.5
May 12.....	323	12	--	19	4.0	4.4	0.8	76	0	7.0	1.8	--	1.1	.1	96	0.13	--	64	2	.2	143	8.2
June 2.....	210	--	--	--	--	5.1	--	81	0	--	1.4	--	--	.3	--	--	--	68	2	.3	153	8.2
July 13.....	202	--	--	--	--	4.9	--	84	0	--	1.9	--	--	.1	--	--	--	71	2	.2	156	7.8
Sept. 14.....	331	10	--	25	6.2	6.9	1.3	106	0	9.0	2.7	--	.5	.2	116	.16	--	88	1	.3	194	8.0

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	--	68	--	--	68	--	67	65	67	--	--	65	--	66	--	65	--	--	66	--	68	--	64	--	--	61	--	60	--	58	--	--	
November .....	--	59	--	60	--	58	--	--	55	52	50	52	50	49	54	56	52	49	48	49	46	50	49	52	52	51	49	50	50	47	--	52	
December .....	49	50	49	49	47	48	48	50	49	50	49	43	41	44	47	44	45	46	47	50	52	54	54	52	50	50	45	46	40	45	42	48	
January .....	46	50	40	50	43	45	40	48	50	50	45	40	44	46	48	48	47	46	47	48	46	47	46	47	46	49	50	48	43	44	46	45	46
February .....	43	45	43	45	47	45	43	41	40	40	40	47	42	47	43	45	42	48	50	44	44	50	43	45	43	45	45	50	50	--	--	45	
March .....	45	44	45	50	50	49	50	48	48	49	48	52	48	48	48	47	47	48	50	51	54	52	51	50	50	49	49	53	49	49	49	49	
April .....	47	50	48	49	45	48	47	47	45	46	49	48	50	50	51	49	--	--	--	--	--	51	52	--	53	54	54	52	--	--	--	--	
May .....	50	--	50	55	50	--	55	53	58	--	56	54	53	53	55	53	53	55	55	54	53	52	55	56	55	56	55	58	52	54	53	54	
June .....	52	60	59	60	60	59	56	58	57	60	62	60	57	63	60	58	60	60	60	63	61	60	63	61	60	56	60	65	63	63	--	60	
July .....	62	61	62	60	65	60	60	66	65	62	62	62	67	63	65	--	--	--	64	65	--	--	--	65	66	65	65	66	65	65	65	64	
August .....	65	67	--	65	65	66	--	--	68	--	65	--	68	--	--	66	--	65	--	67	--	--	68	--	65	--	70	--	--	70	--	--	
September .....	--	66	64	64	--	64	--	65	--	65	--	--	66	--	66	--	63	--	--	61	--	64	--	64	--	--	62	--	63	--	--	--	

## EEL RIVER BASIN--Continued

11-4710. POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	177	--	2.9	316	--	6.8	309	43	36
2..	182	6	2.9	316	6	5.1	307	51	42
3..	182	--	2.9	314	--	4.2	307	20	17
4..	182	--	2.9	314	6	5.1	259	19	13
5..	178	7	3.4	307	--	5.0	286	21	16
6..	201	--	4.3	503	5	4.1	318	21	18
7..	313	9	7.6	306	--	5.0	311	22	18
8..	309	7	5.8	311	--	29	310	15	13
9..	312	7	5.9	314	86	73	313	16	14
10..	315	--	5.1	308	112	93	315	21	18
11..	314	--	5.1	313	148	125	313	61	52
12..	252	6	4.1	312	74	62	313	14	12
13..	38	--	5	310	48	40	307	12	9.9
14..	304	5	4.1	286	50	39	203	13	7.3
15..	311	--	4.2	284	39	30	297	14	11
16..	311	6	5.0	315	37	31	310	12	10
17..	317	--	5.1	313	30	25	304	14	11
18..	325	--	6.1	313	24	20	308	14	12
19..	323	7	6.1	313	22	19	310	48	40
20..	321	--	6.1	313	19	16	311	125	105
21..	320	7	6.0	311	19	16	213	2730	S 1350
22..	318	--	6.0	309	18	15	128	3430	S 1220
23..	314	6	5.1	309	26	22	95	2660	682
24..	314	--	5.1	309	20	17	156	2600	1100
25..	314	--	5.1	309	16	13	158	2100	896
26..	315	7	6.0	309	13	11	228	1620	997
27..	314	--	6.8	273	81	60	304	1500	1230
28..	314	10	8.5	309	32	27	304	1140	936
29..	314	--	9.3	303	19	16	162	667	S 307
30..	313	11	9.3	309	20	17	9.5	630	16
31..	301	--	8.1	--	--	--	122	582	S 186
Total	8618	--	165.4	9231	--	851.3	7890.5	--	9395.2
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	302	550	448	307	203	168	303	155	127
2..	304	525	431	308	202	168	303	155	127
3..	306	960	793	307	205	170	305	156	128
4..	306	3970	3280	283	195	149	241	147	96
5..	260	3880	2720	296	200	160	128	135	47
6..	294	1820	1440	309	210	175	135	127	46
7..	306	1030	851	308	192	160	135	131	48
8..	306	720	595	308	220	183	129	122	42
9..	307	560	464	307	215	178	129	117	41
10..	308	480	399	305	213	175	139	127	48
11..	307	510	423	305	200	165	74	72	S 26
12..	308	500	416	305	195	161	82	70	S 26
13..	308	396	329	307	199	165	127	106	36
14..	308	343	285	308	203	169	114	97	30
15..	308	340	283	308	182	151	121	102	33
16..	306	352	291	308	188	156	121	103	34
17..	304	317	260	308	207	172	124	103	34
18..	304	300	246	308	195	162	124	95	32
19..	303	300	245	308	174	145	118	79	25
20..	303	300	245	307	166	138	118	75	24
21..	291	280	220	305	167	138	117	92	29
22..	293	248	196	305	154	127	114	98	30
23..	305	627	516	303	155	127	112	100	30
24..	307	600	497	303	153	125	64	80	S 12
25..	305	345	284	303	160	131	57	67	10
26..	303	330	270	303	150	123	127	53	18
27..	302	292	238	303	169	138	197	210	112
28..	301	270	219	303	172	141	159	85	36
29..	295	250	199	--	--	--	171	63	29
30..	301	240	195	--	--	--	283	100	76
31..	307	235	195	--	--	--	295	108	86
Total	9368	--	17473	8538	--	4320	4766	--	1518

S Computed by subdividing day.



## EEL RIVER BASIN--Continued

11-4710, POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	210	87	49	306	74	61	212	25	14
2..	308	99	82	307	61	51	210	28	16
3..	307	87	72	302	54	44	204	30	17
4..	307	89	74	313	65	55	205	34	19
5..	307	83	69	313	64	54	205	22	12
6..	307	67	56	286	55	42	205	22	12
7..	308	82	68	320	54	47	220	21	12
8..	309	80	67	324	50	44	216	22	13
9..	308	85	71	326	50	44	216	22	13
10..	308	81	67	326	--	42	209	22	12
11..	308	60	50	324	52	45	226	22	13
12..	181	68	26	323	55	48	209	20	11
13..	289	95	74	288	53	41	209	21	12
14..	309	105	88	294	43	34	222	20	12
15..	307	112	93	312	38	32	195	20	11
16..	303	248	203	312	39	33	195	19	10
17..	301	--	200	310	39	33	201	21	11
18..	301	--	150	310	33	28	215	20	12
19..	301	--	120	312	35	29	209	18	10
20..	301	--	110	313	30	25	205	18	10
21..	301	--	110	313	30	25	199	17	9.1
22..	301	--	110	313	29	25	206	18	10
23..	301	90	73	313	28	24	206	19	11
24..	301	76	62	313	29	25	166	18	8.1
25..	306	68	56	313	29	25	196	16	8.5
26..	307	74	61	313	26	22	210	20	11
27..	298	72	58	312	27	23	214	19	11
28..	307	66	55	276	57	42	210	22	12
29..	307	66	55	227	24	15	211	19	11
30..	306	64	53	229	25	15	212	37	21
31..	--	--	--	215	26	15	--	--	--
Total	8915	--	2482	9358	--	1088	6218	--	364.7
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	212	29	17	223	9	5.4	218	--	4.7
2..	215	33	19	219	12	7.1	222	10	6.0
3..	215	16	9.3	220	--	6.5	222	7	4.2
4..	215	16	9.3	223	10	6.0	222	6	3.6
5..	215	13	7.5	224	12	7.3	220	--	3.6
6..	215	13	7.5	230	14	8.7	220	7	4.2
7..	215	13	7.5	230	--	8.1	220	--	4.2
8..	213	12	6.9	230	--	6.8	222	7	4.2
9..	211	13	7.4	230	10	6.2	222	--	5.4
10..	211	14	8.0	228	--	5.5	222	11	6.6
11..	218	15	8.8	230	10	6.2	222	--	6.0
12..	212	19	11	228	--	6.2	255	--	6.2
13..	213	16	9.2	227	10	6.1	331	8	7.1
14..	212	14	8.0	228	--	6.2	331	--	8.9
15..	219	14	8.3	227	--	5.5	329	12	11
16..	219	14	8.3	227	9	5.5	328	--	8.0
17..	218	13	7.7	224	--	4.8	328	5	4.4
18..	220	13	7.7	229	8	4.9	328	--	3.5
19..	220	11	6.5	229	--	4.9	328	--	3.5
20..	219	12	7.1	224	8	4.8	326	4	3.5
21..	218	9	5.3	224	--	4.2	326	--	4.4
22..	222	10	6.0	228	--	4.3	326	6	5.3
23..	225	18	11	228	7	4.3	306	--	5.0
24..	219	9	5.3	222	--	4.2	326	5	4.4
25..	223	10	6.0	221	7	4.2	326	--	5.3
26..	224	8	4.8	223	--	6.0	326	--	7.9
27..	244	10	6.6	227	13	8.0	326	11	9.7
28..	240	9	5.8	229	--	8.0	326	--	7.9
29..	227	10	6.1	227	--	6.7	326	7	6.2
30..	225	9	5.5	218	8	4.7	326	--	6.2
31..	223	15	9.0	219	--	4.1	--	--	--
Total	6797	--	253.4	6996	--	181.4	8556	--	171.1

Total discharge for year (cfs-days)..... 95,251.5  
 Total load for year (tons)..... 38,263.5

S Computed by subdividing day.

## EEL RIVER BASIN--Continued

11-4710. POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Nov. 11, 1964.....	1800	50		313	152		--	--	--	--	--	99	100	--	--			S
Dec. 21.....	1000	52		301	3540		43	57	68	79	85	90	98	100	--	--		VPWC
Dec. 23.....	0800	54		82	2670		46	61	69	82	86	90	95	99	100	--	--	VPWC
Dec. 25.....	1700	50		158	2270		47	63	71	81	86	91	96	99	100	--	--	VPWC
Dec. 28.....	1500	46		306	1080		54	74	87	92	94	97	100	--	--			VPWC
Jan. 1, 1965.....	1400	46		302	558		--	--	--	--	--	99	100	--	--			S
Jan. 13.....	1145	44		308	394		--	--	--	--	--	99	100	--	--			S
Apr. 23.....	0935	51		301	101		--	--	--	--	--	99	100	--	--			S

## EEL RIVER BASIN--Continued

11-4721.5. EEL RIVER NEAR DOS RIOS, CALIF.

LOCATION.--At bridge upstream from Outlet Creek, and approximately 6.2 miles south of Dos Rios, Mendocino County.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--Discharge used is difference between gaging stations at Eel River above Dos Rios and Outlet Creek near Longvale. No correction made for inflow between stations.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....	2.1	--	--	--	--	13	--	130	0	--	9.4	--	--	0.6	--	--	--	115	8	0.5	281	8.2
Nov. 6.....	10	--	--	--	--	12	--	134	2	--	8.1	--	--	.5	--	--	--	126	13	.5	299	8.3
Dec. 4.....	258	--	--	--	--	5.2	--	68	0	--	2.2	--	--	.5	--	--	--	57	1	.3	135	8.1
Feb. 1, 1965....	1390	--	--	--	--	4.3	--	70	0	--	1.0	--	1.2	.1	--	--	--	58	1	.2	129	8.2
Mar. 11.....	101	--	--	--	--	6.2	--	109	0	--	3.4	--	.0	.2	--	--	--	95	6	.3	208	8.2
Apr. 14.....	1380	--	--	--	--	6.2	--	75	0	--	1.8	--	1.8	.1	--	--	--	64	2	.3	148	8.1
May 13.....	229	14	--	24	6.1	5.9	1.0	101	0	12	2.3	--	1.5	.2	116	0.16	--	85	2	.3	188	8.0
June 9.....	40	--	--	--	--	9.0	--	123	2	--	3.6	--	1.2	.2	--	--	--	110	6	.4	244	8.4
July 22.....	12.5	--	--	--	--	10	--	110	4	--	5.6	--	1.6	.4	--	--	--	105	8	.4	247	8.5
Aug. 5.....	18.7	--	--	--	--	11	--	114	3	--	6.2	--	3.0	.4	--	--	--	107	9	.5	255	8.4
Sept. 23.....	4.7	4.1	--	35	6.9	11	1.5	124	0	29	8.0	--	.0	.3	165	.22	--	116	14	.4	277	8.1

## EEL RIVER BASIN--Continued

11-4722. OUTLET CREEK NEAR LONGVALE, CALIF.

LOCATION.--At railroad bridge, approximately 0.9 mile downstream from gaging station, approximately 600 feet upstream from Eel River, and 6.5 miles northeast of Longvale, Mendocino County.

DRAINAGE AREA.--161 square miles, upstream from gaging station.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

REMARKS.--No appreciable inflow between sampling point and gaging station.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....	1.3	---	---	---	---	17	---	146	3	---	32	---	---	2.5	---	---	---	137	12	0.6	346	8.3
Nov. 6.....	9.0	---	---	---	---	21	---	161	2	---	30	---	---	3.6	---	---	---	145	10	.8	384	8.3
Dec. 4.....	642	---	---	---	---	6.1	---	46	0	---	3.5	---	---	.2	---	---	---	40	2	.4	109	7.9
Jan. 7, 1965....	4860	---	---	---	---	5.9	---	56	0	---	4.8	---	---	.2	---	---	---	48	2	.4	118	7.8
Feb. 2.....	260	---	---	---	---	5.3	---	66	0	---	2.9	---	1.0	.2	---	---	---	54	0	.3	128	8.2
Mar. 11.....	79	---	---	---	---	7.6	---	90	0	---	6.2	---	---	.4	---	---	---	75	1	.4	181	8.0
Apr. 15.....	2000	---	---	---	---	5.1	---	62	0	---	2.4	---	---	.1	---	---	---	51	0	.3	123	7.4
May 13.....	66	14	---	21	5.7	8.0	0.8	92	2	8.0	5.4	---	1.2	.4	113	0.15	---	76	0	.4	182	8.5
June 9.....	19	---	---	---	---	9.9	---	114	2	---	7.6	---	---	.6	---	---	---	95	0	.4	223	8.5
July 22.....	1.5	---	---	---	---	12	---	137	6	---	14	---	---	1.2	---	---	---	121	0	.5	285	8.6
Aug. 5.....	1.3	---	---	---	---	16	---	147	7	---	24	---	---	1.9	---	---	---	134	2	.6	327	8.6
Sept. 23.....	.9	9.8	---	36	13	15	1.6	160	0	10	26	---	.3	2.0	197	.27	---	142	11	.5	343	8.1

## EEL RIVER BASIN--Continued

11-4725. EEL RIVER ABOVE DOS RIOS, CALIF.

LOCATION.--At gaging station 1.8 miles upstream from Middle Fork, and 2.1 miles south of Dos Rios, Mendocino County.

DRAINAGE AREA.--705 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1957 to September 1959, October 1960 to September 1965 (discontinued).

Sediment records: October 1957 to September 1965 (discontinued).

EXTREMES, 1964-65.--Water temperatures: Maximum, 78°F June 18, Sept. 16; minimum, 38°F Nov. 23.

Sediment concentrations: Maximum daily, (estimated) 8,000 ppm Dec. 22; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, (estimated) 3,500,000 tons Dec. 22; minimum daily, less than 0.05 ton on many days.

EXTREMES, 1957-65.--Water temperatures (1962-65): Maximum, 82°F June 16-18, 1963, July 13, 1964; minimum, 38°F Nov. 23, 1964.

Sediment concentrations: Maximum daily, (estimated) 8,000 ppm Dec. 22, 1964; minimum daily, 1 ppm on many days during 1957-65.

Sediment loads: Maximum daily, (estimated) 3,500,000 tons Dec. 22, 1964; minimum daily, less than 0.05 ton on many days during 1957-65.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	--	--	--	--	--	--	--	65	--	--	--	--	--	--	63	--	--	--	--	--	--	--	--	--	60	58	59	--	58	--	--
November .....	58	59	--	--	57	--	55	--	53	54	50	50	47	46	43	43	42	42	40	42	41	43	38	45	49	48	48	50	51	50	--	48
December .....	--	50	50	46	47	45	47	48	46	51	50	45	42	43	45	45	42	42	45	49	53	--	--	--	--	--	--	--	--	--	--	--
January .....	--	--	--	--	--	--	43	43	45	47	--	45	--	--	--	46	--	--	47	46	47	48	45	45	46	46	47	--	--	50	49	--
February .....	48	47	48	47	47	46	45	47	45	45	45	45	45	46	46	47	45	49	49	--	49	48	49	49	49	45	48	49	--	--	--	47
March .....	48	47	50	51	51	51	52	55	55	52	49	52	56	--	--	56	54	59	--	57	--	58	--	57	--	55	51	50	54	53	53	53
April .....	--	55	--	54	--	56	51	--	--	--	54	--	51	50	50	51	50	51	53	53	55	55	--	59	61	62	63	--	63	61	--	--
May .....	--	58	--	55	--	57	--	60	--	58	--	65	--	63	--	--	62	--	64	--	--	--	64	--	--	65	--	--	65	--	--	--
June .....	--	--	67	--	--	--	69	76	--	--	--	--	71	--	--	--	--	78	--	--	--	--	66	--	--	--	--	--	74	--	--	--
July .....	--	--	--	--	--	77	--	--	--	--	--	73	--	--	--	--	--	--	--	--	71	--	--	--	--	--	--	--	--	--	75	--
August .....	--	--	--	74	--	--	--	76	--	--	--	--	--	--	--	72	--	--	--	--	--	--	75	71	--	--	--	--	--	--	76	--
September .....	--	--	--	--	--	--	--	68	--	--	--	--	--	--	--	78	--	--	--	--	--	--	68	--	--	--	--	--	--	68	--	--

## EEL RIVER BASIN--Continued

11-4725. EEL RIVER ABOVE DQS RIOS, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2.0	--	T	17	1	T	5100	--	2800
2..	2.0	--	T	23	4	.2	5000	60	810
3..	1.9	--	T	31	--	.5	1600	38	164
4..	1.9	--	T	31	--	.3	900	27	66
5..	2.0	--	T	23	1	.1	710	23	44
6..	2.8	--	T	19	--	.1	560	12	18
7..	3.0	--	T	17	3	.1	480	6	7.8
8..	3.2	--	T	22	--	2.4	450	12	15
9..	3.0	--	T	456	120	148	570	8	12
10..	3.0	3	T	2610	543	S 3920	850	16	37
11..	3.2	--	T	1990	370	S 2700	4700	126	1600
12..	3.2	--	T	2800	249	S 2080	2200	28	166
13..	3.2	--	T	1450	56	S 241	1150	12	37
14..	3.2	--	T	628	20	34	800	8	17
15..	3.4	--	T	331	11	9.8	800	9	19
16..	3.5	--	T	227	6	3.7	590	8	13
17..	3.5	4	T	171	4	1.8	500	5	6.8
18..	3.5	--	T	138	5	1.9	450	4	4.9
19..	3.5	--	T	114	4	1.2	1700	210	964
20..	3.9	--	T	101	2	.5	5200	420	5900
21..	3.9	--	T	102	2	.6	31000	4800	402000
22..	3.7	--	T	155	4	1.7	160000	--	3500000
23..	3.9	--	T	144	3	1.2	90000	--	1900000
24..	4.1	--	T	130	6	2.1	50000	--	850000
25..	4.1	--	T	1400	42	159	31000	--	370000
26..	4.1	2	T	1000	26	70	30000	--	360000
27..	4.7	4	.1	700	45	85	20000	--	160000
28..	10	2	.1	6000	750	12200	15000	--	95000
29..	18	--	T	3200	250	2160	11000	--	50000
30..	18	1	T	1700	72	330	9500	--	35000
31..	17	--	T	--	--	--	8800	--	30000
Total	150.4	--	1.0	25730	--	24155.2	490610	--	7764701.5
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	6000	--	11000	2650	180	1290	840	46	104
2..	7000	--	16000	2400	265	1720	530	47	67
3..	10000	--	38000	2150	195	1130	420	47	53
4..	8500	--	27000	2000	172	929	360	37	36
5..	32000	--	400000	3900	170	1790	310	26	22
6..	37000	--	520000	3400	158	1450	270	14	10
7..	20000	--	150000	2000	121	653	240	10	6.5
8..	9400	1180	29900	1500	108	437	215	7	4.1
9..	7000	830	15700	1200	92	298	200	5	2.7
10..	8300	730	16400	980	91	241	190	6	3.1
11..	11800	890	28400	820	96	213	180	6	2.9
12..	7500	810	16400	700	91	172	170	16	7.3
13..	6200	630	10500	640	82	142	160	14	6.0
14..	5700	520	8000	610	75	124	155	8	3.3
15..	5200	500	7020	600	71	115	155	7	2.9
16..	5100	460	6330	600	65	105	150	8	3.2
17..	4900	430	5690	600	53	86	145	6	2.3
18..	4800	410	5310	610	50	82	140	7	2.6
19..	4700	420	5330	630	45	77	140	--	2.6
20..	4600	360	4470	640	--	62	135	4	1.5
21..	3700	320	3200	640	39	67	135	--	1.5
22..	3200	450	3890	580	45	70	135	5	1.8
23..	8000	3100	67000	520	54	76	131	--	1.4
24..	20000	3200	173000	510	50	69	131	2	.7
25..	9000	900	21900	500	61	82	145	--	2.3
26..	5800	700	11000	640	55	95	199	30	16
27..	4700	400	5080	2400	123	797	1470	482	S 2180
28..	3800	285	2920	1350	80	292	636	110	189
29..	3100	245	2050	--	--	--	374	28	28
30..	3000	200	1620	--	--	--	434	25	29
31..	2900	150	1170	--	--	--	383	14	14
Total	272900	--	1614280	35770	--	12664	9278	--	2806.7

S Computed by subdividing day.  
T Less than 0.05 ton.

## EEL RIVER BASIN--Continued

11-4725. EEL RIVER ABOVE DOS RIOS, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	352	--	9.5	815	--	88	82	--	0.2
2..	322	9	7.8	784	35	74	77	--	.2
3..	272	--	4.4	738	31	62	73	1	.2
4..	247	5	3.3	632	29	49	68	--	.2
5..	225	--	2.4	546	--	37	65	--	.2
6..	219	5	3.0	511	22	30	61	--	.3
7..	203	4	2.2	437	--	21	59	2	.3
8..	342	--	6.5	410	13	14	58	2	.3
9..	1080	40	130	392	--	14	59	--	.3
10..	1290	--	120	371	12	12	60	--	.2
11..	1140	23	71	338	--	9.1	58	--	.2
12..	935	--	58	320	9	7.8	53	--	.1
13..	504	24	33	295	--	7.2	51	1	.1
14..	620	23	39	288	10	7.8	51	--	.1
15..	4300	1650	S 25100	268	--	7.2	51	--	.1
16..	11300	1840	S 59100	254	--	6.2	49	--	.3
17..	7790	--	20000	241	8	5.2	47	--	.3
18..	6440	820	14300	223	--	4.2	47	3	.4
19..	6120	780	12900	199	--	3.2	44	--	.4
20..	5320	550	7900	180	5	2.4	43	--	.3
21..	4850	360	4710	166	--	1.8	39	--	.2
22..	4250	290	3330	158	--	2.1	37	--	.2
23..	3050	--	1600	149	6	2.4	36	2	.2
24..	2260	110	671	140	--	1.9	34	--	.2
25..	1820	84	413	132	--	.7	34	--	.2
26..	1690	66	301	124	1	.3	33	--	.1
27..	1560	63	265	114	--	.3	32	--	.1
28..	1380	--	230	106	--	.3	31	--	.1
29..	1230	62	206	100	--	.3	30	1	.1
30..	1020	50	138	92	--	.2	30	--	.1
31..	--	--	--	86	--	.2	--	--	--
Total	72131	--	151654.1	9609	--	471.8	1492	--	6.2
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	28	--	0.1	13	--	T	6.8	--	--
2..	28	--	.1	12	--	T	6.6	--	--
3..	28	--	.1	12	--	T	6.2	--	--
4..	26	--	.1	11	1	T	6.2	--	--
5..	25	--	.1	10	--	T	6.2	--	--
6..	24	2	.1	10	--	.1	5.9	--	--
7..	23	--	.1	9.7	--	.1	5.9	--	--
8..	22	--	.1	9.1	6	.1	6.1	1	--
9..	20	--	.1	8.5	--	.1	6.2	--	--
10..	19	--	.1	8.9	--	.1	6.1	--	--
11..	19	--	.2	9.9	--	.1	5.9	--	--
12..	19	3	.2	13	--	T	5.9	--	--
13..	19	--	.2	13	--	T	5.7	--	--
14..	18	--	.1	11	--	T	5.6	--	--
15..	18	--	.1	9.9	1	T	5.3	--	--
16..	17	--	.1	9.3	--	T	5.0	1	--
17..	16	--	.1	8.7	--	T	4.8	--	--
18..	16	--	T	8.3	--	T	4.8	--	--
19..	16	--	T	8.3	--	T	4.8	--	--
20..	15	--	T	8.1	--	T	4.8	--	--
21..	15	1	T	8.1	--	T	5.0	--	--
22..	14	--	T	8.1	--	T	5.3	--	--
23..	14	--	T	7.9	2	T	5.6	1	--
24..	14	--	T	7.7	1	T	5.6	--	--
25..	14	--	T	7.5	--	T	5.4	--	--
26..	13	--	T	7.5	--	T	5.4	--	--
27..	13	--	T	7.3	--	T	5.6	--	--
28..	13	--	T	7.1	--	T	5.7	--	--
29..	12	--	T	7.1	--	T	5.7	--	--
30..	12	--	T	7.0	--	T	5.7	1	--
31..	13	1	T	7.0	3	.1	--	--	--
Total	563	--	2.5	286.0	--	1.4	169.8	--	0.5

Total discharge for year (cfs-days)..... 918,689.2  
 Total load for year (tons)..... 9,570,744.9

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## EEL RIVER BASIN--Continued

## 11-4725. EEL RIVER ABOVE DOS RIOS, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 10, 1964.....	0955	49		3380	551		--	--	--	--	--	92	93	96	100	--	--	S
Nov. 12.....	1240	50		2650	195		--	--	--	--	--	93	95	100	--	--	--	S
Nov. 27.....	1450	48	D	700	37		--	--	--	--	--	97	98	100	--	--	--	S
Nov. 28.....	0755	49	D	6000	927		--	--	--	--	--	70	83	95	98	100	--	V
Dec. 11.....	1410	50	D	4700	168		--	--	--	--	--	98	100	--	--	--	--	S
Dec. 19.....	1620	45	D	1700	276		--	--	--	--	--	74	83	96	100	--	--	V
Dec. 21.....	0740	51	D	31000	2670		23	27	39	51	63	70	88	95	99	100	--	VPWC
Dec. 21.....	1710	53	D	31000	5810		21	27	37	48	60	69	89	97	100	--	--	VPWC
Jan. 7, 1965.....	1645	43	D	20000	1530		32	43	50	64	73	79	92	99	100	--	--	VPWC
Jan. 24.....	1350	45	D	20000	2030		20	30	40	48	58	67	82	92	93	95	100	VPWC

D Daily mean discharge.



## EEL RIVER BASIN--Continued

11-4729. BLACK BUTTE RIVER NEAR COVELO, CALIF.

LOCATION.--At gaging station 600 feet upstream from highway bridge, 0.6 mile upstream from mouth, and 9.5 miles east of Covelo, Mendocino County.

DRAINAGE AREA.--162 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1964 to September 1965.

Water temperatures: May 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 83°F Aug. 3-6.

EXTREMES, May 1964 to September 1965.--Water temperatures: Maximum, 89°F Aug. 23, 1964.

REMARKS.--Temperature recorder destroyed in flood Dec. 22; record from Nov. 24 to Dec. 21 lost.

Chemical analyses, in parts per million, November 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 6, 1964.....	9.9	6.9		43	4.0	7.1	0.4	106	6	39	3.2		0.7	0.0	169	0.23		124	27	0.3	276	8.4
Dec. 4.....	350	9.3		17	3.0	3.4	.8	60	0	11	.8		.6	.0	A 76	.10		55	6	.2	124	8.1
Feb. 2, 1965.....	600	9.7		24	2.9	3.4	1.1	75	0	15	.4		1.3	.1	94	.13		72	10	.2	155	8.2
Mar. 11.....	320	--		--	--	3.5	--	83	0	--	1.0		.0	.0	--	--		84	16	.2	176	8.1
Apr. 15.....	800	--		--	--	4.5	--	76	0	--	.7		1.8	.2	--	--		77	15	.2	169	7.9
May 13.....	370	10		25	2.8	3.4	.9	74	1	16	.9		1.4	.0	107	.15		74	12	.2	160	8.3
June 9.....	76	--		--	--	4.6	--	108	2	--	1.0		1.4	.2	--	--		112	20	.2	237	8.4
July 22.....	17	--		--	--	6.1	--	149	6	--	1.6		1.3	.0	--	--		170	38	.2	342	8.6
Aug. 5.....	11	--		--	--	6.2	--	158	4	--	1.9		2.5	.0	--	--		178	42	.2	358	8.6
Sept. 23.....	4.7	13		71	8.5	7.5	1.7	176	5	71	2.4		.1	.0	272	.37		212	59	.2	426	8.4

A Calculated from sum of determined constituents.

## 11-4729. BLACK BUTTE RIVER NEAR COVELO, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October	70	71	71	71	71	74	70	69	68	68	68	67	66	66	64	65	62	62	63	63	62	61	60	58	56	58	56	55	54	55	54	52	64
Maximum .....	57	56	57	59	61	61	63	58	57	56	55	56	56	55	56	57	52	52	52	52	52	52	50	50	50	51	54	54	54	49	50	55	
Minimum .....																																	
November	53	53	51	50	51	50	51	49	49	47	45	44	43	41	39	38	38	38	38	39	40	40	—	—	—	—	—	—	—	—	—	—	
Maximum .....	51	51	47	47	47	46	47	48	47	45	44	43	41	39	38	36	36	36	36	36	36	39	39	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
December	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
January	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
February	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
March	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
April	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
May	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	
June	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	77	78	78	77	75	61	71	73	75	76	74	—	—	
Maximum .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	58	61	62	62	64	61	57	55	57	58	60	62	—	—	
Minimum .....																																	
July	77	78	79	80	80	80	81	80	78	77	76	78	79	80	81	81	81	81	79	79	79	78	79	80	80	77	77	78	79	80	75	74	
Maximum .....	60	62	63	64	65	64	65	66	63	62	61	63	63	64	65	67	67	66	65	65	65	64	65	65	67	67	64	63	63	64	65	68	
Minimum .....																																	
August	81	82	83	83	83	83	82	81	81	79	70	77	78	79	79	80	79	80	80	79	78	77	78	74	78	77	80	78	80	79	78	79	
Maximum .....	65	66	66	67	66	66	66	66	66	66	66	66	64	63	63	65	67	68	67	63	63	62	62	62	62	64	63	63	62	62	62	63	
Minimum .....																																	
September	79	79	77	78	76	73	75	74	76	75	74	75	76	77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Maximum .....	62	62	60	62	60	60	59	59	59	59	58	59	59	59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Minimum .....																																	

## EEL RIVER BASIN--Continued

11-4730. MIDDLE FORK EEL RIVER BELOW BLACK BUTTE RIVER, NEAR COVELO, CALIF.

LOCATION.--At gaging station 0.2 mile downstream from Black Butte River and 8.6 miles east of Covelo, Mendocino County.

DRAINAGE AREA.--367 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1964 to September 1965.

Water temperatures: July to November 1961, October 1962 to September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Sediment concentrations: Maximum daily, (estimated) 9,000 ppm Dec. 22; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, (estimated) 2,500,000 tons Dec. 22; minimum daily, less than 0.05 ton on many days.

EXTREMES, 1962-65.--Water temperatures (1962-63): Maximum, 80°F Sept. 4, 1963.

Sediment concentrations: Maximum daily, (estimated) 9,000 ppm Dec. 22, 1964; minimum daily, 1 ppm on many days during 1962-65.

Sediment loads: Maximum daily, (estimated) 2,500,000 tons Dec. 22, 1964; minimum daily, less than 0.05 ton on many days during 1962-65.

## Chemical analyses, in parts per million, November 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 6, 1964.....	37	6.7		29	6.0	13	0.6	91	3	21	16		0.3	0.1	140	0.19		97	17	0.6	251	8.5
Dec. 4.....	1500	6.7		13	2.3	2.9	.9	46	0	7.0	.8		.4	.0	58	08		42	4	.2	96	8.0
Feb. 2, 1965.....	2230	8.6		17	2.8	2.8	1.1	62	0	9.0	.8		.9	.0	80	11		54	3	.2	120	8.2
Mar. 11.....	832	--		--	--	3.1	--	62	0	--	1.8		.0	.0	--	--		57	6	.2	125	7.9
Apr. 15.....	1220	--		--	--	3.2	--	62	0	--	1.7		.4	.0	--	--		56	5	.2	126	7.7
May 13.....	1080	7.2		15	2.6	2.8	.9	55	0	7.0	1.7		.9	.0	72	10		48	3	.2	109	7.8
June 9.....	175	--		--	--	4.1	--	74	0	--	3.7		1.0	.2	--	--		69	8	.2	156	8.2
July 22.....	27	--		--	--	11	--	132	3	--	17		1.3	.3	--	--		146	33	.4	332	8.5
Aug. 5.....	19	--		--	--	12	--	140	3	--	23		.9	.2	--	--		163	43	.4	372	8.6
Sept. 23.....	8.4	11		59	12	17	2.4	150	5	54	34		.0	.4	272	.37		196	65	.5	463	8.4

## Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	--	--	71	--	--	--	--	--	--	65	--	--	--	--	--	64	--	--	--	--	--	--	--	--	59	56	57	57	52	56	--
November .....	54	54	--	--	--	--	--	51	47	44	--	43	42	--	--	--	39	--	--	--	--	--	--	--	--	42	43	41	45	45	43	--
December .....	44	45	42	41	41	40	42	44	43	46	44	40	39	--	--	--	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January .....	--	--	--	--	--	--	42	41	44	43	45	45	42	42	44	44	44	45	44	44	43	42	44	41	41	--	44	44	--	--	45	--
February .....	44	44	--	44	43	41	43	42	--	42	43	43	43	43	--	45	39	--	--	45	44	44	40	45	--	--	--	--	--	--	--	--
March .....	45	45	--	47	--	44	46	--	41	--	--	45	47	48	47	47	46	41	47	--	50	--	48	--	46	44	45	48	49	46	47	--
April .....	45	46	48	51	45	--	42	42	45	48	49	46	--	44	45	44	45	47	47	46	48	49	51	54	54	47	48	--	--	--	47	--
May .....	--	--	--	--	51	--	--	56	--	--	58	--	--	--	--	--	--	54	--	--	--	--	58	--	--	--	--	--	--	--	--	--
June .....	--	--	--	--	67	66	--	--	--	--	--	--	--	--	--	--	--	--	63	--	--	--	--	--	--	--	--	--	--	--	--	--
July .....	--	--	--	--	--	--	--	--	--	--	75	76	--	--	--	--	--	71	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August .....	--	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	74	--	--	--	67	--	--	--	--	--	--	--	--	--
September .....	--	--	--	--	75	--	--	--	--	--	--	--	--	--	--	--	--	--	69	--	--	74	--	--	--	68	--	--	--	--	--	--

## EEL RIVER BASIN--Continued

11-4730. MIDDLE FORK EEL RIVER BELOW BLACK BUTTE RIVER, NEAR COVELO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	5.9	--	T	44	13	1.5	4400	710	8430
2..	5.9	--	T	176	31	15	4300	480	5570
3..	5.8	--	T	117	--	6.6	2200	160	950
4..	5.7	2	T	66	--	1.4	1500	59	239
5..	5.7	--	T	47	--	.5	1050	35	99
6..	5.6	--	T	37	--	.2	850	30	69
7..	5.5	--	T	32	--	.1	700	17	32
8..	5.4	--	T	43	13	1.5	600	12	19
9..	5.4	--	T	350	390	369	800	80	173
10..	5.4	--	T	2300	190	1180	1100	350	1040
11..	5.5	--	T	1650	--	290	3250	490	4300
12..	5.5	1	T	2800	200	1510	1500	140	567
13..	5.5	--	T	1250	45	152	1100	105	312
14..	5.5	--	T	650	--	44	800	--	160
15..	5.5	--	T	400	--	22	710	--	77
16..	5.5	--	T	275	--	11	630	--	51
17..	5.5	--	T	200	10	5.4	550	15	22
18..	5.5	1	T	170	--	4.1	500	--	14
19..	5.5	--	T	150	--	3.2	1750	--	8000
20..	5.5	--	T	145	--	2.7	6000	--	27000
21..	5.5	--	T	145	--	2.0	30000	--	480000
22..	5.5	--	T	235	--	6.3	105000	--	2500000
23..	5.6	--	T	225	--	12	70000	--	1300000
24..	5.6	--	T	220	--	18	35000	--	790000
25..	5.6	--	T	1200	100	324	22000	--	450000
26..	6.0	1	T	930	45	113	21000	--	440000
27..	8.2	1	T	800	30	65	14000	--	260000
28..	18	1	T	5000	890	12000	8000	--	180000
29..	67	--	1.3	3200	310	2680	4500	--	120000
30..	65	--	.4	2000	100	540	3700	--	90000
31..	39	--	.1	--	--	--	3000	--	80000
Total	342.3	--	2.3	24857	--	19380.5	350490	--	6747124
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2600	--	40000	2230	2950	17800	1180	1330	4240
2..	3500	--	54000	2230	2500	15100	1160	1090	3410
3..	4700	--	100000	2130	--	12000	1170	--	2800
4..	4000	--	76000	2190	1950	11500	1140	760	2340
5..	15000	--	470000	3820	4050	41800	1200	--	2500
6..	16000	--	570000	2990	2900	23400	1080	810	2360
7..	10000	--	250000	2530	2300	15700	1020	540	1490
8..	5000	--	82000	1890	--	8700	928	--	1100
9..	4100	--	52000	1450	1800	7050	844	475	1080
10..	6000	--	56000	1370	--	6300	856	--	1200
11..	8400	--	79000	1320	1450	5170	832	--	1100
12..	5200	--	56000	1000	1260	3400	940	450	1140
13..	3600	--	40000	1020	1220	3360	808	400	873
14..	3350	3300	29600	916	1110	2750	680	395	725
15..	3720	3500	35200	844	1080	2460	724	460	899
16..	3850	3400	35300	820	--	2200	748	370	747
17..	3600	3100	30100	832	940	2110	808	300	654
18..	3600	3250	31600	928	885	2220	772	270	563
19..	4350	3600	42300	970	--	2200	690	330	615
20..	4100	3200	35400	1000	--	2300	660	--	680
21..	2930	2750	21800	1010	855	2330	690	295	550
22..	2330	2420	15200	1010	1020	2780	784	--	590
23..	5880	8040	S 183000	1000	870	2350	796	310	666
24..	8500	6880	S 168000	950	775	1990	796	--	730
25..	4350	4350	51100	868	630	1480	748	355	717
26..	2630	--	25000	832	--	1200	784	300	635
27..	2130	3430	19700	2130	2500	K 15000	916	500	1240
28..	1930	2800	14600	1330	--	6100	850	420	964
29..	1630	--	11000	--	--	--	770	360	748
30..	1430	--	8900	--	--	--	724	415	811
31..	1430	3450	13300	--	--	--	808	385	840
Total	149840	--	2696300	41610	--	220750	26926	--	39007

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## EEL RIVER BASIN--Continued

11-4730. MIDDLE FORK EEL RIVER BELOW BLACK BUTTE RIVER, NEAR COVELO, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	760	360	739	1280	--	4100	399	--	20
2..	748	390	788	1010	--	3000	364	--	17
3..	712	380	731	880	--	2100	364	--	15
4..	690	310	578	796	--	1600	350	--	12
5..	640	280	484	760	--	1400	298	--	9.7
6..	600	--	360	712	622	1200	255	12	8.3
7..	560	--	320	680	--	1000	220	12	7.1
8..	580	265	415	748	--	930	185	--	6.0
9..	660	285	508	856	395	913	175	--	5.7
10..	800	255	551	988	--	1100	170	--	5.0
11..	760	265	544	1160	--	1400	160	--	4.8
12..	730	420	828	1170	438	1380	154	--	4.6
13..	700	435	822	1080	--	1100	149	--	4.4
14..	690	--	410	1120	--	1100	175	--	4.7
15..	1220	2730	S 22500	1200	--	1000	171	--	4.2
16..	1630	3820	S 19600	1320	--	930	141	--	3.0
17..	1100	2150	S 6390	1330	--	830	125	--	2.4
18..	3150	5520	S 49400	1260	--	710	125	--	2.0
19..	3880	5450	S 57100	1170	188	594	110	--	1.8
20..	2870	4620	S 41100	1050	--	480	99	6	1.6
21..	3030	3740	S 34200	844	--	340	92	--	1.5
22..	2750	2620	S 19500	580	--	190	89	--	1.2
23..	2470	2270	S 15100	492	--	130	83	--	.9
24..	1890	2170	S 11100	492	89	118	89	--	1.0
25..	2470	1980	S 13200	468	--	88	83	--	.7
26..	2490	2140	S 14400	484	--	78	86	--	.7
27..	2390	1840	S 11900	530	--	72	86	3	.7
28..	2410	1900	S 12400	550	--	59	86	--	.7
29..	2010	--	S 9200	530	--	43	89	--	.7
30..	1670	--	S 6800	510	--	34	89	--	.7
31..	--	--	--	460	--	25	--	--	--
Total	47060	--	351968	26510	--	28044	5061	--	148.1
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	92	--	0.7	22	--	0.1	23	--	0.2
2..	80	--	.6	20	2	.1	25	--	.2
3..	71	--	.4	22	--	.1	23	--	.2
4..	60	--	.3	19	--	.1	25	--	.2
5..	58	--	.3	19	--	.1	27	3	.2
6..	51	--	.3	18	--	T	27	--	.2
7..	46	--	.2	18	--	T	23	--	.1
8..	39	--	.1	16	--	T	23	--	.1
9..	37	--	.1	18	--	T	22	--	.1
10..	34	--	.1	18	--	T	20	--	.1
11..	34	1	.1	37	--	.1	20	--	.1
12..	32	1	.1	46	--	.7	18	--	.1
13..	32	--	.1	34	--	.5	16	--	.1
14..	28	--	.1	27	--	.3	15	--	.1
15..	28	--	.1	20	--	.2	16	--	.1
16..	27	--	.1	19	--	.2	15	--	.1
17..	27	--	.1	19	--	.2	14	--	T
18..	28	1	.1	19	--	.2	13	--	T
19..	28	--	.1	19	--	.2	11	1	T
20..	28	--	.1	22	--	.2	10	--	T
21..	28	--	.1	20	3	.2	10	--	T
22..	27	--	.1	19	--	.2	9.4	--	T
23..	27	--	.1	18	--	.1	8.7	--	T
24..	27	--	.1	20	3	.2	8.7	--	T
25..	25	--	.1	27	--	.2	8.7	--	T
26..	27	--	.1	28	--	.2	8.7	1	T
27..	25	--	.1	27	--	.2	8.7	--	T
28..	22	--	.1	27	--	.2	9.4	--	T
29..	23	--	.1	25	--	.2	9.4	--	T
30..	23	--	.1	25	--	.2	8.7	--	T
31..	22	--	.1	25	--	.2	--	--	--
Total	1136	--	5.2	713	--	5.6	476.4	--	2.6

Total discharge for year (cfs-days)..... 675,021.7  
 Total load for year (tons)..... 10,102,737.3

S Computed by subdividing day.  
 T Less than 0.05 ton.

## EEL RIVER BASIN--Continued

11-4730. MIDDLE FORK EEL RIVER BELOW BLACK BUTTE RIVER, NEAR COVELO, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 28, 1964.....	1110	45		4710	1290		19	23	26	38	49	57	68	80	91	99	100	VPWC
Nov. 28.....	1520	43		6850	1060		--	--	--	--	--	68	81	92	99	100	--	V
Dec. 1.....	0735	44		7510	864		--	--	--	--	--	71	82	90	98	100	--	V
Dec. 10.....	1655	46		3910	499		--	--	--	--	--	62	73	85	94	100	--	V
Jan. 15, 1965.....	1615	44		3850	3580		16	25	35	45	54	60	73	87	95	99	100	VPWC
Jan. 19.....	1100	43		4350	3770		16	25	35	44	53	60	72	84	93	98	100	VPWC
Jan. 23.....	1430	44		7100	14600		20	26	35	48	60	69	86	96	99	100	--	VPWC
Jan. 24.....	0940	40		8850	6190		23	29	37	52	63	73	87	95	99	100	--	VPWC
Jan. 25.....	0800	40		4650	4530		20	25	34	50	61	68	82	91	97	100	--	VPWC
Jan. 27.....	1420	44		2330	4160		12	20	27	35	42	47	54	63	73	91	100	VPWC
Feb. 6.....	0920	41		2990	2775		16	25	36	47	56	63	75	87	97	100	--	VPWC
Feb. 24.....	0925	40		1040	811		--	--	--	--	--	52	60	72	83	98	100	V
Mar. 17.....	1540	46		832	297		--	--	--	--	--	56	64	76	96	100	--	V
Apr. 15.....	1640	44		2250	5570		25	31	40	55	69	76	92	98	100	--	--	VPWC
Apr. 27.....	1005	47		2190	1760		17	29	37	48	59	65	78	90	97	100	--	VPWC

## EEL RIVER BASIN--Continued

11-4731. WILLIAMS CREEK NEAR COVELO, CALIF.

LOCATION.--At gaging station 1.0 mile upstream from mouth and 6.1 miles northeast of Covelo, Mendocino County.

DRAINAGE AREA.--30.4 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1964 to September 1965.

Chemical analyses, in parts per million, November 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Nov. 6, 1964.....	2.4	76		35	13	5.7	0.7	137	6	31	1.6	0.1	0.5	0.2	A 168	0.23		140	18	0.2	288	8.5
Dec. 4.....	111	7.8		12	4.9	2.8	.9	56	0	8.0	.4	.5	.8	.0	69	.09		50	4	.2	111	8.0
Feb. 2, 1965.....	121	8.8		12	4.4	2.8	.7	54	0	7.0	.4	--	.1	.0	63	.09		48	4	.2	103	7.9
Mar. 11.....	36	--		--	--	2.6	--	72	0	--	.9	--	.0	.0	--	--		66	7	.1	139	8.1
Apr. 15.....	79	--		--	--	3.4	--	69	0	--	.7	--	2.0	.2	--	--		64	7	.2	141	7.7
May 13.....	30	11		19	6.3	3.3	.5	84	0	11	.9	--	1.1	.0	A 94	.13		74	5	.2	157	8.1
June 9.....	8.0	--		--	--	4.6	--	107	2	--	1.0	--	1.3	.0	--	--		100	9	.2	203	8.4
July 22.....	.8	--		--	--	4.9	--	160	8	--	1.2	--	1.3	.2	--	--		152	8	.2	295	8.7
Aug. 5.....	.5	--		--	--	4.9	--	159	5	--	1.5	--	1.6	.1	--	--		145	6	.2	286	8.5
Sept. 23.....	.2	13		39	19	6.0	1.3	192	6	19	1.8	--	.1	.0	202	.27		177	10	.2	343	8.4

A Calculated from sum of determined constituents.

## EEL RIVER BASIN--Continued

11-4737. MILL CREEK NEAR COVELO, CALIF.

LOCATION.--At gaging station 50 feet upstream from unnamed tributary, 0.65 mile downstream from county road bridge, and 5.2 miles southeast of Covelo, Mendocino County.

DRAINAGE AREA.--96.9 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1964 to September 1965.

REMARKS.--No flow Oct. 1 to Nov. 7, July 9 to Sept. 31.

Chemical analyses, in parts per million, December 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Dec. 4, 1964.....	80	10		15	6.9	5.2	1.4	74	0	12	2.0	0.1	1.4	0.1	A 97	0.13		66	5	0.3	149	8.1
Feb. 2, 1965.....	170	13		20	11	6.6	1.0	106	4	17	2.4		1.0	.1	128	.17		94	1	.3	203	8.4
Mar. 11.....	37	--		--	--	8.1	--	161	5	--	4.3		.6	.0	--	--		141	1	.3	292	8.4
Apr. 14.....	47	--		--	--	8.7	--	158	0	--	3.6		1.3	.3	--	--		131	1	.3	277	7.9
May 13.....	24	15		31	15	8.3	1.0	171	0	13	4.0		1.6	.1	173	.24		140	0	.3	292	8.2
June 9.....	2.5	--		--	--	11	--	201	4	--	4.4		1.2	.0	--	--		166	0	.4	342	8.5

A Calculated from sum of determined constituents.



## EEL RIVER BASIN--Continued

11-4738. ELK CREEK NEAR HEARST, CALIF.

LOCATION.--Temperature recorder at gaging station on right bank 300 feet upstream from unnamed tributary, and 13.5 miles northeast of Hearst, Mendocino County.

DRAINAGE AREA.--34.1 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

REMARKS.--Thermograph installed Oct. 20 destroyed by flood. No record for period Nov. 25 to Sept. 14. New thermograph installed Sept. 15. Clock stopped Sept. 23-30.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62	62	61	59	58	55	57	53	54	54	56	53	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	48	48	47	46	46	48	51	51	52	50	49	--
November																																	
Maximum .....	53	55	53	51	54	51	51	49	48	47	46	46	44	44	43	42	42	42	41	42	40	44	44	44	--	--	--	--	--	--	--	46	
Minimum .....	51	50	47	47	46	45	46	48	46	46	45	44	42	42	39	38	38	37	37	36	39	40	40	43	--	--	--	--	--	--	--	43	
December																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September																																	
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	72	71	72	72	73	74	75	--	--	--	--	--	--	--	--	--	--	
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52	52	52	51	52	53	55	56	--	--	--	--	--	--	--	--	--	--	

## EEL RIVER BASIN--Continued

11-4739. MIDDLE FORK EEL RIVER AT DOS RIOS, CALIF.

LOCATION.--At bridge on county road, 0.4 mile upstream from mouth, and 0.5 mile southeast of Dos Rios, Mendocino County.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: October 1957 to September 1959, October 1960 to September 1965.

Sediment records: October 1957 to September 1965.

REMARKS.--Water discharge used is difference between discharge at gages on Eel River above Dos Rios and Eel River below Dos Rios. No correction made for inflow between stations.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	6.3	--	--	--	--	17	--	126	0	--	38	--	--	0.3	--	--	--	157	54	0.6	394	8.2
Nov. 6.....	83	--	--	--	--	12	--	110	2	--	14	--	--	.3	--	--	--	120	23	.5	300	8.4
Dec. 4.....	3090	--	--	--	--	3.5	--	61	0	--	.9	--	--	.3	--	--	--	54	4	.2	121	8.0
Feb. 2, 1965....	4530	--	--	--	--	3.5	--	80	0	--	.9	--	1.0	.0	--	--	--	72	6	.2	154	8.2
Mar. 11.....	960	--	--	--	--	4.0	--	88	0	--	1.8	--	.1	.0	--	--	--	82	10	.2	177	8.2
Apr. 15.....	7500	--	--	--	--	4.7	--	90	0	--	1.8	--	1.8	.3	--	--	--	83	9	.2	180	7.4
May 13.....	1065	10	--	22	4.9	3.8	0.7	83	0	13	1.7	--	.9	.1	102	0.14	--	75	7	.2	164	8.0
June 9.....	350	--	--	--	--	5.1	--	107	2	--	2.6	--	1.0	.1	--	--	--	104	13	.2	222	8.4
July 22.....	54	--	--	--	--	8.6	--	153	7	--	8.2	--	1.5	.4	--	--	--	169	32	.3	353	8.6
Aug. 5.....	36	--	--	--	--	9.7	--	141	13	--	10	--	.9	.3	--	--	--	174	37	.3	368	8.6
Sept. 23.....	19.4	12	--	50	17	12	1.8	164	2	59	16	--	.0	.2	254	.35	--	194	56	.4	416	8.4

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
October .....	--	--	--	--	--	--	--	--	--	67	--	--	--	--	--	--	60	--	--	--	--	--	--	--	--	--	60	--	59	--	60	--	--	
November .....	57	60	--	--	--	57	--	54	--	51	52	48	45	44	44	41	41	39	39	38	39	39	41	40	43	45	45	45	47	46	46	--	46	
December .....	--	46	45	42	44	41	45	46	47	47	47	42	40	40	40	43	42	40	40	42	45	48	53	--	--	--	--	--	--	42	40	40	--	--
January .....	37	39	38	41	42	43	42	39	43	44	45	44	--	44	--	44	45	47	46	46	--	45	45	47	41	42	44	45	45	47	48	47	44	
February .....	45	46	46	45	46	44	44	44	43	42	42	44	43	45	45	46	42	48	48	--	47	46	45	47	47	47	43	45	46	--	--	--	45	
March .....	46	44	48	49	47	48	49	50	50	48	47	47	52	52	52	52	49	49	--	54	--	52	--	51	--	50	48	46	51	50	50	49	--	
April .....	--	52	--	48	--	52	45	--	--	--	49	--	48	48	49	48	45	48	51	51	51	52	--	--	58	59	59	--	57	57	--	--		
May .....	--	53	--	48	--	50	--	56	--	54	--	60	--	57	--	--	55	--	--	59	--	--	--	59	--	61	--	--	61	--	--	--		
June .....	--	--	65	--	--	--	68	74	--	--	--	--	67	--	--	--	78	--	--	--	--	--	--	68	--	--	--	--	73	--	--	--		
July .....	--	--	--	--	--	76	--	--	--	--	--	71	--	--	--	--	--	--	--	--	--	69	--	--	--	--	--	--	--	--	74	--		
August .....	--	--	--	73	--	--	--	79	--	--	--	--	--	--	71	--	--	--	--	--	--	--	--	79	70	--	--	--	--	--	78	--		
September .....	--	--	--	--	--	--	--	71	--	--	--	--	--	--	--	79	--	--	--	--	--	--	--	70	--	--	--	--	--	--	70	--	--	

## 11-4739. MIDDLE FORK EEL RIVER AT DOS RIOS, CALIF.--Continued

Monthly and annual summary of suspended-sediment discharge,  
water year October 1964 to September 1965

Month	Discharge (cfs)	Suspended-sediment (tons)
October 1964.....	495.8	4
November.....	39,806	63,300
December.....	601,690	9,330,000
January 1965.....	408,850	6,630,000
February.....	73,430	407,000
March.....	40,702	106,000
April.....	183,159	2,090,000
May.....	34,726	78,300
June.....	8,481	470
July.....	2,240	17
August.....	1,135	16
September.....	647.2	2
Total for year.....	1,395,362.0	18,705,109

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs) <u>1</u> /	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Nov. 9, 1964.....	0945	51			621		--	--	--	--	--	80	86	95	99	100	--	V
Nov. 10.....	1030	52			1330		--	--	--	--	--	78	83	90	99	100	--	V
Nov. 25.....	1045	45			730		--	--	--	--	--	77	81	86	97	100	--	V
Nov. 28.....	1355	47			2340		18	23	34	44	54	62	74	87	97	100	--	VPWC
Nov. 28.....	1625	48			1920		23	27	38	48	61	68	78	88	99	100	--	VPWC
Dec. 21.....	0815	48			5570		17	24	32	41	53	64	80	92	98	100	--	VPWC
Dec. 21.....	1305	48			8700		21	26	33	45	58	65	85	95	99	100	--	VPWC
Dec. 21.....	1740	50			9000		24	29	36	48	61	70	89	96	100	--	--	VPWC
Dec. 22.....	1640	53			6180		26	28	38	53	65	72	88	97	100	--	--	VPWC
Jan. 1, 1965.....	1430	37			4430		15	19	28	34	42	46	56	73	91	99	100	VPWC
Jan. 5.....	1710	40			15500		20	26	31	44	53	60	77	90	99	100	--	VPWC
Jan. 6.....	0920	43			8680		18	22	27	37	46	53	68	82	95	100	--	VPWC
Jan. 8.....	1000	39			3930		17	23	28	38	46	52	62	75	89	99	100	VPWC
Jan. 24.....	1325	41			7790		18	21	30	39	49	56	72	86	96	100	--	VPWC
Feb. 6.....	1245	44			2610		18	28	38	48	58	66	73	82	92	100	--	VPWC
Feb. 23.....	1635	45			579		--	--	--	--	--	74	78	84	99	100	--	V
Feb. 27.....	1630	45			5320		29	35	46	56	67	73	84	92	98	100	--	VPWC
Apr. 26.....	1730	59			1660		21	28	41	51	62	68	77	86	96	100	--	VPWC
May 14.....	1255	57			2430		23	33	47	59	72	79	93	95	98	100	--	VPWC

<sup>1</sup>/ Not determined.

## EEL RIVER BASIN--Continued

11-4750. EEL RIVER AT ALDERPOINT, CALIF.

LOCATION.--Temperature recorder at gaging station at Alderpoint, Humboldt County, 600 feet downstream from Carter Creek, and 11.4 miles northeast of Garberville.

DRAINAGE AREA.--2,079 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1965.

EXTREMES, 1960-64.--Water temperatures: Maximum, 85°F July 14, 1964; minimum, 37°F Jan. 14, 15, 1963.

REMARKS.--Temperature recorder destroyed during flood. No record available from Nov. 1 to end of water year.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	68	70	72	72	73	74	70	70	70	72	71	70	69	70	69	67	65	66	65	65	64	64	63	64	64	64	64	62	61	63	64	63
Minimum ....	62	61	62	63	65	65	66	63	64	66	64	63	63	65	65	63	58	58	58	58	58	58	58	60	60	60	61	60	61	62	62	62

## EEL RIVER BASIN--Continued

11-4752.5. EEL RIVER AT MCCANN, CALIF.

LOCATION.--Downstream from Summer Bridge approximately 0.5 mile northwest of McCann, Humboldt County, and 6.5 miles upstream from confluence with the South Fork.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....		--		--	--	7.6	--	138	4	--	5.3		--	0.2	--	--		130	10	0.3	288	8.4
Nov. 5.....		--		--	--	9.2	--	126	3	--	13		--	.2	--	--		136	28	.3	315	8.4
Dec. 3.....		--		--	--	4.0	--	60	0	--	1.5		--	.2	--	--		53	4	.2	118	7.9
Feb. 9, 1965.....		--		--	--	4.2	--	86	0	--	1.5		--	.0	--	--		76	5	.2	164	8.2
Mar. 10.....		--		--	--	5.2	--	108	0	--	1.4		--	.0	--	--		96	7	.2	203	8.2
Apr. 14.....		--		--	--	4.4	--	93	0	--	2.0		--	.1	--	--		84	8	.2	184	8.0
May 12.....		11		26	6.1	5.0	1.0	103	0	13	2.2		1.4	.2	117	0.16		92	8	.2	198	8.0
June 9.....		--		--	--	6.0	--	126	4	--	2.8		--	.1	--	--		119	9	.2	248	8.5
July 21.....		--		--	--	8.1	--	165	7	--	4.8		--	.2	--	--		160	13	.3	330	8.6
Aug. 4.....		--		--	--	8.5	--	189	4	--	5.5		--	.1	--	--		173	11	.3	353	8.4
Sept. 22.....		12		52	13	9.8	2.0	198	0	28	6.9		.3	.2	222	.30		181	19	.3	373	8.2

## EEL RIVER BASIN--Continued

11-4755. SOUTH FORK EEL RIVER NEAR BRANSCOMB, CALIF.

LOCATION.--At gaging station 0.4 mile upstream from Jack of Hearts Creek, and 4.7 miles north of Branscomb, Mendocino County.

DRAINAGE AREA.--43.9 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1960 September 1965.

Sediment records: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 81°F July 16; minimum, 41°F on several days during February.

Sediment concentrations: Maximum daily, (estimated) 4,900 ppm Dec. 22; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, (estimated) 230,000 tons Dec. 22; minimum daily, less than 0.05 ton on many days.

EXTREMES, 1960-65.--Water temperatures: Maximum (1960-61, 1962-65), 82°F Aug. 7, 1961; minimum (1961-65), 37°F Nov. 17, 18, 1961.

Sediment concentrations (1962-65): Maximum daily, (estimated) 4,900 ppm Dec. 22, 1964; minimum daily, 1 ppm on many days during 1963-65.

Sediment loads (1962-65): Maximum daily, (estimated) 230,000 tons Dec. 22, 1964; minimum daily, less than 0.05 ton on many days during 1963-65.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	58	59	60	60	61	61	59	58	57	59	58	57	57	57	57	56	54	54	53	52	54	54	53	54	54	53	53	54	55	56	56	56	
Minimum ....	55	55	55	55	58	56	58	55	54	55	55	54	56	56	55	54	51	50	50	49	50	50	50	52	52	52	52	53	54	55	56	54	
November																																	
Maximum ....	56	56	56	55	55	55	53	53	53	53	53	53	53	52	50	48	47	46	45	45	45	46	47	48	50	50	50	50	51	51	--	51	
Minimum ....	56	56	55	55	55	52	52	53	53	53	53	53	52	50	48	47	46	45	45	45	45	46	47	48	50	49	49	50	51	51	--	50	
December																																	
Maximum ....	51	51	51	51	50	51	50	50	50	50	50	50	50	50	49	50	49	48	47	48	49	52	52	52	52	52	52	52	51	50	49	50	
Minimum ....	50	51	50	50	50	50	50	50	50	50	50	50	50	49	49	49	48	47	47	47	49	52	52	52	52	52	51	50	49	49	48	50	
January																																	
Maximum ....	48	48	47	47	47	47	47	47	47	48	47	47	47	47	47	47	48	48	48	48	49	49	49	49	48	48	48	47	48	48	48	48	
Minimum ....	48	47	46	46	47	47	47	47	47	47	47	47	47	47	47	47	47	48	48	48	49	49	49	48	48	48	47	47	47	48	47	47	
February																																	
Maximum ....	48	46	46	46	46	46	45	44	43	43	43	41	41	41	42	42	42	43	43	44	45	46	46	47	47	47	47	47	--	--	--	45	
Minimum ....	46	46	45	46	46	45	44	43	43	41	41	41	41	41	41	41	41	42	42	43	45	46	43	46	46	46	46	46	--	--	--	44	
March																																	
Maximum ....	47	47	48	48	48	48	50	50	49	48	50	51	50	50	50	50	50	50	--	--	--	--	--	--	50	50	48	48	50	50	48	48	49
Minimum ....	45	45	45	47	48	48	48	48	48	48	48	50	49	48	47	48	48	--	--	--	--	--	--	--	46	46	47	48	47	48	48	48	47
April																																	
Maximum ....	48	47	50	52	52	50	50	46	46	45	49	52	52	49	48	49	49	48	50	50	50	51	52	54	55	57	58	58	57	--	51		
Minimum ....	47	46	47	48	49	47	46	46	45	45	45	47	49	48	48	48	48	48	48	50	50	50	50	50	51	53	54	55	54	54	--	49	
May																																	
Maximum ....	57	54	54	54	54	52	54	54	56	58	58	59	59	59	59	60	61	59	59	57	55	59	59	59	61	63	64	65	65	66	66	59	
Minimum ....	51	50	50	51	50	49	49	50	51	53	54	55	56	54	54	55	56	56	57	54	55	54	55	54	55	57	59	60	60	60	60	54	
June																																	
Maximum ....	63	67	68	69	68	66	65	60	66	69	71	68	64	62	65	67	68	71	72	74	74	72	71	70	68	68	70	72	74	72	--	68	
Minimum ....	58	59	61	62	61	61	60	58	58	61	63	63	59	60	57	60	63	63	65	67	67	67	66	67	63	60	61	64	67	68	--	62	
July																																	
Maximum ....	75	76	77	78	78	78	79	78	75	74	74	76	78	78	80	81	80	80	78	76	76	77	77	78	73	74	74	75	77	71	71	77	
Minimum ....	68	67	68	68	68	68	68	70	66	65	64	65	66	66	67	69	69	67	66	66	64	64	65	66	66	66	65	63	63	66	69	66	
August																																	
Maximum ....	78	79	79	79	79	78	77	76	76	75	70	70	74	75	75	77	78	75	73	72	72	71	67	71	72	73	74	74	72	69	74	74	
Minimum ....	67	67	67	67	66	66	66	65	66	66	66	64	63	63	64	68	70	71	69	67	65	65	65	64	66	64	66	64	63	62	61	66	
September																																	
Maximum ....	67	70	70	69	65	66	65	68	68	67	66	66	66	67	68	66	61	59	59	60	62	63	63	62	60	60	60	59	61	62	--	64	
Minimum ....	62	61	61	59	60	60	58	60	58	58	57	56	58	57	59	60	55	51	50	50	51	52	53	53	57	57	57	51	51	52	--	56	

## EEL RIVER BASIN--Continued

11-4755. SOUTH FORK EEL RIVER NEAR BRANSCOMB, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER			
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day	
1..	1.9	--	T	17	21	S	1.1	954	83	214
2..	1.9	--	T	35	--		2.3	930	59	K 150
3..	1.8	--	T	17	--		.7	586	20	32
4..	1.8	2	T	12	--		.3	409	--	8.8
5..	1.6	--	T	9.0	4		.1	292	6	4.7
6..	1.6	--	T	7.1	--	T		222	--	3.0
7..	1.6	--	T	6.7	--	T		182	5	2.5
8..	1.8	2	T	9.8	--		.1	150	--	1.6
9..	1.9	--	T	39	--		5.1	134	4	1.4
10..	1.9	--	T	269	296	S	264	461	58	S 155
11..	1.8	--	T	217	132	S	170	802	51	S 127
12..	1.8	--	T	331	100	S	102	467	--	13
13..	1.8	2	T	211	--		7.4	339	4	3.7
14..	1.8	--	T	118	--		2.9	277	--	3.0
15..	1.8	--	T	79	6		1.3	250	6	4.1
16..	1.8	1	T	58	4		.6	200	--	2.2
17..	1.9	--	T	46	--		.5	172	4	1.9
18..	1.8	--	T	39	3		.3	160	--	1.7
19..	1.9	--	T	32	--		.3	508	240	S 451
20..	1.6	--	T	28	--		.2	1820	550	S 2960
21..	1.4	1	T	27	7		.5	10500	3330	S 127000
22..	1.6	--	T	32	--		1.0	16800	--	230000
23..	1.6	--	T	27	9		.7	8880	--	80000
24..	1.9	--	T	34	15	K	2.4	5160	--	23000
25..	2.2	2	T	164	129	S	65	2670	--	5000
26..	2.4	--	T	138	18		6.7	2490	--	3700
27..	3.1	2	T	176	18	S	13	1680	--	1500
28..	14	10	K	1540	489	S	2320	1080	--	710
29..	22	20		768	68	S	157	870	210	493
30..	12	--		527	35	S	55	805	--	370
31..	7.5	--	.3	--	--		--	674	99	180
Total	105.5	--	2.9	5013.6	--		3180.6	60924	--	476093.6
Day	JANUARY			FEBRUARY			MARCH			
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day	
1..	530	--	72	172	--		3.7	67	--	0.7
2..	544	68	S	152	--		3.7	60	--	.5
3..	845	--	370	140	10		3.8	56	3	.5
4..	748	96		136	--		3.7	53	--	.4
5..	1810	913	S	192	10	K	5.5	49	--	.3
6..	2300	1300	K	150	7		2.8	49	--	.3
7..	1520	481	S	130	--		2.8	48	2	.3
8..	850	200		115	--		2.8	45	--	.2
9..	614	--	220	102	12		3.3	43	--	.2
10..	572	121	S	95	--		3.3	43	--	.2
11..	758	--	330	88	--		2.9	42	2	.2
12..	650	--	160	82	--		2.2	40	--	.2
13..	516	60		77	--		1.5	39	--	.2
14..	412	--	44	73	--		1.0	36	--	.2
15..	313	32		69	4		.7	35	2	.2
16..	274	--	17	66	--		.7	35	--	.2
17..	230	15		62	4		.7	35	--	.1
18..	200	--	7.0	60	--		.6	34	1	.1
19..	182	14		58	4		.6	32	--	.1
20..	160	--	5.2	57	--		.6	31	--	.1
21..	150	11		54	--		.7	30	--	.1
22..	138	--	3.4	51	--		.8	30	1	.1
23..	479	591	S	49	--		.9	29	--	.1
24..	1150	565	S	48	8		1.0	29	1	.1
25..	650	122		45	--		.5	28	--	.1
26..	474	--	120	46	2	S	.4	79	20	S 4.9
27..	380	35		147	286	S	144	218	60	S 41
28..	310	--	14	81	29		6.3	114	26	8.0
29..	262	12		--	--		--	87	--	2.3
30..	228	--	6.2	--	--		--	89	--	1.4
31..	195	8		--	--		--	79	4	.9
Total	18444	--	215012	2597	--		201.5	1684	--	64.2

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.

## EEL RIVER BASIN--Continued

11-4755. SOUTH FORK EEL RIVER NEAR BRANSCOMB, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	74	--	0.8	103	--	0.8	21	--	0.1
2..	68	--	.6	95	3	.8	20	--	.1
3..	63	--	.5	87	--	.7	19	2	.1
4..	56	--	.3	79	--	.6	19	--	.1
5..	54	2	.3	72	3	.6	18	--	.1
6..	51	--	.1	67	--	.5	19	--	.1
7..	51	1	.1	61	--	.3	19	2	.1
8..	53	--	.3	60	--	.3	20	2	.1
9..	103	36	S 12	54	2	.3	20	--	.1
10..	120	25	K 8.3	51	--	.3	18	--	.1
11..	116	8	2.5	46	--	.2	16	--	.1
12..	107	--	.9	45	--	.2	16	3	.1
13..	97	--	.8	43	2	.2	16	--	.1
14..	91	3	.7	42	--	.2	19	--	.1
15..	296	104	S 158	39	--	.2	18	--	.1
16..	448	135	S 170	38	--	.2	17	2	.1
17..	348	--	73	36	2	.2	16	--	.1
18..	592	242	S 417	35	--	.2	16	--	.1
19..	596	--	290	36	3	.3	16	--	.1
20..	606	175	S 300	36	--	.3	14	--	.1
21..	650	--	210	34	--	.2	14	3	.1
22..	505	--	68	32	--	.2	14	--	.1
23..	387	--	31	30	--	.2	13	--	.1
24..	301	18	15	29	2	.2	13	1	T
25..	242	--	9.1	28	--	.2	13	--	T
26..	203	--	6.0	27	--	.1	14	--	T
27..	170	10	4.6	26	1	.1	13	--	T
28..	150	--	3.6	24	--	.1	12	1	T
29..	129	--	2.4	23	--	.1	11	--	T
30..	116	5	1.6	22	--	.1	11	1	T
31..	--	--	--	21	2	.1	--	--	--
Total	6843	--	1787.5	1421	--	9.0	485	--	2.5
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	12	--	T	6.3	--		3.3	--	
2..	11	--	T	5.5	--		3.6	--	
3..	11	--	T	5.1	--		3.3	1	
4..	10	--	T	4.8	1		3.3	--	
5..	9.5	--	T	4.8	--		3.3	--	
6..	9.0	1	T	4.8	--		3.6	--	
7..	9.5	--	T	4.4	--		3.6	--	
8..	9.0	--	T	4.1	--		3.6	1	
9..	8.5	--	T	4.1	2		3.3	--	
10..	8.5	--	T	3.8	--		3.1	--	
11..	8.5	1	T	5.1	--		3.1	--	
12..	8.5	--	T	8.5	--		3.3	--	
13..	8.5	--	T	6.7	1		3.1	--	
14..	8.0	--	T	5.1	--		2.7	1	
15..	7.1	3	.1	4.8	--		2.7	--	
16..	6.7	--	.1	4.4	1		2.5	--	
17..	6.3	--	T	3.8	--		2.0	--	
18..	6.3	--	T	3.8	--		2.2	--	
19..	5.9	1	T	4.1	1		2.2	--	
20..	6.3	--	T	4.4	--		2.2	--	
21..	6.7	--	T	4.8	--		2.2	1	
22..	6.7	1	T	4.8	--		2.2	--	
23..	6.3	--	T	4.4	1		1.9	--	
24..	6.3	--	T	4.4	--		2.0	--	
25..	6.7	--	T	5.1	1		2.0	--	
26..	6.7	1	T	5.1	--		2.5	--	
27..	6.7	--	T	4.4	--		3.1	1	
28..	6.7	--	T	4.1	--		2.9	--	
29..	6.3	--	T	4.1	--		2.7	--	
30..	6.3	--	T	3.3	--		2.5	2	
31..	6.3	1	T	3.1	--		--	--	
Total	241.8	--	0.9	146.0	--	0.5	84.0	--	0.2

Total discharge for year (cfs-days)..... 97,988.9  
 Total load for year (tons)..... 502,844.6

S Computed by subdividing day.

T Less than 0.05 ton.

K Computed from estimated-concentration graph and subdividing day.



## EEL RIVER BASIN--Continued

11-4755. SOUTH FORK EEL RIVER NEAR BRANSCOMB, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 10, 1964.....	0955	53		368	436		--	--	--	--	--	100	--	--	--			S
Nov. 29.....	1105	51		726	57		--	--	--	--	--	92	95	100	--			S
Dec. 20.....	1115	49		1920	378		--	--	--	--	--	93	98	100	--			S
Dec. 21.....	1340	52		16500	5110		31	40	56	71	84	88	97	99	100			VPWC
Jan. 5, 1965.....	1945	47		2510	1480		16	30	41	57	70	80	92	99	100			VPWC
Jan. 8.....	1550	47		780	180		--	--	--	--	--	83	91	100	--			V
Jan. 23.....	1710	49		1020	1420		26	35	50	67	84	92	99	100	--			VPWC

## EEL RIVER BASIN--Continued

11-4765. SOUTH FORK EEL RIVER NEAR MIRANDA, CALIF.

LOCATION.--At gaging station at Sylvandale Campgrounds on U.S. Highway 101, 0.5 mile upstream from Rocky Glen Creek, 4.3 miles southeast of Miranda, Humboldt County, and 20 miles upstream from mouth.

DRAINAGE AREA.--537 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: November 1960 to September 1965.

EXTREMES, 1960-64.--Water temperatures: Maximum (1960-61, 1963-64), 93°F July 25, 1964; minimum, 34°F Jan. 20, 21, 1963.

REMARKS.--Temperature recorder destroyed by flood Dec. 22. No record for remainder of water year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	32	--	--	--	--	9.4	--	146	4	--	8.0	--	--	0.2	--	--	--	124	0	0.4	278	8.3
Nov. 5.....	146	--	--	--	--	9.4	--	116	3	--	7.4	--	--	.3	--	--	--	105	5	.4	246	8.4
Dec. 3.....	5730	--	--	--	--	5.1	--	51	0	--	2.7	--	--	.1	--	--	--	41	0	.3	104	7.9
Feb. 9, 1965....	1380	--	--	--	--	6.6	--	84	0	--	3.0	--	--	.1	--	--	--	67	0	.4	154	8.1
Mar. 10.....	487	--	--	--	--	7.0	--	108	0	--	3.9	--	--	.0	--	--	--	88	0	.3	197	8.1
Apr. 14.....	709	--	--	--	--	6.7	--	95	0	--	3.4	--	--	.1	--	--	--	76	0	.3	178	8.2
May 12.....	586	13	--	22	6.8	6.8	1.1	99	2	8.0	3.7	--	0.9	.1	117	0.16	--	83	0	.3	190	8.5
June 9.....	235	--	--	--	--	8.2	--	129	3	--	3.8	--	--	.1	--	--	--	108	0	.3	238	8.4
July 21.....	92	--	--	--	--	11	--	158	7	--	5.8	--	--	.3	--	--	--	137	0	.4	295	8.6
Aug. 4.....	72	--	--	--	--	11	--	166	5	--	6.2	--	3.1	.1	--	--	--	140	0	.4	300	8.5
Sept. 22.....	54	13	--	44	13	11	1.7	199	2	12	7.4	--	.2	.1	A 202	.27	--	165	0	.4	349	8.3

A Calculated from sum of determined constituents.

Temperature (°F) of water, October to December 1964

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	67	68	73	72	73	74	68	71	67	71	74	69	68	69	67	64	65	68	68	67	68	68	63	63	63	65	59	58	62	67	63	67
Minimum .....	57	59	54	56	59	58	60	60	58	60	57	56	57	57	58	56	52	51	50	51	51	51	51	55	55	55	57	58	58	59	59	56
November																																
Maximum .....	60	64	58	56	62	58	58	55	54	53	49	50	46	46	46	46	46	46	44	45	39	44	47	46	50	48	46	48	52	50	--	50
Minimum .....	59	57	56	53	54	52	52	54	52	49	47	46	43	42	38	36	36	37	37	38	38	39	42	44	46	45	45	46	48	49	--	46
December																																
Maximum .....	51	50	49	45	46	44	45	47	50	50	50	46	41	44	47	44	40	40	43	47	50	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	49	47	45	45	44	43	44	46	47	50	43	40	38	40	42	40	37	40	40	43	47	--	--	--	--	--	--	--	--	--	--	--

## EEL RIVER BASIN--Continued

11-4770. EEL RIVER AT SCOTIA, CALIF.

LOCATION.--At gaging station at bridge on U.S. Highway 101, 0.5 mile north of Scotia, Humboldt County, and 6 miles upstream from Van Duzen River.

DRAINAGE AREA.--3,113 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: October 1957 to September 1965.

Sediment records: October 1957 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 44°F Dec. 13, Jan. 3, 4.

Sediment concentrations: Maximum daily, (estimated) 32,000 ppm Dec. 23; minimum daily, 2 ppm Oct. 1, 4-7.

Sediment loads: Maximum daily, (estimated) 57,000,000 tons Dec. 23; minimum daily, 0.4 ton Oct. 1, 4-7.

EXTREMES, 1957-65.--Water temperatures: Maximum (1960-64), 76°F Aug. 16, 1962; minimum, 38°F Jan. 13, 14, 1963.

Sediment concentrations: Maximum daily, (estimated) 32,000 ppm Dec. 23, 1964; minimum daily, 1 ppm on many days during 1958-64.

Sediment loads: Maximum daily, (estimated) 57,000,000 tons Dec. 23, 1964; minimum daily, 0.3 ton on many days during 1958-63.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	68	--	--	--	--	10	--	148	10	--	7.8	--	--	0.1	--	--	--	137	0	0.4	306	8.4
Nov. 4.....	791	--	--	--	--	9.6	--	144	0	--	8.6	--	--	.1	--	--	--	129	11	.4	301	8.2
Dec. 2.....	31900	--	--	--	--	6.5	--	49	0	--	4.8	--	--	.1	--	--	--	45	5	.4	122	7.8
Feb. 9, 1965....	7560	--	--	--	--	5.5	--	94	0	--	2.6	--	--	.0	--	--	--	81	4	.3	181	8.2
Mar. 10.....	2790	--	--	--	--	6.0	--	115	0	--	3.6	--	--	.1	--	--	--	99	5	.3	216	8.1
Apr. 14.....	4430	--	--	--	--	7.2	--	96	0	--	3.1	--	--	.1	--	--	--	85	6	.3	192	8.2
May 12.....	3100	11	--	28	6.6	5.6	1.3	108	3	13	3.0	--	1.3	.1	131	0.18	--	97	4	.2	209	8.5
June 8.....	1080	--	--	--	--	7.4	--	139	2	--	3.3	--	--	.1	--	--	--	123	6	.3	260	8.4
July 20.....	252	--	--	--	--	9.1	--	172	7	--	5.6	--	--	.1	--	--	--	153	0	.3	328	8.6
Aug. 3.....	220	--	--	--	--	9.8	--	175	6	--	6.2	--	--	.1	--	--	--	156	3	.3	330	8.5
Sept. 22.....	136	9.6	--	53	10	11	1.8	188	8	20	7.3	--	.0	.0	A 213	.29	--	174	7	.4	357	8.6

A Calculated from sum of determined constituents.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October .....	--	70	--	--	68	--	--	59	--	--	60	--	--	60	--	--	63	--	--	61	--	--	60	--	--	61	59	60	61	63	--	--
November .....	60	61	--	--	56	55	55	--	55	53	52	51	49	49	49	48	48	47	48	48	--	49	--	49	50	50	49	50	53	51	--	51
December .....	52	52	49	48	48	46	47	48	50	51	--	48	44	46	48	46	46	45	46	47	53	--	--	--	--	--	--	--	--	--	--	--
January .....	--	--	44	44	48	46	46	45	46	48	49	49	48	48	48	48	--	--	49	49	49	49	50	48	47	47	46	47	50	49	50	48
February .....	49	48	48	49	50	49	48	47	47	47	47	48	47	--	48	50	51	52	52	52	51	50	52	47	47	49	49	50	--	--	49	--
March .....	47	47	48	53	51	53	54	53	53	52	53	56	--	--	56	55	53	54	56	58	--	55	52	52	52	53	53	51	50	53	54	53
April .....	53	50	56	52	53	55	52	53	50	--	--	55	52	54	52	52	51	53	55	56	54	53	53	54	50	58	60	59	--	58	--	54
May .....	59	58	57	58	57	57	58	59	62	66	65	66	65	65	65	60	62	64	64	62	59	56	56	56	57	59	--	65	65	--	64	61
June .....	--	68	--	66	--	--	63	62	62	--	66	--	65	--	--	64	--	--	69	--	--	69	--	--	61	--	--	70	--	--	--	--
July .....	--	--	--	--	--	--	--	--	--	--	--	--	--	73	--	--	--	65	--	--	--	--	64	--	--	70	--	--	--	69	--	--
August .....	73	75	--	--	--	--	74	--	--	76	--	--	64	--	--	65	--	--	62	--	--	74	--	--	--	67	73	--	--	--	65	--
September .....	--	--	--	--	--	--	67	--	--	--	62	--	--	64	--	--	--	66	--	--	67	--	--	--	--	--	--	--	61	--	--	--

A Cal

## EEL RIVER BASIN--Continued

11-4770. EEL RIVER AT SCOTIA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	67	--	0.4	369	10	10	26600	1070 S	81500
2..	67	3	.5	544	16	24	31900	949	81700
3..	67	--	.5	904	--	130	27300	668 S	51300
4..	67	--	.4	791	--	90	15800	290	12400
5..	68	2	.4	807	39	85	10400	160	4490
6..	68	--	.4	601	17	28	7550	110	2240
7..	70	--	.4	429	15	17	6010	70	1140
8..	74	3	.6	422	--	23	5070	40	548
9..	88	--	.7	836	540	1220	4750	30	385
10..	82	--	.7	5990	1410 S	26600	5870	120	1900
11..	76	3	.6	11800	1230 S	42400	20100	1300 K	85000
12..	68	--	.6	17200	1240 S	59800	17500	673 S	35400
13..	80	--	1.3	13900	668 S	27100	10300	190	5280
14..	68	12	2.2	7300	175	3450	7600	80	1640
15..	68	--	1.1	4430	75	897	6730	75	1360
16..	68	--	.7	3250	36	316	6240	50	842
17..	69	3	.6	2480	34	228	5210	26 S	375
18..	70	--	.6	1970	22	117	4570	28 S	337
19..	71	--	.6	1600	16	69	7340	361 S	9370
20..	69	3	.6	1360	16	59	35400	2120 S	236000
21..	69	--	.6	1200	--	45	133000	8360 S	3570000
22..	70	--	.6	1180	8	25	521000	--	40000000
23..	70	4	.8	1330	--	25	648000	--	57000000
24..	71	--	.8	1530	14	58	311000	--	19000000
25..	71	--	.6	3030	199 S	1850	190000	--	8500000
26..	69	3	.6	6570	378	6710	176000	--	7500000
27..	85	4	.9	6060	130	2130	126000	--	4200000
28..	180	38	18	26200	2110 S	212000	95800	--	2600000
29..	440	--	30	41600	1940 S	237000	65800	--	1500000
30..	518	23	32	18400	612 S	32000	46800	--	760000
31..	447	--	22	--	--	--	40700	--	490000
Total	3515	--	120.8	184083	--	654506	2616340	--	145733207
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	32400	--	350000	11800	1530	48700	4550	700 B	8600
2..	33400	3100 K	290000	10700	1320	38100	3960	385	4120
3..	48300	6500	848000	9500	1120	28700	3610	230	2240
4..	41200	4460	496000	8670	940	22000	3390	182	1670
5..	71300	9760 S	2180000	9620	1110	28800	3160	170	1450
6..	140000	11400	4310000	12000	1720	55700	2940	140	1110
7..	96100	9600	2490000	9950	1250	33600	2910	128	1010
8..	51700	6250	872000	8450	880	20100	2850	113	870
9..	38200	3950	407000	7560	650	13300	2820	115	876
10..	37800	4100	418000	6750	560	10200	2790	110	829
11..	43800	5700	674000	6180	473	7890	2770	99	740
12..	39200	4000	423000	5690	412	6330	2710	92	673
13..	30900	3650	305000	5260	365	5180	2660	85 B	610
14..	25600	3050	211000	5000	320 B	4300	2590	80 B	560
15..	23100	3250	203000	4730	290 B	3700	2530	78	533
16..	20900	2850	161000	4380	258	3050	2530	77	526
17..	19600	2100 B	110000	4250	263	3020	2540	73	501
18..	18300	2200 B	110000	4050	244	2670	2550	74	509
19..	17800	2500	120000	3850	222	2310	2540	76	521
20..	17600	2550	121000	3850	209	2170	2540	59	405
21..	16000	2500	108000	3650	198	1950	2530	50 B	340
22..	14000	2100	79400	3650	194	1910	2530	47	321
23..	17400	3510 S	205000	3650	177	1740	2550	46	317
24..	53300	10100	1450000	3450	185	1720	2550	44	303
25..	36500	4840 S	498000	3270	162	1430	2560	56	387
26..	25500	2950	203000	3180	172	1480	2560	76	525
27..	20100	2550	138000	3960	306 S	3430	3020	209 S	1880
28..	16700	2100	94700	5830	1000 S	16200	5580	915	13800
29..	14600	1770	69800	--	--	--	4130	680	7580
30..	13300	1770	63600	--	--	--	3660	220	2170
31..	12600	1500	51000	--	--	--	3740	150	1510
Total	1087200	--	18059500	172880	--	369680	94350	--	57486

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

## EEL RIVER BASIN--Continued

11-4770. EEL RIVER AT SCOTIA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3770	199	2030	6550	488	8630	1380	--	71
2..	3520	132	1250	5820	402	6320	1330	14	50
3..	3380	120	1100	5300	310	4400	1280	--	48
4..	3250	100	878	4910	250	3310	1230	14	46
5..	3010	90	731	4570	240	2960	1180	--	38
6..	2850	90	693	4250	220	2520	1130	--	31
7..	2800	95	718	4010	179	1940	1100	9	27
8..	2750	70	520	3790	133	1360	1080	9	26
9..	3130	90	761	3590	105	1020	1050	6	17
10..	5510	540	8800	3510	103	976	1020	--	19
11..	5990	710	11500	3270	98	865	982	8	21
12..	5210	385	5420	3100	82	686	938	--	18
13..	4900	240	3180	2950	69	550	882	6	14
14..	4430	190	2270	2800	70	529	879	--	14
15..	9640	3200	113000	2650	69	494	886	--	14
16..	31300	6510	550000	2500	69	466	862	6	14
17..	21000	3430	205000	2400	72	467	868	--	14
18..	27100	3890	307000	2290	64	396	825	--	16
19..	44300	6050	724000	2180	61	359	797	7	15
20..	33300	3190	287000	2090	59	333	748	--	14
21..	29600	2850	228000	2000	55	297	717	--	31
22..	23800	2320	149000	1910	54	278	678	28	51
23..	18100	1800	88000	1870	59	298	626	--	20
24..	14200	1620	62100	1790	44	213	608	--	15
25..	12100	1340	43800	1740	36	169	596	8	13
26..	10800	1030	30000	1680	30	136	578	--	14
27..	10000	950	25700	1620	27	120	553	--	16
28..	9110	880	21600	1570	23	97	550	12	18
29..	8240	760	17000	1520	20	82	467	--	14
30..	7460	590	11900	1480	20	80	468	--	14
31..	--	--	--	1430	21	81	--	--	--
Total	364550	--	2902951	91140	--	40432	26288	--	733
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	414	--	11	223	16	9.6	152	--	3.3
2..	405	--	11	223	11	6.6	147	--	3.2
3..	441	--	12	220	--	6.5	143	--	2.7
4..	445	--	12	215	--	5.8	141	--	2.7
5..	430	--	12	200	--	4.9	140	--	2.3
6..	415	--	11	192	--	4.1	138	--	1.9
7..	391	--	11	184	7	3.5	134	4	1.4
8..	364	--	9.8	176	--	3.3	131	--	1.4
9..	352	--	9.5	172	--	3.3	130	--	1.1
10..	337	--	9.1	170	--	3.2	129	--	1.0
11..	319	--	7.8	167	--	2.7	128	3	1.0
12..	315	--	7.7	165	--	2.7	128	--	1.0
13..	313	--	7.6	163	6	2.6	128	--	1.0
14..	306	9	7.4	160	--	2.6	127	--	1.0
15..	305	--	7.4	158	--	2.1	127	3	1.0
16..	297	--	7.2	155	5	2.1	123	--	1.0
17..	287	--	6.2	153	--	2.5	131	--	1.1
18..	271	8	5.9	152	--	2.9	168	--	1.8
19..	262	--	5.7	150	8	3.2	163	4	1.8
20..	252	--	6.1	148	--	2.4	154	--	1.7
21..	244	--	5.9	148	--	1.6	145	--	1.6
22..	241	10	6.5	148	3	1.2	136	5	1.8
23..	234	--	6.3	145	--	1.6	127	--	1.7
24..	230	--	5.6	155	--	2.5	123	--	1.3
25..	225	9	5.5	165	--	3.1	120	--	1.3
26..	229	--	5.6	165	8	3.6	119	--	1.3
27..	218	--	5.3	163	6	2.6	116	--	1.3
28..	221	--	4.8	160	--	2.6	115	--	1.2
29..	217	8	4.7	157	--	3.0	116	4	1.3
30..	218	--	4.7	156	--	3.4	116	--	1.3
31..	217	--	4.7	155	9	3.8	--	--	--
Total	9415	--	237.0	5263	--	105.6	3995	--	47.5

Total discharge for year (cfs-days)..... 4,659,019  
 Total load for year (tons)..... 167,819,005.9

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

## EEL RIVER BASIN--Continued

11-4770. EEL RIVER AT SCOTIA, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Oct. 28, 1964.....	1350	60		172	58		--	--	--	--	--	97	100	--	--		S	
Nov. 10.....	0900	53		3270	1230		--	--	--	--	--	96	100	--	--		V	
Nov. 12.....	1600	51		21100	1630		--	--	--	--	--	85	93	99	100		V	
Nov. 28.....	1600	50		33700	2810		25	27	40	51	67	75	88	99	100		VPWC	
Nov. 29.....	1715	53		34300	1180		26	31	45	57	72	79	91	99	100	--	VPWC	
Dec. 1.....	1600	52		30400	1310		--	--	--	--	--	70	86	100	--	--	V	
Dec. 3.....	0900	49		29600	704		--	--	--	--	--	79	89	100	--	--	V	
Dec. 12.....	0800	48		19100	759		--	--	--	--	--	87	95	100	--	--	S	
Dec. 20.....	1300	47		39300	1950		15	21	30	38	54	66	85	98	100		VPWC	
Dec. 21.....	1500	53		146000	9450		20	31	43	57	72	81	96	100	--	--	VPWC	
Jan. 3, 1965.....	1000	44		49900	7540		17	25	31	44	55	67	89	99	100	--	VPWC	
Jan. 5.....	1500	48		76100	12100		14	20	27	38	50	60	91	99	100	--	VPWC	
Jan. 7.....	1600	46		83200	9500		13	18	24	31	41	51	91	100	--	--	VPWC	
Jan. 10.....	1600	48		38100	4290		--	--	--	--	--	58	77	99	100		V	
Jan. 11.....	1600	49		45500	6130		13	19	27	35	47	55	76	96	100	--	VPWC	
Jan. 13.....	1600	48		29900	3880		--	--	--	--	--	54	72	95	100	--	V	
Jan. 15.....	1600	48		22300	3410		--	--	--	--	--	51	66	96	100	--	V	
Jan. 19.....	1500	49		17800	2570		--	--	--	--	--	47	60	96	100	--	V	
Jan. 21.....	1600	49		15600	2540		--	--	--	--	--	48	60	95	100	--	V	
Jan. 23.....	1500	50		15500	3440		--	--	--	--	--	64	80	98	100	--	V	
Jan. 24.....	1100	48		60800	11500		15	21	27	41	54	67	88	97	100	--	VPWC	
Jan. 25.....	1500	47		33400	4290		16	25	31	43	55	65	87	95	95	97	100	VPWC
Feb. 25.....	0940	47		3310	152		--	--	--	--	--	100	--	--	--	--	S	
Mar. 23.....	0930	52		2550	49		--	--	--	--	--	99	100	--	--	--	S	
Apr. 28.....	1740	59		8780	673		33	43	58	70	78	81	88	100	--	--	VPWC	

EEL RIVER BASIN--Continued

11-4777. SOUTH FORK VAN DUZEN RIVER NEAR BRIDGEVILLE, CALIF.

LOCATION.--Temperature recorder at gaging station 0.2 mile upstream from Butte Creek, 3 miles upstream from mouth, and 7.8 miles east of Bridgeville, Humboldt County.

DRAINAGE AREA.--36.2 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1965.

EXTREMES, 1960-64.--Water temperatures: Maximum, 81°F July 13, 1961; minimum, freezing point Feb. 27 to Mar. 1, 1962.

REMARKS.--Record from January to September considered unreliable.

Temperature (°F) of water, water year October 1964 to September 1965

Temperature (° F) of water, water year October 1964 to September 1965																																	
Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	58	58	60	60	62	62	62	59	59	59	59	59	59	58	58	58	58	55	54	54	54	54	54	54	54	52	53	54	55	57	57	56	57
Minimum ....	56	56	56	58	58	58	60	57	56	57	57	56	57	56	56	55	51	52	52	52	52	52	52	51	51	52	53	54	55	55	56	55	55
November																																	
Maximum ....	55	55	55	54	54	53	52	52	52	51	47	47	45	45	45	44	42	42	42	42	42	46	44	45	46	46	45	45	45	45	—	47	
Minimum ....	55	55	53	53	53	51	51	52	51	47	47	45	45	43	43	43	41	41	41	41	42	42	42	44	45	45	45	45	44	44	—	46	
December																																	
Maximum ....	45	46	44	44	43	43	44	45	45	46	46	43	43	44	44	43	42	42	42	42	44	45	46	47	47	47	47	47	43	44	44	44	
Minimum ....	45	45	44	44	43	41	42	44	44	45	43	42	41	43	43	42	40	42	42	42	44	45	47	47	47	47	43	43	43	43	44	44	

## EEL RIVER BASIN--Continued

11-4785. VAN DUZEN RIVER NEAR BRIDGEVILLE, CALIF.

LOCATION.--At gaging station at bridge on State Highway 36, 0.3 mile downstream from Pip Creek, 0.5 mile upstream from Rogers Creek, and 4 miles west of Bridgeville, Humboldt County.

DRAINAGE AREA.--216 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: December 1960 to September 1965.

Sediment records: October 1955 to September 1963.

EXTREMES, 1960-64.--Water temperatures: Maximum, 80°F July 11, 12, 1961; minimum, 38°F Jan. 12-16, 1963.

REMARKS.--Temperature recorder destroyed in flood Dec. 22; no record for remainder of water year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 14, 1964....	8.0	--	--	--	--	8.1	--	125	5	--	4.6	--	--	0.2	--	--	--	118	7	0.3	259	8.3
Nov. 4.....	82	--	--	--	--	5.5	--	103	0	--	2.8	--	--	.1	--	--	--	99	15	.2	216	8.2
Dec. 2.....	5500	--	--	--	--	2.0	--	46	0	--	.9	--	--	.0	--	--	--	44	6	.1	96	7.8
Feb. 9, 1965....	1020	--	--	--	--	3.6	--	76	0	--	1.2	--	--	.0	--	--	--	64	2	.2	140	8.0
Mar. 8.....	335	--	--	--	--	4.4	--	80	0	--	.8	--	--	.0	--	--	--	76	10	.2	164	8.2
Apr. 13.....	916	--	--	--	--	4.0	--	74	0	--	1.1	--	--	.2	--	--	--	67	6	.2	145	7.9
May 11.....	260	9.3	--	26	4.6	4.1	0.9	96	0	12	1.4	--	1.4	.1	107	0.15	--	84	5	.2	181	8.1
June 9.....	81	--	--	--	--	6.0	--	122	3	--	1.9	--	--	.1	--	--	--	111	6	.2	232	8.4
July 21.....	24	--	--	--	--	7.7	--	139	10	--	3.4	--	--	.1	--	--	--	141	11	.3	295	8.7
Aug. 4.....	19	--	--	--	--	8.3	--	148	7	--	3.8	--	--	.1	--	--	--	144	11	.3	303	8.6
Sept. 21.....	10	11	--	48	10	9.8	2.3	162	7	30	4.4	--	.1	.2	204	.28	--	162	18	.3	338	8.5

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum ....	58	58	58	59	59	58	58	56	57	57	56	56	56	56	57	56	54	52	52	52	52	52	52	54	54	54	54	55	55	55	55	55
Minimum ....	56	54	53	55	55	56	55	53	55	56	54	54	54	54	55	54	50	48	49	49	49	49	49	52	52	52	53	54	55	53	53	53
November																																
Maximum ....	55	56	54	54	56	54	54	53	53	51	48	48	47	45	44	44	43	43	44	44	44	44	45	46	46	46	46	47	48	48	--	48
Minimum ....	54	54	51	52	54	51	50	53	51	48	47	47	45	44	43	42	42	42	42	42	43	44	44	45	46	46	46	46	47	46	--	47
December																																
Maximum ....	46	46	46	44	44	44	44	45	46	47	47	44	42	42	43	44	42	40	41	43	45	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	46	46	44	44	44	43	43	44	45	46	43	42	41	42	42	42	40	40	40	41	43	--	--	--	--	--	--	--	--	--	--	--



## EEL RIVER BASIN--Continued

11-4785. VAN DUZEN RIVER NEAR BRIDGEVILLE, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 28, 1964.....	0750	55		20	2	0.1	--	--	--	--	--	--	--	--	--	--	VPWC VPWC	
Nov. 30.....	1610	48		2810	1300	9860	24	31	43	53	65	74	89	96	98	100		
Jan. 18, 1965.....	1805	46	D	2800	1850	14000	21	29	41	50	61	70	84	94	98	100	S	
Jan. 19.....	0830	--	D	2800	1220	9220	--	--	--	--	--	--	--	--	--	--		
Feb. 25.....	1200	47		360	71	69	--	--	--	--	--	94	100	--	--	--	S	
Mar. 23.....	1235	53		166	16	7.2	--	--	--	--	--	--	--	--	--	--		
Apr. 29.....	1310	56		670	336	608	--	--	--	--	--	97	98	100	--	--	S	
June 8.....	1440	63	D	82	32	7.1	--	--	--	--	--	--	--	--	--	--		
July 14.....	1605	77	D	27	3	.2	--	--	--	--	--	--	--	--	--	--		
Aug. 26.....	0925	67	D	18	35	1.7	--	--	--	--	--	--	--	--	--	--		

D Daily mean discharge.

## MAD RIVER BASIN

11-4805. MAD RIVER NEAR FOREST GLEN, CALIF.

LOCATION.--At gaging station 0.7 mile downstream from Lamb Creek, and 7.0 miles northwest of Forest Glen, Trinity County.

DRAINAGE AREA.--143 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1965.

Sediment records: January 1957 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 70°F on several days during July; minimum, 42°F on several days during January to March.

EXTREMES, 1960-65.--Water temperatures: Maximum, 79°F June 25, 1961; minimum, 35°F Jan. 24, 1962.

Temperature (°F) of water, water year October 1964 to September 1965

Temperature (°F) of water, water year October 1964 to September 1965																																		
Month	Day																															Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
October																																		
Maximum ....	61	62	62	62	63	63	63	62	62	62	62	61	61	61	61	60	60	59	58	58	58	58	58	58	58	57	57	57	57	58	58	58	60	
Minimum ....	59	58	59	60	60	61	62	60	60	60	59	59	59	60	60	59	59	56	56	56	56	56	56	56	56	56	56	56	57	56	57	57	58	
November																																		
Maximum ....	57	57	57	56	56	55	55	55	55	54	50	49	49	48	47	47	46	45	46	46	46	46	48	48	48	48	48	48	48	48	48	—	50	
Minimum ....	57	57	56	55	55	54	54	55	54	49	49	49	49	48	47	46	44	44	45	45	45	46	46	48	48	48	48	48	48	48	48	—	49	
December																																		
Maximum ....	48	48	48	47	47	47	47	48	48	49	49	49	48	46	47	47	47	47	46	46	46	47	48	49	50	50	50	50	48	48	48	48	48	
Minimum ....	48	48	47	47	47	47	46	47	48	48	49	48	46	46	46	47	46	46	46	46	46	47	48	49	50	50	50	48	48	48	48	48	47	
January																																		
Maximum ....	46	46	44	45	45	44	44	43	43	44	44	44	42	42	42	42	43	43	43	43	43	43	44	44	44	44	44	44	43	43	44	44	44	
Minimum ....	46	44	44	44	44	44	43	43	43	43	42	42	42	42	42	42	42	42	43	42	42	43	43	44	44	44	44	43	43	43	44	44	43	
February																																		
Maximum ....	44	44	44	44	46	45	44	44	44	44	44	44	44	44	45	44	44	45	45	44	44	44	44	44	44	46	45	45	46	—	—	—	44	
Minimum ....	44	44	44	44	44	44	44	44	44	44	43	43	43	43	43	43	43	43	43	43	43	43	43	43	42	42	42	44	42	—	—	—	43	
March																																		
Maximum ....	47	48	48	50	48	49	50	50	50	50	50	49	50	50	51	52	50	49	49	50	52	52	53	50	47	48	47	50	51	48	48	50		
Minimum ....	43	42	43	45	46	46	46	46	46	46	48	47	46	46	47	47	46	45	44	44	46	47	48	46	44	45	45	46	47	47	47	46		
April																																		
Maximum ....	47	48	51	52	49	49	47	46	46	48	49	51	48	48	48	48	48	48	48	48	48	50	49	51	52	52	52	54	51	53	—	49		
Minimum ....	47	46	45	46	46	46	44	44	44	44	44	44	46	46	46	46	47	48	48	48	48	48	48	48	48	48	49	50	50	48	—	47		
May																																		
Maximum ....	51	52	53	53	52	52	54	56	56	58	59	59	58	59	59	59	56	59	56	54	53	56	58	58	60	61	61	63	63	63	63	57		
Minimum ....	47	46	47	47	46	45	46	44	48	49	50	50	51	51	50	52	52	50	52	51	51	50	50	50	51	52	53	53	54	54	54	50		
June																																		
Maximum ....	60	63	64	65	64	65	64	62	64	65	65	62	57	56	62	62	65	66	67	67	67	67	64	64	60	62	63	65	66	64	—	63		
Minimum ....	52	53	55	56	55	56	57	56	56	56	56	55	52	54	52	54	56	56	56	57	57	58	58	58	53	52	53	55	56	58	—	55		
July																																		
Maximum ....	66	68	64	68	69	69	70	69	67	66	67	68	68	69	70	70	70	70	68	68	68	68	69	70	68	68	68	68	69	65	64	68		
Minimum ....	57	60	61	60	61	62	62	62	59	60	60	59	60	61	62	63	63	62	60	60	60	60	61	62	63	63	60	60	61	62	63	61		
August																																		
Maximum ....	69	69	69	69	69	68	68	68	69	68	65	64	67	68	68	66	64	66	68	67	67	66	66	63	63	65	65	64	64	65	64	66		
Minimum ....	61	63	62	62	61	61	61	61	62	62	62	60	60	61	61	63	62	63	63	63	63	62	62	62	61	60	60	60	59	57	58	61		
September																																		
Maximum ....	64	64	64	64	62	62	62	62	62	62	61	61	62	62	62	61	57	58	58	59	60	61	61	61	61	60	60	60	58	60	—	61		
Minimum ....	58	58	58	58	56	56	56	56	56	56	55	55	57	56	57	57	51	52	52	53	54	55	56	56	56	56	56	54	53	54	—	55		

## MAD RIVER BASIN--Continued

11-4805. MAD RIVER NEAR FOREST GLEN, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (° F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Oct. 2, 1964.....	0830	58		95	2	0.5						--	--	--	--			
Oct. 9.....	0800	60		98	3	.8						--	--	--	--			
Oct. 16.....	1300	59		93	4	1.0						--	--	--	--			
Oct. 23.....	0800	56		93	3	.8						--	--	--	--			
Oct. 28.....	1040	57		98	3	.8						--	--	--	--			
Nov. 30.....	1245	48		138	7	2.6						--	--	--	--			
Dec. 1.....	0830	48		340	26	24						--	--	--	--			
Dec. 1.....	1500	48		307	17	14						--	--	--	--			
Dec. 8.....	1500	48		194	10	5.2						--	--	--	--			
Dec. 17.....	1500	46		215	6	3.5						--	--	--	--			
Dec. 20.....	1230	46		1060	359	1030						87	96	98	100			S
Dec. 24.....	1035	49		8620	1450	33700	50	66	77	85	91	95	99	100	--			VPWC
Dec. 27.....	1200	48		5540	725	10800						96	99	100	--			S
Jan. 6, 1965.....	0900	44		6290	849	14400						97	97	100	--			S
Jan. 6.....	1500	44		6500	912	16000						--	--	--	--			
Jan. 14.....	1400	42		1870	179	904						--	--	--	--			
Jan. 15.....	1330	42		1800	212	1030						--	--	--	--			
Jan. 18.....	1200	43		1630	141	621						--	--	--	--			
Jan. 18.....	1455	42		1640	153	677						88	91	94	100			S
Jan. 24.....	1200	44		5210	250	3520						93	99	100	--			S
Jan. 25.....	1100	44		3460	208	1940						--	--	--	--			
Jan. 27.....	1530	44		1510	133	542						--	--	--	--			
Jan. 28.....	1500	43		1220	112	369						--	--	--	--			
Jan. 29.....	1500	43		1060	102	292						--	--	--	--			
Jan. 31.....	1500	44		1050	91	258						--	--	--	--			
Feb. 4.....	1430	44		664	70	125						--	--	--	--			
Feb. 5.....	1400	44		730	61	120						--	--	--	--			
Feb. 14.....	1100	44		385	42	44						--	--	--	--			
Feb. 20.....	1630	44		366	40	40						--	--	--	--			
Feb. 23.....	1730	44		371	60	60						--	--	--	--			
Feb. 25.....	1440	46		36	20	1.9						--	--	--	--			
Mar. 7.....	1000	46		39	4	.4						--	--	--	--			
Mar. 14.....	1300	47		108	23	6.7						--	--	--	--			
Mar. 21.....	1100	48		87	12	2.8						--	--	--	--			
Mar. 23.....	1450	52		81	16	3.5						--	--	--	--			

## MAD RIVER BASIN--Continued

11-4805. MAD RIVER NEAR FOREST GLEN, CALIF.--Continued

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965--Continued  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concent- ration (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 26, 1965.....	1100	45		95	16	4.1												
Mar. 28.....	1000	46		118	17	5.4												
Mar. 29.....	1200	51		138	22	8.2												
Mar. 30.....	1000	47		255	49	34												
Apr. 2.....	1000	46		198	26	14												
Apr. 4.....	1500	52		171	24	11												
Apr. 8.....	1300	46		118	18	5.7												
Apr. 10.....	1000	46		135	18	6.6												
Apr. 12.....	1330	51		135	17	6.2												
Apr. 18.....	0930	48		1360	247	907												
Apr. 19.....	0830	48		2860	217	1680												
Apr. 19.....	1500	48		2720	140	1030												
Apr. 21.....	1000	48		1630	55	242												
Apr. 25.....	1200	50		658	26	46												
Apr. 29.....	1055	50		420	10	11												
May 2.....	1000	48		311	9	7.6												
May 9.....	1000	52		93	5	1.3												
May 11.....	1630	58		93	9	2.3												
May 17.....	1630	56		95	7	1.8												
May 23.....	1330	58		87	5	1.2												
May 25.....	1700	60		83	6	1.3												
May 31.....	1400	62		77	3	.6												
June 3.....	1700	64		71	2	.4												
June 6.....	1330	64		73	4	.8												
June 8.....	1735	62		69	6	1.1												
June 10.....	1800	65		69	7	1.3												
June 13.....	1000	54		69	9	1.7												
June 17.....	1630	62		67	3	.5												
June 20.....	0930	58		65	3	.5												
June 24.....	1730	64		63	2	.3												
June 27.....	1530	63		61	3	.5												
July 1.....	1800	66		49	3	.4												
July 7.....	1830	70		44	4	.5												
July 12.....	1800	68		44	3	.4												
July 14.....	1330	69		44	5	.6												
July 18.....	1730	70		44	3	.4												
July 25.....	1700	68		44	4	.5												
Aug. 1.....	1000	68		47	4	.5												
Aug. 8.....	1900	68		47	2	.3												
Aug. 15.....	1700	68		45	2	.2												
Aug. 21.....	1630	67		47	13	1.6												
Aug. 29.....	1700	64		69	11	2.0												
Sept. 2.....	1115	62		71	11	2.1												
Sept. 5.....	1630	62		69	13	2.4												
Sept. 12.....	1730	61		65	8	1.4												
Sept. 27.....	1700	58		69	5	.9												

## MAD RIVER BASIN--Continued

11-4810. MAD RIVER NEAR ARCATA, CALIF.

LOCATION.--At gaging station 100 feet upstream from bridge on U.S. Highway 299, 1.0 mile downstream from Warren Creek, and 2.8 miles northeast of Arcata, Humboldt County.

DRAINAGE AREA (revised).--485 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1965.

Water temperatures: December 1957 to September 1965.

Sediment records: December 1957 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Minimum, 42°F Dec. 18, Jan. 13.

Sediment concentrations: Maximum daily, 21,500 ppm Dec. 23; minimum daily, 1 ppm June 18.

Sediment loads: Maximum daily, 3,140,000 tons Dec. 22; minimum daily, 0.3 ton Aug. 23.

EXTREMES, 1957-65.--Water temperatures: Maximum (1963-64), 68°F on several days during July, Aug. 3, 1964; minimum, 37°F Jan. 13, 1963.

Sediment concentrations: Maximum daily, 21,500 ppm Dec. 23, 1964; minimum daily, 1 ppm on many days in 1958-60, 1962, 1965.

Sediment loads: Maximum daily, 3,140,000 tons Dec. 22, 1964; minimum daily, 0.1 ton on many days in 1958-60, 1962.

REMARKS.--Temperature recorder destroyed during flood; daily temperature values used for remainder of water year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....	96	--	--	--	--	4.5	--	104	--	--	2.4	--	--	0.0	--	--	--	87	2	0.2	194	8.2
Nov. 3.....	196	--	--	--	--	4.2	--	92	--	--	2.5	--	--	.3	--	--	--	82	7	.2	183	8.2
Dec. 1.....	10900	--	--	--	--	3.3	--	30	--	--	2.5	--	--	.1	--	--	--	30	5	.3	76	7.6
Feb. 10, 1965....	1600	--	--	--	--	3.8	--	62	--	--	1.6	--	--	.0	--	--	--	53	2	.2	121	7.8
Mar. 8.....	420	--	--	--	--	4.2	--	86	--	--	2.7	--	--	.0	--	--	--	78	7	.2	170	7.9
Apr. 12.....	1250	--	--	--	--	4.4	--	66	--	--	2.4	--	--	.2	--	--	--	59	5	.2	135	7.5
May 10.....	418	7.6	--	24	4.6	4.5	0.7	86	2	10	2.5	--	1.5	.0	A	99	0.13	79	5	.2	173	8.4
June 7.....	180	--	--	--	--	5.3	--	117	2	--	2.0	--	--	.2	--	--	--	103	4	.2	219	8.4
July 19.....	72	--	--	--	--	7.1	--	136	4	--	3.1	--	--	.0	--	--	--	125	7	.3	259	8.6
Aug. 2.....	67	--	--	--	--	6.1	--	141	3	--	3.4	--	--	.1	--	--	--	126	5	.2	262	8.5
Sept. 20.....	41	9.0	--	44	3.4	5.6	1.1	141	1	15	2.5	--	1	.0	151	21	--	124	7	.2	257	8.3

A Calculated from sum of determined constituents.

## MAD RIVER BASIN--Continued

11-4810. MAD RIVER NEAR ARCATA, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	--	--	--	--	--	63	--	--	--	--	--	--	63	63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	64	64	63	63	63	63	63	63	63	63	63	63	63	63	62	62	61	59	58	58	60	61	60	59	59	59	59	59	59	59	60	61
Minimum ....	61	61	61	62	62	62	62	62	62	63	62	63	62	61	61	61	58	57	56	56	58	59	58	59	58	58	59	59	58	58	59	60
November	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	60	59	58	57	56	56	56	56	56	55	53	53	52	51	50	50	49	49	48	48	48	48	49	--	48	48	49	50	49	51	49	--
Minimum ....	59	58	57	56	56	55	56	56	56	53	53	52	51	50	50	49	49	48	48	48	48	48	48	--	--	--	--	--	--	--	--	--
December	51	53	49	50	50	47	48	50	51	52	50	--	44	48	47	48	45	42	47	47	50	54	54	53	53	50	47	44	45	45	44	49
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January	43	45	48	49	47	45	43	40	47	47	47	44	42	43	44	46	47	47	46	46	47	46	49	44	43	46	47	47	49	50	50	46
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	48	48	49	49	49	46	47	47	47	46	48	46	46	45	48	47	46	47	47	47	47	46	45	43	50	49	48	47	--	--	--	47
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March	55	47	50	48	51	--	53	53	51	51	52	53	51	48	55	52	53	49	50	53	58	58	57	55	51	50	54	50	54	55	52	52
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April	51	52	51	53	51	55	47	56	51	46	45	48	50	50	49	50	50	50	50	57	53	53	56	60	59	62	58	58	55	52	--	53
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May	56	58	56	53	57	56	55	60	63	--	60	--	63	--	59	--	60	--	57	--	55	--	60	--	58	--	59	--	58	--	59	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June	--	59	--	57	--	57	--	57	59	62	--	60	--	64	--	65	--	58	--	62	--	64	--	59	--	60	--	62	--	63	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July	--	62	--	63	--	62	--	63	--	64	--	64	--	64	64	62	--	61	--	62	--	64	--	66	--	63	--	63	--	64	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August	--	65	68	--	66	--	65	--	71	--	72	--	61	--	60	--	68	--	69	--	70	--	66	--	--	--	64	--	67	--	62	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September	--	60	--	64	--	65	--	67	--	--	--	63	--	65	--	61	--	61	--	60	--	61	--	60	--	63	--	64	--	60	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## MAD RIVER BASIN--Continued

## 11-4810. MAD RIVER NEAR ARCATA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	92	3	0.7	125	--	8.4	10900	1360	40000
2..	92	--	.7	167	45	20	10300	1130	32200
3..	92	3	.7	196	--	18	5600	365	6070
4..	92	--	.7	153	10	4.1	3190	180	1600
5..	92	4	1.0	165	--	4.5	2110	130	741
6..	92	--	1.0	135	4	1.5	1500	85	344
7..	93	4	1.0	123	--	1.3	1240	75	251
8..	94	--	1.0	135	75	27	1140	87	279
9..	95	4	1.0	328	128	S 123	2320	255	1600
10..	96	--	1.0	1920	607	S 3770	8730	2020	S 62300
11..	96	3	.8	1570	254	1080	9970	2080	S 70900
12..	96	--	.8	4650	755	9480	3890	310	K 3500
13..	96	2	.5	3320	198	S 1910	2330	180	1130
14..	96	--	.5	1900	83	426	1710	220	1020
15..	95	2	.5	1020	37	102	1790	140	677
16..	94	--	.5	712	23	44	1440	80	311
17..	94	2	.5	535	17	25	1180	58	S 186
18..	94	--	.5	415	24	27	1010	49	S 134
19..	94	3	.8	316	24	20	1660	130	S 692
20..	94	--	1.0	244	--	13	4690	654	S 9180
21..	94	4	1.0	225	16	9.7	20200	4740	S 338000
22..	94	--	1.0	348	--	17	58000	18400	S 3140000
23..	96	3	.8	485	28	37	48900	21500	S 2970000
24..	98	--	.8	568	26	S 41	30000	16600	S 1380000
25..	100	4	1.1	4060	1400	S 18200	23500	13300	S 857000
26..	110	--	1.8	3420	1470	S 14300	18600	12700	S 666000
27..	125	11	3.7	2930	1420	S 12400	14600	9890	S 394000
28..	144	22	S 9.5	10400	2240	S 65100	10400	6750	S 192000
29..	192	37	19	7630	786	S 18700	7900	2690	S 57900
30..	152	--	10	4670	333	S 4780	7140	2010	S 38800
31..	130	20	7.0	--	--	--	6450	1660	S 29100
Total	3214	--	70.9	52865	--	150689.5	322390	--	10295915
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	3000	1200	9720	2980	830	6680	600	166	269
2..	3100	1350	11300	2680	870	6300	520	136	191
3..	2800	1100	8320	2420	693	4530	470	115	146
4..	4500	1200	14600	2170	640	3750	440	122	145
5..	8000	7200	156000	2230	635	3820	430	148	172
6..	15100	7060	288000	2640	555	3960	400	110	B 120
7..	1140	3280	S 105000	2320	448	2810	390	45	47
8..	7150	2000	38600	2080	378	2120	420	150	170
9..	7100	2550	48900	1800	370	1800	470	166	211
10..	9460	2850	72800	1600	365	1580	450	28	34
11..	11800	3300	105000	1400	290	1100	390	103	108
12..	9300	2550	64000	1260	210	714	370	110	110
13..	6800	1700	31200	1110	196	587	360	93	90
14..	5540	1500	22400	1100	192	570	340	25	23
15..	5200	1500	21100	1030	175	487	330	23	20
16..	5100	1600	22000	978	170	449	320	41	35
17..	4700	1350	17100	929	180	451	310	46	39
18..	4560	1350	16600	908	178	436	300	53	43
19..	4600	1450	18000	880	155	368	295	46	37
20..	4740	1450	18600	862	143	333	290	22	17
21..	4110	1200	13300	844	143	326	280	17	13
22..	3460	1050	9810	832	143	321	275	50	37
23..	4870	2230	S 45400	802	148	320	270	48	35
24..	12600	7270	S 263000	778	140	294	265	20	14
25..	8310	1750	39300	650	168	295	350	190	180
26..	5700	1000	15400	400	165	178	840	290	658
27..	4440	860	10300	771	239	S 519	720	175	340
28..	3820	895	9230	778	182	382	660	95	169
29..	3450	825	7680	--	--	--	600	90	146
30..	3430	840	7780	--	--	--	540	125	182
31..	3340	785	7080	--	--	--	900	145	352
Total	191480	--	1517520	39232	--	45480	13595	--	4153

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

## MAD RIVER BASIN--Continued

11-4810. MAD RIVER NEAR ARCATA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	860	260	604	870	206	484	190	--	2.1
2..	800	245	529	800	148	320	185	4	2.0
3..	740	90	180	708	128	245	185	--	2.0
4..	660	50	89	652	180	317	180	3	1.5
5..	560	85	129	580	162	254	180	--	1.0
6..	500	60	81	513	132	183	180	2	1.0
7..	480	60	78	478	142	183	180	--	1.9
8..	460	180	224	460	60	75	175	6	2.8
9..	700	80	151	443	185	221	175	6	2.8
10..	1400	750	2840	418	--	180	175	6	2.8
11..	1350	700	2550	398	72	77	175	--	2.8
12..	1250	770	2600	387	--	38	170	5	2.3
13..	1150	985	3060	370	24	24	170	--	11
14..	1100	990	2940	345	--	20	180	265	129
15..	2200	2240	13300	336	22	20	230	--	300
16..	5060	1930	S 28200	330	--	17	220	240	143
17..	3750	1000	10100	327	13	11	215	--	2.9
18..	4970	1630	S 24700	318	--	12	210	1	.6
19..	8620	4410	S 106000	315	18	15	207	--	1.1
20..	6020	1620	26300	324	--	17	192	3	1.6
21..	4630	1100	13800	288	16	12	177	--	3.3
22..	3700	820	8190	270	--	8.7	171	11	5.1
23..	2910	555	4360	255	9	6.2	145	--	3.5
24..	2280	420	2590	243	--	4.6	140	6	2.3
25..	1860	420	2110	231	6	3.7	145	--	2.0
26..	1530	370	1530	219	--	3.5	140	6	2.3
27..	1300	325	1140	204	6	3.3	138	--	2.2
28..	1130	230	702	195	--	2.6	120	5	1.6
29..	976	205	540	190	4	2.1	114	--	1.2
30..	915	275	679	190	--	1.5	115	3	.9
31..	--	--	--	190	3	1.5	--	--	--
Total	63861	--	260296	11847	--	2762.7	5179	--	638.6
	JULY			AUGUST			SEPTEMBER		
1..	124	--	1.0	71	--	1.0	51	--	0.6
2..	114	3	.9	67	5	.9	51	4	.6
3..	101	--	.8	65	8	1.4	49	--	.8
4..	96	3	.8	61	--	1.5	43	8	.9
5..	93	--	1.0	61	10	1.6	45	--	.9
6..	88	4	1.0	59	--	1.4	51	6	.8
7..	85	--	.9	56	8	1.2	57	--	.8
8..	85	4	.9	60	--	1.1	55	4	.6
9..	82	--	.9	60	7	1.1	49	--	.5
10..	82	3	.7	55	--	1.0	46	4	.5
11..	80	--	.6	54	7	1.0	47	--	.5
12..	78	3	.6	57	--	.9	48	4	.5
13..	77	--	.6	61	6	1.0	46	--	1.2
14..	76	4	.8	57	--	.9	46	15	1.9
15..	76	--	.6	53	7	1.0	47	--	15
16..	72	115	22	50	--	.7	47	235	30
17..	72	--	62	50	4	.5	47	--	14
18..	74	370	74	51	--	.7	46	70	8.7
19..	72	--	39	51	6	.8	45	--	15
20..	70	75	14	46	--	.7	41	170	19
21..	70	--	5.7	40	6	.6	41	--	4.4
22..	69	10	1.9	41	--	.4	44	3	.4
23..	68	--	3.7	42	3	.3	45	--	.5
24..	67	70	13	49	--	.4	45	4	.5
25..	70	--	9.5	49	--	.4	45	--	.5
26..	69	25	4.7	57	--	.6	46	4	.5
27..	67	--	3.6	58	4	.6	46	--	.5
28..	67	14	2.5	56	--	.5	46	5	.6
29..	66	--	1.8	51	3	.4	43	--	.7
30..	66	7	1.2	51	--	.4	42	60	6.8
31..	67	--	1.1	51	3	.4	--	--	--
Total	2443	--	271.8	1690	--	25.4	1400	--	128.2

Total discharge for year (cfs-days)..... 709,196  
 Total load for year (tons)..... 12,277,951.1

S Computed by subdividing day.



## MAD RIVER BASIN--Continued

## 11-4810. MAD RIVER NEAR ARCATA, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentra- tion (ppm)	Sediment discharge (tons per day)	Suspended sediment											Method of analysis
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 10, 1964.....	0830	53		915	581		--	--	--	--	--	96	99	100	--	--	--	S
Nov. 25.....	0800	48		5700	2070		28	35	50	62	75	80	100	--	--	--	--	SPWC
Dec. 1.....	1120	51		11800	1560		23	25	36	49	62	68	83	96	100	--	--	VPWC
Dec. 9.....	0900	51		2670	296		--	--	--	--	--	99	100	--	--	--	--	S
Dec. 10.....	0930	52		8270	1810		19	20	27	37	47	54	67	82	91	98	100	VPWC
Dec. 20.....	1230	47		5000	750		--	--	--	--	--	91	100	--	--	--	--	V
Dec. 21.....	1515	51		32500	8260		24	32	39	52	67	77	95	100	--	--	--	VPWC
Dec. 22.....	0900	54		60200	15600		31	40	46	61	76	85	98	100	--	--	--	VPWC
Dec. 23.....	1315	55		44400	19900		28	34	42	56	71	82	98	100	--	--	--	VPWC
Dec. 26.....	1000	50		18400	12500		17	24	27	37	47	57	83	97	100	--	--	VPWC
Jan. 6, 1965.....	1130	45		14700	5820		24	32	39	55	69	79	97	100	--	--	--	VPWC
Jan. 24.....	1440	45		12200	3290		24	34	48	62	78	88	99	100	--	--	--	VPWC
Jan. 26.....	1600	46		5280	757		--	--	--	--	--	99	100	--	--	--	--	
Feb. 26.....	1400	49		400	162		--	--	--	--	--	95	100	--	--	--	--	S
Apr. 19.....	0800	50		9600	6780		18	19	25	34	43	52	76	93	97	99	100	VPWC
Apr. 30.....	1130	52		915	291		--	--	--	--	--	64	70	86	99	100	--	V
June 14.....	1100	64		180	233		--	--	--	--	--	89	98	100	--	--	--	S
July 18.....	1000	61		74	386		--	--	--	--	--	70	88	100	--	--	--	V

D Daily mean discharge.

## REDWOOD CREEK BASIN

11-4825. REDWOOD CREEK AT ORICK, CALIF.

LOCATION.--At gaging station, on U.S. Highway 101 bridge at Orick, Humboldt County, and 0.9 mile downstream from Prairie Creek.

DRAINAGE AREA.--278 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....	19	--	--	--	--	5.2	--	67	0	--	6.0	--	--	0.0	--	--	--	60	5	0.3	145	7.9
Nov. 3.....	91	--	--	--	--	5.2	--	74	0	--	4.7	--	--	.1	--	--	--	74	13	.3	175	8.1
Dec. 2.....	8680	--	--	--	--	2.9	--	24	0	--	1.8	--	--	.2	--	--	--	25	5	.3	65	7.4
Feb. 10, 1965....	911	--	--	--	--	3.2	--	48	0	--	2.5	--	--	.0	--	--	--	45	6	.2	106	7.9
Mar. 9.....	414	--	--	--	--	3.7	--	59	0	--	2.4	--	--	.0	--	--	--	58	10	.2	136	7.9
Apr. 14.....	424	--	--	--	--	3.8	--	60	0	--	2.8	--	--	.0	--	--	--	60	11	.2	136	7.5
May 11.....	360	7.6	--	20	2.2	3.8	0.7	61	0	9.0	3.8	--	1.0	.0	87	0.12	--	59	9	.2	136	8.0
June 7.....	142	--	--	--	--	4.6	--	74	0	--	3.9	--	--	.0	--	--	--	74	13	.2	168	8.2
July 20.....	45	--	--	--	--	5.6	--	82	1	--	5.2	--	--	.0	--	--	--	84	15	.3	190	8.4
Aug. 3.....	38	--	--	--	--	5.5	--	86	0	--	6.0	--	--	.0	--	--	--	84	13	.3	192	8.2
Sept. 21.....	13	8.6	--	27	2.3	5.8	.6	78	0	16	6.5	--	.6	.1	108	.15	--	77	13	.3	181	7.5

KLAMATH RIVER BASIN

11-5165.3. KLAMATH RIVER BELOW IRON GATE DAM, CALIF.

LOCATION.--At gaging station 0.1 mile downstream from Bogus Creek, 0.6 mile downstream from Iron Gate Dam, Siskiyou County, and 5.9 miles northeast of Hornbrook.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1965.

Water temperatures: October 1962 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 72°F July 8, 18, 19, Aug. 3; minimum, 34°F on several days during January.

EXTREMES, 1962-65.--Water temperatures: Maximum, 72°F July 11 and on several days during August 1963, July 30, 1964, July 8, 18, 19, Aug. 3, 1965; minimum, 34°F on several days during January 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	1580	--	--	--	--	16	--	93	0	--	3.6	--	3.4	0.0	--	--	--	63	0	0.9	197	8.0
Nov. 11.....	1890	--	--	--	--	14	--	77	0	--	3.3	--	5.1	.1	--	--	--	52	0	.8	167	8.0
Dec. 8.....	2790	--	--	--	--	22	--	102	0	--	5.0	--	5.2	.2	--	--	--	78	0	1.1	244	8.1
Jan. 13, 1965.....	9590	--	--	--	--	11	--	60	0	--	2.5	--	4.7	.1	--	--	--	41	0	.7	138	7.3
Feb. 3.....	11000	--	--	--	--	11	--	59	0	--	--	--	3.8	.2	--	--	--	43	0	.7	137	8.0
Mar. 3.....	7760	--	--	--	--	11	--	62	0	--	2.4	--	2.2	.1	--	--	--	44	0	.7	137	7.8
Apr. 7.....	3640	--	--	--	--	17	--	78	0	--	3.4	--	1.2	.1	--	--	--	59	0	1.0	193	7.9
May 4.....	1530	23	--	20	10	24	1.6	121	0	35	5.5	--	.9	.1	187	0.25	--	91	0	1.1	285	8.2
June 15.....	778	--	--	--	--	30	--	94	18	--	8.7	--	1.3	.1	--	--	--	102	0	1.3	340	8.9
July 14.....	722	--	--	--	--	35	--	130	0	--	8.5	--	2.8	.2	--	--	--	111	4	1.4	378	8.2
Aug. 11.....	1030	--	--	--	--	42	--	136	0	--	9.5	--	3.2	.2	--	--	--	116	4	1.7	424	7.9
Sept. 15.....	2110	28	--	22	12	34	4.9	126	0	71	7.9	--	4.2	.1	263	.36	--	104	1	1.5	375	7.6

## KLAMATH RIVER BASIN--Continued

11-5165.3. KLAMATH RIVER BELOW IRON GATE DAM, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum ....	60	60	60	60	60	60	60	59	59	59	59	59	58	58	58	58	57	57	56	56	55	55	55	55	55	54	54	54	53	53	53	53	57
Minimum ....	59	59	59	59	59	59	59	59	59	59	59	58	58	58	58	57	57	56	56	55	55	55	54	54	54	54	53	53	53	53	52	57	
November																																	
Maximum ....	52	52	52	52	52	52	51	51	51	51	50	50	50	50	49	48	48	47	47	47	46	46	46	46	45	45	43	43	43	43	--	48	
Minimum ....	51	51	52	52	51	51	51	51	51	50	50	50	50	49	48	48	47	47	47	46	46	46	46	45	45	43	43	42	42	43	--	48	
December																																	
Maximum ....	43	43	43	43	43	43	43	43	42	42	42	42	41	41	41	40	39	39	39	39	39	43	49	47	44	44	43	43	43	43	42	42	
Minimum ....	43	43	43	43	42	42	42	42	42	42	42	41	41	41	40	39	39	39	39	39	39	43	43	44	43	43	43	43	43	42	41	42	
January																																	
Maximum ....	41	39	38	36	36	35	35	35	35	35	34	34	34	34	35	35	35	35	35	36	36	37	38	38	38	38	38	38	38	38	39	36	
Minimum ....	39	38	36	36	35	35	35	35	35	34	34	34	34	34	34	35	35	35	35	35	36	36	37	38	38	38	38	38	38	38	38	36	
February																																	
Maximum ....	39	39	39	39	39	39	39	39	39	40	40	39	39	38	38	38	38	38	38	38	39	39	40	41	41	41	42	42	--	--	--	39	
Minimum ....	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	39	39	40	41	41	41	42	--	--	--	39	
March																																	
Maximum ....	42	42	42	42	42	42	42	42	42	43	44	45	45	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	
Minimum ....	42	42	42	42	42	42	42	42	42	43	44	44	45	45	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	
April																																	
Maximum ....	47	47	48	50	49	47	47	47	47	47	48	49	49	47	47	47	47	47	48	48	53	53	51	53	53	52	52	56	55	57	--	50	
Minimum ....	46	47	47	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	48	50	49	50	50	51	52	52	53	54	--	48	
May																																	
Maximum ....	56	56	55	55	55	54	54	54	55	55	55	56	56	55	55	57	57	58	58	57	58	58	58	58	57	57	57	58	60	63	63	57	
Minimum ....	52	52	53	54	53	53	52	52	53	54	54	54	53	54	54	55	56	56	56	57	57	57	57	56	56	56	57	57	60	60	61	55	
June																																	
Maximum ....	62	64	65	66	64	64	64	65	66	68	69	67	67	64	64	62	64	64	66	68	66	67	68	66	64	64	64	64	63	63	--	65	
Minimum ....	60	60	61	62	62	63	64	63	63	64	65	64	64	63	62	62	60	60	62	63	64	64	64	64	64	63	62	63	64	63	--	63	
July																																	
Maximum ....	64	65	68	67	68	71	71	72	70	70	70	68	67	68	68	70	71	72	72	71	70	69	69	68	70	70	68	68	70	70	68	69	
Minimum ....	63	64	65	66	64	66	66	66	66	66	66	66	66	66	67	67	67	68	67	67	67	67	68	67	68	66	66	66	67	68	68	66	
August																																	
Maximum ....	71	70	72	71	70	71	71	70	69	68	68	68	68	69	70	70	69	68	69	69	69	68	68	68	67	67	68	68	67	67	67	69	
Minimum ....	68	68	68	69	68	69	69	68	68	66	66	67	67	68	68	68	68	67	68	68	68	68	67	67	66	66	67	66	66	66	67	67	
September																																	
Maximum ....	68	68	67	67	67	64	62	62	62	62	62	62	62	62	62	62	62	61	61	60	60	60	60	60	60	60	60	59	58	58	--	61	
Minimum ....	67	66	66	67	66	64	62	62	62	61	61	62	62	62	61	61	61	60	60	60	60	60	60	60	59	60	58	58	58	--	62		

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LOCATION.--Temperature recorder at gaging station on right bank 0.5 miles upstream from Rancheria Gulch, and 0.6 miles northwest of Hornbrook, Siskiyou County.

RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 84°F July 17; minimum, 33°F on several days during November.

REMARKS.--Clock stopped Jan. 1-6; pen not inking June 26-30.

Month	Day																																	Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
October	68	67	70	69	70	71	64	66	65	64	66	64	64	65	62	60	57	58	58	59	57	57	56	55	55	57	54	56	60	57	53	61		
Maximum ....	53	47	51	52	53	53	54	51	51	48	47	48	50	48	53	45	41	43	44	43	42	42	42	42	44	49	50	50	52	48	47	48		
Minimum ....	53	57	54	52	54	51	50	50	52	49	46	46	43	41	40	40	40	40	39	38	38	44	43	46	46	45	43	44	46	43	--	46		
November	49	49	45	45	46	43	42	46	47	46	42	42	40	36	34	33	33	33	33	33	33	37	39	42	43	41	41	42	46	43	--	41		
Maximum ....	44	46	46	43	45	45	45	45	47	49	48	41	38	42	42	40	37	37	41	42	45	51	50	50	49	47	45	41	40	40	39	--	44	
Minimum ....	43	42	42	41	43	42	43	45	45	46	41	37	36	37	39	37	35	35	37	39	41	45	49	48	47	45	41	40	39	39	38	41		
December	--	--	--	--	--	39	40	41	41	40	40	40	40	40	40	40	40	41	42	42	42	42	40	41	42	44	43	44	44	44	43	41		
Maximum ....	--	--	--	--	--	38	40	39	39	38	38	38	39	38	38	38	37	38	39	40	40	40	39	38	38	39	40	40	41	40	40	39		
Minimum ....	41	42	43	45	44	42	41	42	39	39	41	42	43	43	44	44	46	46	46	46	46	44	43	44	45	45	46	46	--	--	--	44		
January	37	36	38	39	41	38	35	36	36	33	34	35	39	39	38	37	38	38	38	39	38	39	35	35	36	38	40	40	--	--	--	37		
Maximum ....	47	47	48	46	48	49	51	51	51	51	51	47	50	51	51	51	49	48	48	51	53	52	51	49	45	46	49	51	52	52	52	50		
Minimum ....	39	39	39	40	41	41	42	41	41	41	42	43	39	39	39	39	40	36	37	38	41	42	40	40	42	42	40	41	45	45	40			
February	46	51	55	56	50	49	46	49	48	46	53	56	55	53	48	55	54	52	57	57	55	57	58	61	62	62	61	64	61	59	--	55		
Maximum ....	44	42	40	42	43	40	41	41	42	41	40	42	43	45	44	42	40	46	48	48	48	48	45	48	47	48	50	52	50	47	--	45		
Minimum ....	53	56	56	53	51	54	56	58	54	58	64	65	65	62	64	66	60	63	62	58	59	60	62	62	64	67	66	69	70	68	66	61		
May	43	43	42	46	42	41	41	43	45	48																								

KLAMATH RIVER BASIN--Continued

11-5175. SHASTA RIVER NEAR YREKA, CALIF.

LOCATION.--At gaging station 0.5 mile upstream from mouth, and 7 miles north of Yreka, Siskiyou County.

DRAINAGE AREA.--793 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1958 to September 1965.

Water temperatures: June to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964....	110	--	--	--	--	41	--	291	19	--	26	--	--	0.4	--	--	--	216	0	1.2	562	8.6
Nov. 7.....	171	--	--	--	--	46	--	297	10	--	29	--	--	.5	--	--	--	205	0	1.4	584	8.5
Dec. 8.....	229	--	--	--	--	40	--	264	16	--	24	--	--	.4	--	--	--	196	0	1.2	515	8.6
Jan. 13, 1965....	922	--	--	--	--	26	--	247	8	--	15	--	--	.4	--	--	--	187	0	.8	440	8.5
Feb. 3.....	516	--	--	--	--	25	--	239	10	--	13	--	--	.3	--	--	--	190	0	.8	421	8.6
Mar. 3.....	314	--	--	--	--	30	--	256	8	--	17	--	--	.4	--	--	--	191	0	.9	466	8.4
Apr. 7.....	479	--	--	--	--	56	--	340	10	--	26	--	--	.9	--	--	--	230	0	1.6	616	8.4
May 4.....	166	40	--	52	15	30	2.3	254	10	9.0	16	--	1.1	.4	301	0.41	--	192	0	.9	452	8.5
June 15.....	146	--	--	--	--	40	--	280	26	--	26	--	--	.5	--	--	--	229	0	1.1	561	8.8
July 14.....	69	--	--	--	--	40	--	304	18	--	25	--	--	.5	--	--	--	231	0	1.1	565	8.6
Aug. 11.....	43	--	--	--	--	43	--	304	22	--	26	--	--	.6	--	--	--	234	0	1.2	578	8.7
Sept. 15.....	61	51	--	32	36	42	3.1	314	13	8.0	26	--	.3	.6	366	.50	--	226	0	1.2	567	8.6

Temperature (°F) of water, June to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
June																																
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62	61	70	74	77	78	79	76	75	68	72	74	77	79	74	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60	59	57	60	64	64	64	66	65	60	58	58	60	63	65	--	--
July																																
Maximum ....	--	--	--	--	--	--	82	79	78	77	79	81	--	83	83	84	83	80	79	77	79	81	78	77	80	80	81	82	83	82	77	--
Minimum ....	65	--	--	--	--	--	--	68	65	64	64	63	65	67	--	70	71	70	67	67	66	66	66	68	69	69	66	67	67	70	73	--
August																																
Maximum ....	80	81	82	82	82	82	82	80	78	79	71	76	78	79	80	80	78	75	78	77	76	76	76	73	70	74	74	72	72	73	76	77
Minimum ....	72	71	69	68	67	69	69	68	68	67	68	64	63	65	66	68	74	73	71	67	66	65	67	67	65	64	64	62	62	62	67	67
September																																
Maximum ....	76	76	74	74	71	71	71	71	71	71	71	72	72	73	72	67	62	62	63	64	64	67	68	69	68	66	64	63	63	63	--	69
Minimum ....	66	65	64	63	64	62	61	61	61	61	60	60	62	62	63	60	52	52	52	53	55	57	59	59	59	58	56	55	54	54	--	59

KLAMATH RIVER BASIN--Continued

11-5178.2. KLAMATH RIVER AT KLAMATH RIVER SCHOOL, NEAR HAMBURG, CALIF.

LOCATION.--At State Highway 96 bridge, 0.9 mile downstream from Klamath River School, 1.8 miles upstream from Horse Creek, and approximately 5.5 miles northeast of Hamburg, Siskiyou County.

RECORDS AVAILABLE.--Chemical analyses: December 1958 to September 1965.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....		--		--	--	18	--	114	0	--	6.1		2.4	0.0	--	--		77	0	0.9	228	7.9
Nov. 11.....		--		--	--	18	--	107	0	--	6.5		4.3	.3	--	--		71	0	.9	216	8.1
Dec. 8.....		--		--	--	22	--	115	0	--	5.7		5.2	.3	--	--		81	0	1.1	256	8.2
Jan. 13, 1965....		--		--	--	13	--	87	0	--	3.5		4.7	.1	--	--		64	0	.7	181	7.9
Feb. 3.....		--		--	--	11	--	80	0	--	2.3		3.7	.1	--	--		58	0	.6	163	8.2
Mar. 3.....		--		--	--	11	--	76	0	--	2.2		1.6	.1	--	--		56	0	.6	162	7.9
Apr. 7.....		--		--	--	20	--	114	0	--	6.2		1.3	.4	--	--		82	0	1.0	247	8.0
May 4.....		22		23	9.1	20	2.3	121	0	31	5.6		1.1	.1	189	0.26		95	0	.9	275	8.2
June 15.....		--		--	--	26	--	128	6	--	8.2		.2	.1	--	--		109	0	1.1	324	8.4
July 14.....		--		--	--	32	--	142	2	--	9.0		3.0	.2	--	--		120	0	1.3	373	8.3
Aug. 11.....		--		--	--	39	--	148	2	--	10		2.2	.2	--	--		124	0	1.5	418	8.5
Sept. 15.....		26		20	14	38	4.2	137	0	67	8.5		2.5	.1	264	.36		109	0	1.6	385	7.6

KLAMATH RIVER BASIN--Continued

11-5195. SCOTT RIVER NEAR FORT JONES, CALIF.

LOCATION.--At gaging station 1.7 miles upstream from Snow Creek, and 10.8 miles downstream from Fort Jones, Siskiyou County.

DRAINAGE AREA.--653 square miles.

RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 5, 1964.....	53	---	---	---	---	5.4	---	162	6	---	3.8	---	---	0.0	---	---	---	142	0	0.2	291	8.3
Nov. 10.....	104	---	---	---	---	5.1	---	165	3	---	3.0	---	---	.0	---	---	---	141	1	.2	277	8.4
Dec. 7.....	315	---	---	---	---	3.7	---	105	0	---	2.1	---	---	.1	---	---	---	87	1	.2	187	8.2
Jan. 12, 1965....	2790	---	---	---	---	3.6	---	110	0	---	1.0	---	---	.0	---	---	---	91	1	.2	187	8.2
Feb. 2.....	2260	---	---	---	---	3.8	---	109	1	---	1.0	---	---	.0	---	---	---	96	5	.2	186	8.3
Mar. 2.....	1040	---	---	---	---	3.9	---	110	0	---	1.0	---	---	.0	---	---	---	90	0	.2	181	8.2
Apr. 6.....	710	---	---	---	---	3.8	---	104	0	---	1.2	---	---	.0	---	---	---	88	3	.2	179	8.0
May 3.....	1380	15	---	14	6.8	2.2	0.3	75	0	3.0	.8	---	1.2	.0	81	0.11	---	63	1	.1	129	8.0
June 14.....	594	---	---	---	---	3.1	---	94	4	---	1.9	---	---	.0	---	---	---	82	0	.1	174	8.4
July 14.....	135	---	---	---	---	4.7	---	168	0	---	3.5	---	---	.0	---	---	---	141	3	.2	281	8.0
Aug. 10.....	76	---	---	---	---	5.4	---	164	7	---	4.4	---	---	.0	---	---	---	148	2	.2	290	8.6
Sept. 14.....	58	19	---	31	16	5.9	.8	174	2	6.0	3.7	---	2.1	.0	A 172	.23	---	145	0	.2	292	8.4

A Calculated from sum of determined constituents.



KLAMATH RIVER BASIN--Continued

11-5205. KLAMATH RIVER NEAR SEIAD VALLEY, CALIF.

LOCATION.--At gaging station 0.4 mile upstream from Bittenbender Creek, 1.4 miles downstream from Grider Creek, and 2.2 miles west of Seiad Valley, Siskiyou County.

DRAINAGE AREA.--6,980 square miles, approximately, not including Lost River or Lower Klamath Lake basins.

RECORDS AVAILABLE.--Chemical analyses: December 1958 to September 1965.

Water temperatures: October 1963 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 76°F July 17.

EXTREMES, 1963-65.--Water temperatures: Maximum, 78°F July 26 1964; minimum (1963-64), 37°F Feb. 7, 1964.

REMARKS.--Temperature recorder destroyed by flood; no record from Dec. 22 to Mar. 29; clock stopped Sept. 27-31, temperature range 56°F to 62°F.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 6, 1964.....	1570	--	--	--	--	18	--	120	0	--	6.5	--	1.6	0.0	--	--	--	80	0	0.9	239	7.7
Nov. 11.....	2300	--	--	--	--	16	--	109	0	--	6.5	--	3.5	.3	--	--	--	78	0	.8	223	7.8
Dec. 8.....	3700	--	--	--	--	19	--	115	0	--	5.7	--	4.7	.2	--	--	--	82	0	.9	246	8.2
Jan. 13, 1965.....	23000	--	--	--	--	11	--	92	0	--	3.3	--	4.1	.1	--	--	--	70	0	.6	182	8.2
Feb. 3.....	17000	--	--	--	--	8.6	--	84	0	--	2.1	--	3.3	.1	--	--	--	65	0	.5	166	8.1
Mar. 3.....	10400	--	--	--	--	11	--	79	0	--	2.0	--	2.3	.1	--	--	--	59	0	.6	162	8.1
Apr. 7.....	5780	--	--	--	--	16	--	114	0	--	5.1	--	1.4	.1	--	--	--	84	0	.8	232	8.1
May 4.....	4710	18	--	18	8.8	12	2.1	101	3	17	2.3	--	.2	.1	135	0.18	--	81	0	.6	212	8.4
June 15.....	2340	--	--	--	--	16	--	110	6	--	5.4	--	.1	.1	--	--	--	98	0	.7	253	8.5
July 14.....	1220	--	--	--	--	26	--	145	1	--	8.5	--	2.2	.2	--	--	--	120	0	1.0	347	8.3
Aug. 11.....	1340	--	--	--	--	34	--	146	4	--	10	--	1.7	.2	--	--	--	124	0	1.3	397	8.5
Sept. 15.....	2420	28	--	23	13	34	4.0	137	0	65	8.5	--	3.4	.1	257	.35	--	111	0	1.4	377	8.2

KLAMATH RIVER BASIN--Continued

11-5205. KLAMATH RIVER NEAR SEIAD VALLEY, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum .....	60	60	62	62	62	62	62	61	60	60	60	60	59	59	58	56	55	55	55	55	55	55	54	54	54	54	55	55	55	55	55	58
Minimum .....	59	58	59	60	60	60	61	59	59	58	58	58	58	58	56	54	54	54	54	53	53	52	52	53	54	54	54	54	54	55	54	56
November																																
Maximum .....	54	54	53	52	52	52	51	51	51	51	50	48	48	47	47	45	44	45	44	44	44	46	47	47	47	46	45	44	45	45	--	48
Minimum .....	54	53	52	52	52	51	51	51	51	50	48	48	47	47	45	44	44	44	43	43	43	44	46	47	46	45	44	44	44	45	--	47
December																																
Maximum .....	45	45	45	44	44	44	44	43	44	44	45	44	42	41	41	42	42	41	38	40	41	42	--	--	--	--	--	--	--	--	--	--
Minimum .....	45	45	44	44	44	43	43	43	44	44	42	41	39	39	41	41	38	38	38	40	41	41	--	--	--	--	--	--	--	--	--	--
January																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March																																
Maximum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50	50	--
Minimum .....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	49	49	--
April																																
Maximum .....	50	49	50	52	52	50	48	49	50	48	50	53	52	52	49	49	51	52	52	52	52	52	54	54	56	57	58	57	57	57	54	--
Minimum .....	48	48	48	50	50	48	48	48	48	47	46	48	50	49	45	46	48	51	52	52	52	52	52	54	54	55	55	55	54	52	--	50
May																																
Maximum .....	52	52	53	54	51	51	53	55	56	58	60	61	60	58	59	60	57	58	58	56	56	55	58	58	59	60	61	61	62	63	61	57
Minimum .....	51	49	49	51	48	47	48	50	52	53	55	56	55	54	54	56	54	53	55	54	55	54	53	54	56	56	58	58	58	59	58	54
June																																
Maximum .....	61	63	64	65	65	66	66	64	65	68	68	64	60	59	62	61	60	64	68	70	72	72	71	70	64	63	66	68	70	--	--	65
Minimum .....	56	58	60	60	60	62	63	61	60	63	62	59	57	56	56	58	58	58	61	64	66	66	66	64	58	58	58	61	65	--	--	60
July																																
Maximum .....	--	70	72	71	72	73	74	74	71	69	69	69	71	73	74	75	76	74	72	70	69	70	72	73	70	72	72	73	73	75	73	72
Minimum .....	--	67	67	65	66	67	68	68	66	62	62	62	64	66	66	68	68	68	64	64	62	62	64	66	67	65	64	66	64	68	69	66
August																																
Maximum .....	74	74	73	73	73	74	73	72	72	72	71	67	68	70	72	72	71	70	69	70	70	70	70	68	67	69	70	68	67	68	69	71
Minimum .....	67	68	67	67	67	68	68	68	68	68	67	64	63	66	67	68	69	64	65	65	65	66	66	65	64	65	65	64	62	62	63	66
September																																

KLAMATH RIVER BASIN--Continued

11-5230. KLAMATH RIVER AT SOMESBAR, CALIF.

LOCATION.--At gaging station 300 feet downstream from Salmon River, and 1 mile west of Somesbar Post Office, Siskiyou County.

DRAINAGE AREA.--8,480 square miles, approximately, not including Lost River or Lower Klamath Lake basins.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

REMARKS.--Chemical quality station operated as 11-5230.15. Klamath River at Orleans during 1964 water year was relocated at this site during 1965 water year.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....	2360	--	--	--	--	14	--	107	0	--	4.9	--	--	0.0	--	--	--	72	0	0.7	208	8.1
Nov. 3.....	2710	--	--	--	--	13	--	98	0	--	4.3	--	.1	--	--	--	--	70	0	.7	194	8.2
Dec. 1.....	25000	--	--	--	--	3.5	--	41	0	--	1.4	--	.1	--	--	--	--	37	3	.2	86	7.7
Feb. 8, 1965....	22500	--	--	--	--	6.2	--	76	0	--	1.3	--	.0	--	--	--	--	59	0	.4	142	8.0
Mar. 8.....	14400	--	--	--	--	7.1	--	76	0	--	1.4	--	.0	--	--	--	--	60	0	.4	148	8.1
Apr. 12.....	6220	--	--	--	--	8.5	--	92	0	--	3.1	--	.1	--	--	--	--	73	0	.4	182	7.7
May 10.....	8080	15	--	18	5.4	8.2	1.3	78	1	14	2.6	--	1.3	.1	105	0.14	--	67	1	.4	165	8.4
June 7.....	7350	--	--	--	--	7.6	--	78	0	--	2.4	--	.0	--	--	--	--	64	0	.4	161	8.2
July 19.....	2200	--	--	--	--	15	--	119	4	--	5.4	--	.1	--	--	--	--	104	0	.6	266	8.5
Aug. 2.....	1970	--	--	--	--	17	--	126	1	--	6.3	--	.1	--	--	--	--	105	0	.7	276	8.3
Sept. 20.....	2760	25	--	42	1.2	28	3.7	136	0	51	7.8	--	2.2	.1	228	.31	--	110	0	1.2	346	8.0

KLAMATH RIVER BASIN--Continued

11-5255. TRINITY RIVER AT LEWISTON, CALIF.

LOCATION.--At old highway bridge in Lewiston, Trinity County, 0.3 mile downstream from gaging station, and 0.8 mile downstream from Deadwood Creek.

DRAINAGE AREA.--728 square miles.

RECORDS AVAILABLE.--Chemical analyses: December 1953 to September 1965.

Water temperatures: September 1951 to September 1955, October 1957 to September 1958, July 1959 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 56°F July 26-28; minimum, 42°F on several days during January.

EXTREMES, 1951-55, 1957-58, 1959-65.--Water temperatures: Maximum (1951-55, 1957-58, 1959-63, 1964-65), 79°F July 20, 21, 28, 29, 1960; minimum, 33°F on several days in January 1952.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....	205	--	--	--	--	2.3	--	52	0	--	1.3	--	0.0	0.0	--	--	--	44	1	0.2	95	7.7
Nov. 3.....	254	--	--	--	--	2.0	--	53	0	--	.8	--	1.0	.0	--	--	--	43	0	.1	93	7.8
Dec. 1.....	227	--	--	--	--	2.7	--	52	0	--	.7	--	.9	.1	--	--	--	44	1	.2	96	8.0
Feb. 8, 1965....	157	--	--	--	--	2.2	--	51	0	--	.8	--	1.6	.0	--	--	--	42	0	.2	91	7.8
Mar. 8.....	157	--	--	--	--	2.2	--	51	0	--	.7	--	1.3	.0	--	--	--	42	0	.2	91	7.9
Apr. 12.....	168	--	--	--	--	2.3	--	51	0	--	.9	--	.8	.2	--	--	--	43	1	.2	92	7.9
May 10.....	179	13	--	7.0	6.1	2.0	0.5	52	0	1.0	1.4	--	.6	.0	62	0.08	--	42	0	.1	90	7.8
June 7.....	164	--	--	--	--	2.1	--	49	0	--	1.2	--	.8	.1	--	--	--	43	3	.1	89	8.1
July 19.....	153	--	--	--	--	2.6	--	50	0	--	1.1	--	1.5	.0	--	--	--	42	1	.2	90	8.2
Aug. 2.....	159	--	--	--	--	2.2	--	50	0	--	1.3	--	1.9	.0	--	--	--	42	1	.2	89	8.1
Sept. 20.....	150	12	--	12	2.8	2.2	.5	49	0	2.0	1.1	--	1.1	.0	61	.08	--	42	2	.2	90	7.6

KLAMATH RIVER BASIN--Continued

11-5255. TRINITY RIVER AT LEWISTON, CALIF.--Continued

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October																																	
Maximum .....	51	51	51	50	50	51	51	51	51	50	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	49	49	48	48	48	48	50	
Minimum .....	50	50	50	50	50	50	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	49	49	49	49	49	49	48	48	48	48	49	
November																																	
Maximum .....	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	--	47	
Minimum .....	48	48	48	48	48	48	48	48	48	48	48	48	48	47	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	--	47
December																																	
Maximum .....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	44	44	44	45	45	45	46	46	46	45	46	
Minimum .....	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	44	44	44	44	44	45	45	45	46	45	45	44	45
January																																	
Maximum .....	44	43	42	42	42	42	42	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
Minimum .....	43	42	42	42	42	42	42	42	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
February																																	
Maximum .....	43	43	43	44	44	44	45	45	45	45	45	45	45	45	46	47	47	47	47	47	47	47	47	46	46	46	46	46	46	46	46	45	
Minimum .....	43	43	43	43	44	44	44	44	45	45	45	45	45	45	45	46	46	47	47	47	47	47	46	46	46	46	46	46	46	46	46	45	
March																																	
Maximum .....	46	45	45	45	45	45	45	46	46	46	46	46	46	47	47	47	46	47	47	47	--	--	--	--	--	--	--	--	--	--	--	--	
Minimum .....	45	45	45	45	45	45	45	45	45	45	45	45	45	46	46	46	46	46	46	46	--	--	--	--	--	--	--	--	--	--	--	--	
April																																	
Maximum .....	--	--	--	--	--	--	--	48	48	49	49	51	48	48	48	48	49	49	48	49	50	52	52	53	53	53	53	54	53	53	--	--	
Minimum .....	--	--	--	--	--	--	--	48	48	48	48	48	48	48	48	48	48	48	48	48	48	49	49	49	49	49	51	50	50	50	50	--	--
May																																	
Maximum .....	52	53	53	52	50	50	51	51	51	52	53	53	53	53	54	54	53	52	51	50	50	52	52	52	52	52	52	53	53	54	53	52	
Minimum .....	51	51	51	50	49	48	48	48	48	49	50	50	50	50	50	51	51	51	50	49	49	50	50	50	50	50	50	50	50	50	50	50	
June																																	
Maximum .....	54	54	53	53	53	54	53	52	52	52	53	52	52	53	53	53	52	53	54	54	54	54	54	54	53	54	54	54	53	53	--	53	
Minimum .....	51	50	50	50	50	50	50	50	49	49	49	50	50	51	50	50	50	51	50	50	50	51	51	51	51	51	51	51	51	51	50	--	50
July																																	
Maximum .....	53	53	53	54	54	54	54	54	54	54	54	54	54	54	54	53	53	54	55	55	55	55	55	55	55	55	56	56	56	55	54	52	54
Minimum .....	50	50	50	50	50	50	50	50	50	50	50	51	51	51	50	50	50	51	51	51	51	52	52	51	51	51	51	52	52	52	52	51	51
August																																	
Maximum .....	54	53	53	53	53	52	53	53	53	54	51	53	52	53	52	52	51	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Minimum .....	52	51	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
September																																	
Maximum .....	52	52	52	52	52	52	52	52	52	52	52	51	51	51	51	51	51	51	51	50	50	49	49	49	49	49	49	49	48	48	--	51	
Minimum .....	50	50	50	50	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	49	49	48	48	48	48	48	48	48	48	48	47	--	49

KLAMATH RIVER BASIN--Continued

11-5270. TRINITY RIVER NEAR BURNT RANCH, CALIF.

LOCATION.--At gaging station 500 feet upstream from Cedar Flat Creek, 700 feet upstream from highway bridge at Cedar Flat, and 2.3 miles southeast of Burnt Ranch, Trinity County.

DRAINAGE AREA.--1,439 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1965.

Water temperatures: October 1961 to September 1964.

EXTREMES, 1962-64.--Water temperatures: Maximum, 71°F Sept. 8, 10, 11; minimum (1962-63), 36°F on several days during January 1963.

REMARKS.--Temperature recorder destroyed during flood in December. Record previous to that considered no good and not published.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (microhmhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....	270	--	--	--	--	4.7	--	80	0	--	6.4	--	0.0	0.0	--	--	--	70	4	0.2	158	8.0
Nov. 3.....	655	--	--	--	--	5.1	--	80	0	--	6.5	--	.9	.1	--	--	--	73	7	.3	165	8.0
Dec. 1.....	5060	--	--	--	--	2.6	--	45	0	--	1.4	--	1.5	.2	--	--	--	42	5	.2	96	7.8
Feb. 8, 1965....	2560	--	--	--	--	3.3	--	82	2	--	1.1	--	1.4	.1	--	--	--	75	3	.2	156	8.3
Mar. 8.....	1210	--	--	--	--	3.5	--	86	0	--	1.9	--	.9	.0	--	--	--	75	4	.2	159	8.1
Apr. 12.....	1060	--	--	--	--	4.0	--	89	0	--	2.9	--	.6	.0	--	--	--	78	5	.2	165	8.1
May 10.....	1380	14	--	19	5.0	3.2	0.7	80	0	5.0	2.4	--	1.6	.0	90	0.12	--	68	2	.2	145	8.0
June 7.....	1210	--	--	--	--	2.7	--	58	0	--	2.0	--	1.0	.0	--	--	--	50	2	.2	107	8.1
July 19.....	448	--	--	--	--	4.1	--	77	0	--	3.8	--	1.7	.2	--	--	--	63	0	.2	141	8.2
Aug. 2.....	432	--	--	--	--	4.6	--	83	0	--	5.3	--	1.6	.0	--	--	--	70	2	.2	157	8.2
Sept. 20.....	246	11	--	20	6.6	4.7	.7	90	0	5.0	6.0	--	.1	.1	98	.13	--	77	3	.2	171	8.2

11-5282. SOUTH FORK TRINITY RIVER NEAR HYAMPOM, CALIF.

LOCATION.--Temperature recorder at gaging station just upstream from private road bridge, 0.3 mile downstream from Deep Gulch, 0.5 mile upstream from Hayfork Creek, and 0.7 mile south of Hyampom, Trinity County.

DRAINAGE AREA.--342 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1962, October 1963 to December 1964 (discontinued).

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1962, October 1963 to December 1964 (discontinued).  
EXTREMES, 1960-62, 1963-64.--Water temperatures: Maximum (1961-62, 1963-64), 77°F July 27, 29, 30, 1962; minimum (1960-61, 1963-64), 37°F Jan. 3-5, Feb. 2-6, 1961.

REMARKS.--Thermograph destroyed by flood and not replaced.

Temperature (°F) of water, October to December 1964

[illegible]

## 11-5285. HAYFORK CREEK NEAR HYAMPOM, CALIF.

DRAINAGE AREA.--378 square miles.

RECORDS AVAILABLE.--Water temperatures: December 1960 to September 1965.

EXTREMES, 1964-64.--Water temperatures: Maximum, 74°F July 6, 7; minimum, 40°F on several days during November to January.

EXTREMES, 1960-65.--Water temperatures: Maximum (1960-61, 1962-65), 83°F July 13, 1961; minimum, freezing point several days during January 1962.

Temperature (°F) of water, water year October 1964 to September 1965

[illegible]



KLAMATH RIVER BASIN--Continued

11-5290. SOUTH FORK TRINITY RIVER NEAR SALYER, CALIF.

LOCATION.--At gaging station 4 miles south of Salyer, Humboldt County, and 8 miles upstream from mouth.

DRAINAGE AREA.--898 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1956 to September 1965.

Sediment records: November 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 77°F July 7, Aug. 1, 27; minimum, 35°F Jan. 2, 3.

Sediment concentrations: Maximum daily, 20,400 ppm Dec. 23; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 3,020,000 tons Dec. 22; minimum daily, 0.2 ton on many days.

EXTREMES, 1956-65.--Water temperatures: Maximum (1962-65), 78°F July 26, 27, 1964; minimum (1963-65), 35°F Jan. 2, 3, 1965.

Sediment concentrations: Maximum daily, 20,400 ppm Dec. 23, 1964; minimum daily, 1 ppm on many days during 1956-65.

Sediment loads: Maximum daily, 3,020,000 tons Dec. 22, 1964; minimum daily, 0.2 ton on many days in 1957, 1960-62, 1964.

REMARKS.--Where no maximum or minimum is shown, temperature is once-daily reading.

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	67	67	67	66	68	68	67	66	65	65	65	66	64	64	61	62	60	60	59	59	58	59	58	58	57	57	57	56	56	56	56	62
Minimum ....	60	60	60	61	62	63	64	61	59	58	58	58	58	58	59	58	54	53	53	53	52	53	53	52	53	53	56	56	56	56	56	57
November	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	56	56	56	55	54	54	54	53	53	53	52	50	49	48	48	47	47	46	44	43	43	43	45	46	46	46	46	46	46	46	46	49
Minimum ....	56	56	55	54	53	54	53	53	53	52	50	49	48	48	47	47	46	44	43	43	43	43	45	46	46	46	46	46	46	46	46	48
December	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	47	48	48	48	48	48	48	48	49	50	50	49	48	46	46	46	46	45	--	--	--	--	50	53	53	50	47	44	44	39	41	--
Minimum ....	46	47	48	48	48	48	48	48	48	49	49	48	46	46	46	46	45	44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January	39	35	35	40	39	40	39	35	38	41	41	41	42	42	42	43	43	42	44	43	45	45	42	41	40	42	43	44	45	45	45	43
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	46	42	45	43	43	40	40	41	--	38	38	41	42	41	45	44	42	45	42	45	42	45	39	44	45	44	45	42	--	--	--	42
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March	45	44	41	45	47	44	43	48	45	45	45	47	44	45	50	45	45	44	44	45	45	45	45	50	45	46	48	49	48	50	49	46
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April	50	49	50	49	50	48	48	50	51	51	52	50	52	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	57	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May	--	--	--	--	--	--	--	--	57	59	58	62	60	59	58	62	60	61	60	59	56	60	60	61	61	65	63	65	66	65	66	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June	66	67	68	69	68	70	68	66	68	62	68	68	60	60	64	66	--	--	70	68	70	74	69	70	60	69	68	67	69	67	--	67
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July	71	74	74	74	76	76	77	75	73	73	73	71	73	75	73	67	62	75	--	--	73	--	--	--	73	69	--	74	--	74	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August	77	--	--	73	--	72	--	74	--	69	--	--	72	--	72	--	73	--	73	73	--	73	69	--	74	--	77	--	75	--	72	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September	--	71	--	73	--	73	--	72	--	70	--	--	65	--	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68	67	67	68	68	70	71	71	70	69	66	65	66	66	--	
Minimum ....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	54	54	55	56	58	59	60	59	59	59	56	54	55	--	

KLAMATH RIVER BASIN--Continued

11-5290. SOUTH FORK TRINITY RIVER NEAR SALYER, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	65	2	0.4	158	2	0.9	5720	347	S 5500
2..	65	3	.5	185	4	2.0	5620	327	4960
3..	67	--	.4	259	6	4.2	4390	175	2070
4..	67	1	.2	220	4	2.4	2790	70	527
5..	65	1	.2	174	2	.9	2140	52	300
6..	66	1	.2	155	2	.8	1710	50	231
7..	69	1	.2	144	2	.8	1440	23	89
8..	69	--	.2	148	3	1.2	1320	25	89
9..	68	1	.2	202	--	4.4	1510	45	183
10..	69	--	.2	558	50	75	2500	237	S 2070
11..	68	1	.2	758	57	117	3990	370	3990
12..	69	--	.2	1450	241	S 903	2880	200	1560
13..	66	--	.2	1360	67	246	2250	107	650
14..	66	--	.2	750	25	51	1930	--	420
15..	67	1	.2	518	11	15	1870	--	300
16..	68	--	.2	410	--	6.6	1630	--	200
17..	69	1	.2	352	3	2.9	1440	37	S 143
18..	71	--	.2	319	--	2.6	1300	30	K 110
19..	71	1	.2	293	--	1.6	1570	85	S 405
20..	71	--	.2	275	2	1.5	4570	563	S 8330
21..	71	1	.2	269	3	2.2	35000	3500	331000
22..	70	--	.2	315	--	2.6	70000	16000	3020000
23..	70	1	.2	342	3	2.8	50000	20400	2750000
24..	71	--	.2	440	37	79	25000	15000	1010000
25..	71	1	.2	1780	205	985	20000	10200	551000
26..	71	--	.2	1670	100	451	18000	6600	321000
27..	81	2	.4	1330	59	212	15000	5400	219000
28..	128	2	.7	3250	180	K 1800	11000	4950	147000
29..	180	8	3.9	4210	173	S 2120	9500	4020	103000
30..	198	5	2.7	3040	50	K 500	8000	3520	76000
31..	180	3	1.5	--	--	--	7000	2540	48000
Total	2547	--	15.1	25334	--	7594.4	321070	--	8608127
Day	JANUARY			FEBRUARY			MARCH		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	6200	1900	31800	7280	875	17200	2290	390	2410
2..	5600	1600	24200	6550	820	14500	2170	275	1610
3..	5200	1880	26400	5970	700	11300	2070	250	1400
4..	5000	3320	44800	5650	615	9380	2000	220	1190
5..	7500	3540	71700	5970	775	12500	1940	200	1050
6..	9500	2280	58500	5950	650	10400	1890	200	1020
7..	8600	1930	44800	5330	555	7990	1860	190	954
8..	7600	1920	39400	4790	560	7240	1810	185	904
9..	7000	1850	35000	4360	530	B 6200	1730	180	841
10..	6500	2990	52500	4040	470	5130	1700	165	757
11..	8000	2510	54200	3770	465	4730	1660	155	695
12..	8600	2180	50600	3560	460	4420	1610	150	652
13..	7400	1310	26200	3350	385	3480	1570	140	593
14..	7000	1110	21000	3190	365	3140	1490	140	563
15..	7200	1170	22700	3050	355	2920	1450	130	509
16..	7400	1110	22200	2930	390	3090	1380	132	492
17..	7600	1210	24800	2820	370	2820	1300	123	432
18..	8000	1480	32000	2730	340	2510	1260	119	405
19..	8400	1610	36500	2680	320	2320	1220	114	376
20..	8800	1650	39200	2660	320	2300	1200	105	340
21..	8000	1450	31300	2630	345	2450	1200	106	343
22..	7600	1850	38000	2590	310	2170	1200	112	363
23..	8500	3970	91100	2510	275	1860	1180	102	325
24..	12000	3700	120000	2410	270	1760	1160	106	332
25..	10000	1830	49400	2300	240	1490	1180	136	433
26..	9200	1480	36800	2230	220	1320	1220	192	632
27..	8050	1120	24300	2450	1060	7010	1250	201	678
28..	7350	1070	21200	2480	810	B 5400	1190	143	459
29..	7090	1040	19900	--	--	--	1170	109	344
30..	7700	1220	25400	--	--	--	1180	158	503
31..	7850	1100	23300	--	--	--	1220	145	478
Total	240440	--	1239200	106230	--	157030	46750	--	22083

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

KLAMATH RIVER BASIN--Continued

11-5290. SOUTH FORK TRINITY RIVER NEAR SALYER, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1250	143	483	2700	243	1770	675	43	78
2..	1230	121	402	2540	212	1450	655	41	73
3..	1200	86	279	2400	211	1370	630	39	66
4..	1180	93	296	2220	150	899	610	35	58
5..	1170	112	354	2110	167	951	590	33	53
6..	1160	94	294	2010	183	993	575	31	48
7..	1150	101	314	1930	120	625	560	32	48
8..	1140	108	332	1830	114	563	545	27	40
9..	1120	147	445	1740	138	648	530	20	29
10..	1110	112	336	1670	126	568	510	30	41
11..	1150	100	311	1590	162	695	500	27	36
12..	1180	110	350	1520	99	406	492	23	31
13..	1240	118	395	1470	95	377	492	25	33
14..	1400	106	401	1400	93	352	491	43	57
15..	2500	1140	S 8170	1340	71	257	470	38	48
16..	5140	2070	28700	1290	75	261	455	29	36
17..	3670	700	6940	1210	82	268	430	20	23
18..	6560	2760	S 61300	1160	70	219	410	19	21
19..	11500	2410	S 76400	1110	73	219	391	20	21
20..	8200	1270	28100	1080	76	222	382	20	21
21..	6660	1050	18900	1040	66	185	382	17	18
22..	5490	860	12700	990	61	163	393	17	18
23..	4650	750	9420	940	63	160	367	16	16
24..	4100	660	B 7300	900	62	151	358	15	14
25..	4000	570	6160	860	55	128	349	14	13
26..	3800	450	4620	835	51	115	340	15	14
27..	3580	400	3870	800	57	123	330	13	12
28..	3310	400	3570	775	48	100	330	10	8.9
29..	3110	353	2960	735	44	87	329	13	12
30..	2890	353	2750	705	44	84	331	20	18
31..	--	--	--	695	43	81	--	--	--
Total	95840	--	286852	43595	--	14490	13902	--	1004.9
	JULY			AUGUST			SEPTEMBER		
1..	325	11	9.7	160	3	1.3	112	--	0.6
2..	312	11	9.3	158	--	1.3	109	1	.3
3..	300	11	8.9	157	--	.8	108	--	.6
4..	290	10	7.8	153	2	.8	107	2	.6
5..	278	8	6.0	150	--	.8	106	--	.3
6..	268	11	8.0	146	3	1.2	105	1	.3
7..	257	7	4.9	144	--	.8	104	--	.3
8..	249	8	5.4	144	2	.8	103	2	.6
9..	241	6	3.9	143	--	1.2	104	--	.3
10..	238	7	4.5	144	4	1.6	103	1	.3
11..	232	7	4.4	152	--	1.2	102	--	.3
12..	229	7	4.3	170	--	1.4	101	--	.3
13..	224	7	4.2	158	3	1.3	100	2	.5
14..	219	6	3.5	148	--	.8	100	--	.5
15..	213	6	3.5	133	2	.7	100	2	.5
16..	210	6	3.4	131	--	.7	100	--	.3
17..	206	4	2.2	130	2	.7	98	1	.3
18..	200	3	1.6	130	--	.7	98	--	.3
19..	197	--	1.6	130	2	.7	98	1	.3
20..	190	--	1.5	129	2	.7	98	--	.3
21..	190	3	1.5	122	--	1.0	98	1	.3
22..	183	--	1.5	121	5	1.6	100	--	.3
23..	182	3	1.5	120	3	1.0	101	1	.3
24..	179	--	1.4	120	--	.6	98	--	.3
25..	178	3	1.4	119	2	.6	98	1	.3
26..	176	2	1.0	119	--	.6	98	--	.3
27..	175	--	.9	119	2	.6	98	--	.3
28..	172	2	.9	117	--	.6	95	--	.5
29..	170	--	.9	114	2	.6	95	3	.8
30..	168	--	.9	112	--	.6	95	--	.5
31..	165	--	.9	112	2	.6	--	--	--
Total	6816	--	111.4	4205	--	27.9	3032	--	11.7

Total discharge for year (cfs-days)..... 909,761  
 Total load for year (tons)..... 10,336,547.4

S Computed by subdividing day.  
 B Computed from estimated-concentration graph.

KLAMATH RIVER BASIN--Continued

11-5290. SOUTH FORK TRINITY RIVER NEAR SALYER, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Nov. 12, 1964.....	0835	49		1260	581		--	--	--	--	--	99	100	--	--			S
Dec. 1.....	0815	47		5970	395		--	--	--	--	--	78	89	100	--			S
Dec. 2.....	1425	48		5750	365		--	--	--	--	--	65	76	90	99	100		V
Dec. 21.....	1600	46		D 35000	4270		18	30	38	53	66	74	89	99	100			VPWC
Dec. 23.....	0900	50		D 50000	21200		15	20	32	42	53	60	87	97	100			VPWC
Dec. 27.....	0925	47		D 15000	5500		15	28	42	54	67	75	92	99	100			VPWC
Dec. 31.....	1530	40		D 7000	2390		20	29	45	57	68	80	92	99	100			VPWC
Jan. 4, 1965.....	1400	40		D 5000	3370		19	30	43	56	69	79	93	99	100			VPWC
Jan. 9.....	0855	38		D 7000	1830		19	33	46	61	75	84	96	100	--			VPWC
Jan. 10.....	0810	41		D 6500	4170		13	21	28	40	49	58	68	94	100			VPWC
Jan. 24.....	0900	41		D 12000	5020		10	18	23	34	42	50	70	93	100			VPWC
Feb. 27.....	1005	45		D 2390	1180		--	--	--	--	--	81	91	97	100			V
Mar. 24.....	1655	50		D 1160	114		--	--	--	--	--	84	89	100	--			S
Apr. 19.....	0810	--		12200	2290		25	28	42	58	72	82	95	100	--			VPWC

D Daily mean discharge.

KLAMATH RIVER BASIN--Continued

11-5300. TRINITY RIVER AT HOOPA, CALIF.  
(Formerly published as Trinity River near Hoopa)

LOCATION (revised).--At gaging station in Hoopa Indian Reservation, on left bank at Hoopa, Humboldt County, and 0.4 mile upstream from Supply Creek.

Prior to Feb. 25, 1965, at site 2.5 miles upstream.

DRAINAGE AREA (revised).--2,865 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Water temperatures: November 1956 to September 1965.

Sediment records: November 1956 to September 1965.

EXTREMES, 1964-65.--Water temperatures: Maximum, 80°F July 16; minimum, 39°F Dec. 31, Jan. 2, 3, 13.

Sediment concentrations: Maximum daily, 20,000 ppm Dec. 23; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 8,900,000 tons Dec. 23; minimum daily, 1 ton on many days.

EXTREMES, 1956-65.--Water temperatures (1963-65): Maximum, 80°F July 16, 1965; minimum (1964-65), 39°F Dec. 31, 1964, Jan. 2, 3, 13, 1965.

Sediment concentrations: Maximum daily, 20,000 ppm Dec. 23, 1964; minimum daily, 1 ppm on many days during 1957-64.

Sediment loads: Maximum daily, 8,900,000 tons Dec. 23, 1964; minimum daily, 1 ton on many days during 1957-64.

REMARKS.--Measurement of suspended sediment made at bridge on State Highway 96, 1.0 miles downstream from gaging station. No appreciable inflow between sampling point and gaging station except during periods of heavy runoff.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 13, 1964....	436	--	--	--	--	4.9	--	105	0	--	6.2	--	0.0	0.0	--	--	--	90	4	0.2	196	8.2
Nov. 3.....	1090	--	--	--	--	5.3	--	95	0	--	7.8	--	1.1	.1	--	--	--	88	10	.2	198	8.1
Dec. 1.....	16300	--	--	--	--	2.5	--	60	0	--	1.3	--	1.6	.3	--	--	--	56	7	.1	120	7.9
Feb. 8, 1965....	9500	--	--	--	--	2.9	--	87	2	--	.8	--	1.3	.0	--	--	--	74	0	.2	155	8.4
Mar. 8.....	2850	--	--	--	--	3.2	--	91	3	--	1.2	--	.8	.0	--	--	--	84	4	.2	170	8.3
Apr. 12.....	2920	--	--	--	--	3.8	--	98	0	--	2.0	--	.8	.0	--	--	--	86	6	.2	176	8.0
May 10.....	3600	15	--	20	7.8	3.0	0.3	95	1	5.0	1.9	--	1.8	.0	103	0.14	--	82	2	.1	168	8.5
June 7.....	2180	--	--	--	--	3.7	--	86	1	--	2.1	--	--	.0	--	--	--	76	4	.2	160	8.4
July 19.....	866	--	--	--	--	4.7	--	112	4	--	3.6	--	2.0	.0	--	--	--	99	1	.2	214	8.5
Aug. 2.....	795	--	--	--	--	4.5	--	118	4	--	4.4	--	2.4	.0	--	--	--	109	6	.2	224	8.5
Sept. 20.....	466	16	--	44	5.1	4.9	.9	150	0	13	4.8	--	.0	.0	163	.22	--	131	8	.2	264	8.2

Temperature (°F) of water, water year October 1964 to September 1965

Month	Day																															Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
October .....	62	--	61	--	--	62	--	61	--	60	--	--	60	--	59	--	56	--	--	53	--	53	--	53	--	--	54	--	56	57	57	--	
November .....	--	56	--	54	--	55	--	--	52	49	46	47	44	44	44	--	44	--	43	--	40	--	45	--	--	46	45	44	45	47	47	--	
December .....	47	48	47	45	47	45	45	46	48	49	45	44	44	43	45	45	43	40	--	43	44	48	51	50	50	49	44	43	42	42	39	46	
January .....	40	39	39	40	42	42	42	42	44	44	44	45	39	43	45	45	--	45	45	46	46	45	47	43	43	45	46	47	48	48	47	44	
February .....	46	45	46	48	47	45	44	45	42	44	44	45	45	45	45	46	44	--	--	48	49	49	49	49	48	46	47	--	--	--	46	--	
March .....	50	50	49	50	49	49	51	51	51	51	52	52	52	52	52	52	51	51	51	52	53	53	53	52	48	50	50	52	52	52	51	--	
April .....	51	51	53	53	51	52	48	48	47	48	48	50	52	49	49	49	49	50	48	49	--	53	55	55	55	60	60	62	--	57	--	52	--
May .....	54	56	56	55	56	56	57	--	59	64	--	65	--	--	64	--	63	--	59	--	55	--	61	--	64	--	66	--	--	66	--	--	--
June .....	66	--	70	--	--	71	--	64	69	71	--	66	--	60	--	66	--	68	--	74	--	--	73	--	71	--	69	--	74	--	--	--	--
July .....	75	--	75	--	77	--	78	--	74	--	76	--	78	77	80	--	76	--	73	--	76	--	76	--	75	--	75	--	76	--	76	--	--
August .....	--	77	--	--	79	--	75	--	74	--	70	--	77	--	--	--	74	--	72	--	--	--	70	--	75	--	73	--	--	76	--	--	--
September .....	74	--	--	75	--	72	--	--	71	--	--	--	70	--	70	--	66	--	--	--	68	--	69	--	68	--	64	--	--	--	--	--	--

KLAMATH RIVER BASIN--Continued

11-5300. TRINITY RIVER NEAR HOOPA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965  
(Where no concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	385	2	2	715	6	12	16300	643	S 29200
2..	394	--	2	835	6	14	16200	350	S 15300
3..	433	1	1	1090	--	15	11700	147	4640
4..	439	--	1	940	4	10	7580	70	1430
5..	436	--	1	830	--	7	5760	42	653
6..	433	1	1	745	2	4	4590	29	359
7..	439	--	1	695	--	4	3910	16	169
8..	436	1	1	715	--	4	3720	19	191
9..	436	--	1	870	8	19	5240	66	934
10..	439	1	1	1710	52	S 248	11500	395	S 18300
11..	442	--	1	2130	48	276	16900	799	S 40200
12..	439	--	1	2940	79	S 658	9790	171	4520
13..	436	1	1	3060	88	727	6880	118	2190
14..	433	--	1	1970	30	160	5880	80	1270
15..	439	2	2	1510	12	49	5680	52	797
16..	439	--	1	1290	--	24	4960	58	777
17..	439	1	1	1180	3	10	4380	40	S 478
18..	445	--	1	1110	--	6	3980	26	K 280
19..	445	--	1	1060	--	6	4540	58	S 734
20..	442	1	1	1020	--	6	8950	295	S 8870
21..	439	--	1	1030	2	6	48700	2700	S 447000
22..	439	1	1	1130	--	9	168000	16200	S 8630000
23..	439	--	1	1200	4	13	160000	20000	S 8900000
24..	439	1	1	1500	55	K 300	108000	15000	S 4390000
25..	442	--	1	5060	338	S 4880	73500	10800	S 2150000
26..	442	--	1	4630	90	1130	64800	7580	S 1340000
27..	457	1	1	3800	79	811	48800	5950	S 790000
28..	527	--	3	6780	293	S 5890	34000	5480	S 501000
29..	660	3	5	9460	181	S 4770	22500	4950	S 304000
30..	940	8	20	7210	113	S 2300	18200	4280	S 210000
31..	855	6	14	--	--	--	16000	4150	S 180000
Total	14748	--	72	68215	--	22368	920940	--	27973292
	JANUARY			FEBRUARY			MARCH		
1..	14000	3000	113000	15000	1600	64800	3030	425	3480
2..	12500	2700	91100	13500	1600	58300	2980	420	3380
3..	11500	2500	77600	12000	1800	58300	2940	415	3290
4..	11000	2300	68300	11000	1700	50500	2910	405	3180
5..	13000	4300	151000	10500	1600	45400	2890	400	3120
6..	23000	5900	366000	10500	1500	42500	2880	380	2950
7..	20000	3900	211000	10000	1400	37800	2870	360	2790
8..	17000	3600	165000	9500	1500	38500	2850	340	2620
9..	15000	3700	150000	8800	1120	26600	2830	318	2430
10..	14000	3200	121000	8400	1050	23800	2820	298	2270
11..	17000	4000	184000	7800	980	20600	2820	280	2130
12..	19000	2900	149000	7500	960	19400	2800	276	2090
13..	17000	2500	115000	7100	980	18800	2790	287	2160
14..	15000	2200	89100	6800	900	16500	2760	210	1560
15..	15500	2200	92100	6500	780	13700	2740	216	1600
16..	16000	2300	99400	6100	730	12000	2740	208	1540
17..	16000	2500	B 110000	5700	930	14300	2740	267	1980
18..	17000	2600	119000	5400	920	B 13000	2740	271	2000
19..	18000	2400	117000	5100	860	B 12000	2740	204	1510
20..	19000	2300	118000	4700	850	10800	2730	220	1620
21..	18000	2300	112000	4300	740	8590	2740	187	1380
22..	16000	2000	86400	3900	630	6630	2740	208	1540
23..	19000	2300	118000	3500	660	6240	2750	194	1440
24..	32000	4500	389000	3100	580	4850	2760	140	1040
25..	25000	3000	203000	2950	460	3660	2760	180	1340
26..	21000	2500	142000	2940	427	3390	2800	210	1590
27..	18000	2300	112000	3140	670	5680	2820	170	1290
28..	16500	2100	93600	3140	560	B 4700	2810	141	1070
29..	15000	1800	72900	--	--	--	2800	130	983
30..	15500	2100	87900	--	--	--	2810	127	964
31..	16000	2000	86400	--	--	--	2840	142	1090
Total	532500	--	4209800	198870	--	641340	87230	--	61427

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

KLAMATH RIVER BASIN--Continued

11-5300. TRINITY RIVER NEAR HOOPA, CALIF.--Continued

Suspended sediment, water year October 1964 to September 1965--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2850	149	1150	5700	990	15200	2330	146	918
2..	2860	145	1120	5100	890	12300	2210	--	720
3..	2860	120	927	4600	710	8820	2170	150	879
4..	2850	106	816	4300	710	8240	2220	--	1100
5..	2850	103	793	4050	620	6780	2230	--	1200
6..	2870	100	775	3850	560	5820	2200	207	1230
7..	2860	113	873	3700	550	5490	2180	--	1200
8..	2870	119	922	3600	580	5640	2030	180	987
9..	2900	122	955	3550	595	5700	1900	130	667
10..	2930	141	1120	3600	585	5690	1870	--	710
11..	2930	121	957	3700	--	5000	1910	--	880
12..	2920	93	733	3800	410	4210	1880	205	1040
13..	2940	96	762	3800	--	3500	1770	--	1100
14..	3050	126	1040	3700	300	3000	1810	225	1100
15..	4500	650	7900	3500	265	2500	1830	--	890
16..	8000	2430	52500	3600	--	2100	1660	122	547
17..	6500	990	17400	3300	201	1790	1560	--	340
18..	8000	1650	35600	3100	--	1700	1530	60	248
19..	19000	3300	169000	3050	198	1630	1550	85	356
20..	14500	2780	109000	3000	--	1600	1570	145	615
21..	12000	2400	B 78000	2900	194	1520	1570	--	760
22..	9500	1950	50000	2850	--	1600	1570	--	640
23..	8000	1330	28700	2750	235	1740	1530	103	425
24..	7400	1070	21400	2600	--	1600	1510	--	410
25..	7200	1160	22600	2500	170	1150	1440	136	529
26..	7200	1040	20200	2430	--	1000	1410	--	610
27..	7400	980	19600	2440	210	1380	1330	--	540
28..	7300	750	14800	2520	--	1800	1280	--	480
29..	6700	680	B 12300	2600	--	1900	1270	118	405
30..	6200	860	14400	2560	245	1690	1290	--	296
31..	--	--	--	2470	--	1300	--	--	--
Total	179940	--	686343	105220	--	123390	52610	--	21822
Day	JULY			AUGUST			SEPTEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1310	50	177	710	--	23	555	--	10
2..	1290	--	160	795	--	32	547	--	9
3..	1300	45	158	737	--	26	530	--	9
4..	1270	--	140	691	--	22	530	--	9
5..	1240	20	67	677	--	20	530	--	9
6..	1210	--	49	656	--	18	514	--	8
7..	1170	--	63	645	--	17	506	--	8
8..	1150	--	78	626	--	15	506	--	8
9..	1150	--	110	618	--	13	506	--	8
10..	1120	45	136	615	8	13	498	--	8
11..	1080	--	150	620	--	15	498	--	8
12..	1040	--	140	695	--	19	498	--	8
13..	1020	--	120	740	--	24	490	--	8
14..	994	--	94	708	--	23	490	--	8
15..	978	30	79	665	--	20	482	--	8
16..	962	--	78	638	--	17	482	--	8
17..	946	--	64	623	--	15	474	--	8
18..	922	30	75	649	--	18	474	--	8
19..	866	--	70	722	--	23	474	--	8
20..	818	30	66	713	--	19	466	--	8
21..	810	--	55	670	--	14	466	--	8
22..	800	--	43	650	--	11	474	6	8
23..	794	--	21	634	4	7	474	--	8
24..	770	6	12	637	--	7	474	5	6
25..	754	--	14	675	--	15	474	--	8
26..	746	--	16	678	--	18	466	13	16
27..	730	--	18	652	19	33	466	--	13
28..	714	--	19	629	--	17	466	--	8
29..	706	12	23	602	--	15	466	--	6
30..	706	--	23	587	--	13	466	--	6
31..	706	--	21	569	--	11	--	--	--
Total	30072	--	2339	20526	--	553	14742	--	253

Total discharge for year (cfs-days)..... 2,151,013  
 Total load for year (tons)..... 33,742,999

B Computed from estimated-concentration graph.

## KLAMATH RIVER BASIN--Continued

11-5300. TRINITY RIVER NEAR HOOPA, CALIF.--Continued

Particle-size analyses of suspended sediment, water year October 1964 to September 1965  
 (Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;  
 P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

F, pipet, S, sieve; V, visual accumulation tube; W, in distilled water/																		
Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment										Method of analysis	
							Percent finer than size indicated, in millimeters											
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000		2.000
Oct. 30, 1964.....	1405	57		1020	6		--	--	--	--	--	90	100	--	--	--	--	S
Nov. 25.....	1350	46		6160	456		--	--	--	--	--	92	96	100	--	--	--	S
Dec. 2.....	1050	48		16500	260		--	--	--	--	--	76	85	95	100	--	--	V
Dec. 21.....	1435	48		68400	2870		12	17	25	34	45	56	82	95	100	--	--	VPWC
Dec. 24.....	1015	50		D 108000	15400		17	24	32	44	57	66	88	98	100	--	--	VPWC
Dec. 30.....	1545	42		D 18200	4450		11	16	26	33	42	50	65	80	98	100	--	VPWC
Jan. 3, 1965.....	1710	39		D 11500	2320		15	20	32	40	48	56	67	77	94	98	100	VPWC
Jan. 6.....	1500	42		D 23000	5340		14	19	30	39	49	59	78	93	99	100	--	VPWC
Jan. 11.....	0800	43		D 17000	4070		12	20	31	41	50	60	78	94	100	--	--	VPWC
Jan. 20.....	1730	46		D 19000	2220		--	--	--	--	--	47	58	76	98	100	--	V
Jan. 23.....	1800	47		D 19000	2700		16	17	26	35	42	48	60	80	98	100	--	VPWC
Feb. 26.....	1725	46		2930	293		--	--	--	--	--	49	56	69	96	100	--	V
Mar. 25.....	1005	48		2760	99		--	--	--	--	--	61	66	76	93	100	--	S
Apr. 16.....	0755	48		D 8000	3230		18	19	32	43	57	68	82	92	98	100	--	VPWC
Apr. 19.....	1615	48		D 19000	3330		14	15	25	33	44	53	68	86	98	100	--	VPWC
Apr. 30.....	1505	57		D 6200	488		--	--	--	--	--	44	50	66	92	99	100	V

D Daily mean discharge.



KLAMATH RIVER BASIN--Continued

11-5305. KLAMATH RIVER NEAR KLAMATH, CALIF.

LOCATION.--At gaging station, 2.8 miles upstream from Turwar Creek, and 3.3 miles east of Klamath, Del Norte County.

DRAINAGE AREA.--12,100 square miles, approximately, not including Lost River or Lower Klamath Lake basins.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (residue at 180°C)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....	2980	--	--	--	--	11	--	104	0	--	4.9	--	--	0.0	--	--	--	77	0	0.5	200	7.6
Nov. 4.....	4070	--	--	--	--	10	--	96	0	--	5.2	--	--	.1	--	--	--	75	0	.5	193	8.2
Dec. 2.....	61200	--	--	--	--	3.4	--	42	0	--	1.4	--	--	.1	--	--	--	39	5	.2	88	7.9
Feb. 10, 1965....	32200	--	--	--	--	5.5	--	74	0	--	2.6	--	--	.0	--	--	--	60	0	.3	141	7.8
Mar. 9.....	20200	--	--	--	--	5.7	--	80	0	--	1.4	--	--	.0	--	--	--	65	0	.3	154	8.1
Apr. 14.....	11600	--	--	--	--	6.9	--	94	0	--	2.8	--	--	.2	--	--	--	77	0	.3	175	8.2
May 12.....	15100	15	--	18	6.1	6.1	0.9	81	1	11	2.3	--	1.6	.2	102	0.14	--	70	2	.3	164	8.4
June 8.....	11500	--	--	--	--	6.8	--	83	0	--	2.3	--	--	.0	--	--	--	70	2	.4	164	8.2
July 20.....	3270	--	--	--	--	11	--	118	4	--	4.7	--	--	.0	--	--	--	104	1	.5	247	8.5
Aug. 3.....	2730	--	--	--	--	12	--	122	4	--	5.6	--	--	.1	--	--	--	108	1	.5	261	8.5
Sept. 21.....	3360	21	--	29	10	24	3.1	138	0	44	7.0	--	1.3	.1	210	.29	--	114	1	1.0	327	8.1

MISCELLANEOUS ANALYSES OF STREAMS IN KLAMATH RIVER BASIN

Periodic determinations of suspended-sediment discharge and particle-size analyses, water year October 1964 to September 1965

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;

P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water tem- per- ature (°F)	Sam- pling point	Discharge (cfs)	Sediment concen- tration (ppm)	Sediment discharge (tons per day)	Suspended sediment												Method of analysis
							Percent finer than size indicated, in millimeters												
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000		
11-5258. WEAVER CREEK NEAR DOUGLAS CITY, CALIF.																			
Oct. 1, 1964.....	1625	67		0.4	5	T	--	--	--	--	--	--	--	--	--				
Oct. 31.....	1300	57		4.3	2	T	--	--	--	--	--	--	--	--	--				
Nov. 3.....	1230	60		7.2	1	T	--	--	--	--	--	--	--	--	--				
Nov. 9.....	1130	53		15	1	T	--	--	--	--	--	--	--	--	--				
Nov. 10.....	1100	48		42	8	0.9	--	--	--	--	--	--	--	--	--				
Nov. 12.....	1230	46		43	375	44	--	--	--	--	--	100	--	--	--			S	
Nov. 18.....	1630	43		8.7	1	T	--	--	--	--	--	--	--	--	--				
Nov. 25.....	1030	50		92	4	1.0	--	--	--	--	--	--	--	--	--			S	
Nov. 28.....	1500	44		313	709	599	--	--	--	--	--	97	99	100	--				
Nov. 30.....	1600	46		76	7	1.4	--	--	--	--	--	--	--	--	--				
Dec. 2.....	1630	47		153	7	2.9	--	--	--	--	--	--	--	--	--				
Dec. 3.....	0745	43		90	3	.7	--	--	--	--	--	--	--	--	--				
Dec. 8.....	1615	47		23	1	.1	--	--	--	--	--	--	--	--	--				
Dec. 10.....	1300	55		113	8	2.4	--	--	--	--	--	--	--	--	--				
Dec. 16.....	1400	45		10	1	T	--	--	--	--	--	--	--	--	--				
Dec. 19.....	1400	44		35	4	.4	--	--	--	--	--	--	--	--	--				
Dec. 20.....	1300	44		108	23	6.7	--	--	--	--	--	--	--	--	--				
Dec. 21.....	1400	50		1650	9020	40200	15	20	27	39	53	62	89	99	100			VPWC	
Dec. 22.....	1400	55		2160	6300	36700	13	17	27	37	51	62	87	98	100			VPWC	
Dec. 23.....	1430	55		1610	806	3500	--	--	--	--	--	--	--	--	--				
Dec. 24.....	1520	57		1460	4710	18600	--	--	--	--	--	--	--	--	--				
Dec. 27.....	1600	48		1010	115	314	--	--	--	--	--	--	--	--	--				
Dec. 29.....	1400	43		396	32	34	--	--	--	--	--	--	--	--	--				
Dec. 31.....	1430	47		166	3	1.3	--	--	--	--	--	--	--	--	--				
Jan. 4, 1965.....	1000	38		96	12	3.1	--	--	--	--	--	--	--	--	--				
Jan. 11.....	1400	55		712	216	415	--	--	--	--	--	--	--	--	--				
Jan. 13.....	1545	46		346	36	34	--	--	--	--	--	--	--	--	--			V	
Jan. 20.....	0845	42		510	104	143	--	--	--	--	--	60	70	84	100				
Jan. 23.....	1300	44		1210	1260	4120	--	--	--	--	--	--	--	--	--				
Jan. 23.....	1600	--		2000	4720	25500	13	18	26	37	51	63	93	100	--			VPWC	
Jan. 24.....	1100	45		551	250	372	--	--	--	--	--	--	--	--	--				
Jan. 25.....	1600	44		336	81	73	--	--	--	--	--	--	--	--	--				
Jan. 26.....	1630	46		257	37	26	--	--	--	--	--	--	--	--	--				
Jan. 28.....	1730	48		197	20	11	--	--	--	--	--	--	--	--	--				
Jan. 31.....	1630	47		180	29	14	--	--	--	--	--	--	--	--	--				
Feb. 6.....	1630	47		120	7	2.3	--	--	--	--	--	--	--	--	--				
Feb. 10.....	1745	45		90	25	6.1	--	--	--	--	--	--	--	--	--				
Feb. 24.....	1715	49		54	12	1.7	--	--	--	--	--	--	--	--	--				
Feb. 27.....	1405	49		62	12	2.0	--	--	--	--	--	--	--	--	--				
Mar. 7.....	1200	47		46	62	7.7	--	--	--	--	--	--	--	--	--				
Mar. 25.....	1530	52		33	118	11	--	--	--	--	--	--	--	--	--				
Mar. 27.....	1730	49		38	230	24	--	--	--	--	--	--	--	--	--				

Mar. 31.....	1500	--		36	52	5.1	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 10.....	1100	46		43	36	4.2	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 15.....	1500	48		57	174	27	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 16.....	0930	52		78	191	40	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 18.....	1530	52		494	250	333	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 19.....	1630	49		297	208	167	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 27.....	1000	51		93	13	3.3	--	--	--	--	--	--	--	--	--	--	--	--
Apr. 30.....	1700	54		78	7	1.5	--	--	--	--	--	--	--	--	--	--	--	--
May 1.....	1035	52		76	9	1.8	--	--	--	--	--	--	--	--	--	--	--	--
May 17.....	1700	60		49	6	.8	--	--	--	--	--	--	--	--	--	--	--	--
June 10.....	1315	77		22	9	.5	--	--	--	--	--	--	--	--	--	--	--	--
July 16.....	1130	81		6.0	4	.1	--	--	--	--	--	--	--	--	--	--	--	--
July 30.....	0830	58		2.8	7	.1	--	--	--	--	--	--	--	--	--	--	--	--
Aug. 7.....	0700	56		2.4	7		--	--	--	--	--	--	--	--	--	--	--	--
Aug. 15.....	0900	58		2.4	8	.1	--	--	--	--	--	--	--	--	--	--	--	--
Aug. 23.....	1000	60		3.4	3	T	--	--	--	--	--	--	--	--	--	--	--	--
Aug. 28.....	0805	59		3.4	3	T	--	--	--	--	--	--	--	--	--	--	--	--

## 11-5265. NORTH FORK TRINITY RIVER AT HELENA, CALIF.

Oct. 1, 1964.....	1510	63		18	2	0.1						--	--	--	--	--	--	--
Oct. 27.....	0805	58		19	1	.1						--	--	--	--	--	--	--
Oct. 28.....	0805	58		44	2	.2						--	--	--	--	--	--	--
Oct. 28.....	1850	58		45	1	.1						--	--	--	--	--	--	--
Oct. 31.....	1155	50		52	1	.1						--	--	--	--	--	--	--
Nov. 11.....	1705	48		361	18	18						--	--	--	--	--	--	--
Nov. 14.....	1305	47		160	1	.4						--	--	--	--	--	--	--
Nov. 25.....	1905	48		260	3	2.1						--	--	--	--	--	--	--
Dec. 2.....	1650	46		1260	14	48						--	--	--	--	--	--	--
Jan. 19, 1965.....	1540	49	D	800	838	1810						52	70	88	99	100		
Feb. 3.....	1620	46		624	356	600						68	81	96	100	--		
Feb. 27.....	1240	43		504	109	148						--	--	--	--	--	--	--
Mar. 25.....	1405	44		294	16	13						--	--	--	--	--	--	--
May 1.....	0905	42		761	197	405						56	66	80	99	100		
June 10.....	1205	62		286	14	11						--	--	--	--	--	--	--
July 16.....	0955	66		104	2	.6						--	--	--	--	--	--	--
Aug. 27.....	1750	67		42	2	.2						--	--	--	--	--	--	--

D Daily mean discharge.

T Less than 0.05 ton.

## SMITH RIVER BASIN

11-5325. SMITH RIVER NEAR CRESCENT CITY, CALIF.

LOCATION.--At gaging station, 0.5 mile downstream from South Fork, and 8 miles east of Crescent City, Del Norte County.

DRAINAGE AREA (revised).--609 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1965.

Chemical analyses, in parts per million, water year October 1964 to September 1965

Date of collection	Mean discharge (cfs)	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Carbonate (CO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Boron (B)	Dissolved solids (calculated)			Hardness as CaCO <sub>3</sub>		Sodium adsorption ratio	Specific conductance (micro-mhos at 25°C)	pH
															Parts per million	Tons per acre-foot	Tons per day	Calcium, Magnesium	Non-carbonate			
Oct. 15, 1964....	174	---	---	---	---	2.9	---	84	0	---	2.8	---	---	0.0	---	---	---	71	2	0.2	146	8.1
Nov. 4.....	520	---	---	---	---	2.8	---	73	0	---	2.5	---	---	.1	---	---	---	65	5	.1	133	8.1
Dec. 2.....	25000	---	---	---	---	1.9	---	42	0	---	1.4	---	---	.0	---	---	---	38	4	.1	81	7.9
Feb. 10, 1965....	3230	---	---	---	---	2.0	---	52	0	---	1.8	---	---	.1	---	---	---	45	2	.1	95	7.8
Mar. 9.....	1900	---	---	---	---	2.6	---	62	0	---	1.4	---	---	.0	---	---	---	52	1	.2	110	8.2
Apr. 13.....	1660	---	---	---	---	2.2	---	65	0	---	1.7	---	---	.0	---	---	---	55	2	.1	113	7.8
May 11.....	1390	13	---	8.4	8.0	2.1	0.3	64	0	4.0	1.7	---	1.7	.0	71	0.10	---	54	2	.1	113	8.0
June 8.....	788	---	---	---	---	2.4	---	77	0	---	2.1	---	---	.0	---	---	---	67	4	.1	137	8.2
July 20.....	360	---	---	---	---	3.5	---	91	2	---	2.5	---	---	.0	---	---	---	82	4	.2	167	8.4
Aug. 3.....	309	---	---	---	---	3.2	---	99	1	---	2.8	---	---	.0	---	---	---	88	5	.1	177	8.4
Sept. 21.....	224	13	---	17	13	3.3	.9	105	2	8.0	2.8	---	1.4	.0	113	.15	---	96	7	.1	193	8.4

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