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SURFACE WATER SUPPLY OF THE UNITED STATES

1924

PART XI. PACIFIC SLOPE BASINS IN CALIFORNIA

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Prepared in cooperation with the States of
CALIFORNIA and OREGON



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ILLUSTRATION

FIGURE 1. Typical gaging station.....

SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN CALIFORNIA, 1924

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1924.

The data presented in these reports were collected by the United States Geological Survey under authority contained in the organic law (20 Stat. L., p. 394), which contains the following paragraph:

Provided, That this officer [the Director] shall have the direction of the Geological Survey and the classification of public lands and examination of the geological structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies of water supply for irrigation. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following item:

For gaging the streams and determining the water supply of the United States, and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

Annual appropriation for the fiscal years ending June 30, 1895-1925

1895.....	\$12, 500. 00	1908-1910.....	100, 000. 00
1896.....	24, 500. 00	1911-1917.....	150, 000. 00
1897-1899.....	50, 000. 00	1918.....	175, 000. 00
1900.....	70, 000. 00	1919.....	143, 244. 10
1901-1902.....	100, 000. 00	1920.....	175, 000. 00
1903-1906.....	200, 000. 00	1921-1923.....	180, 000. 00
1907.....	150, 000. 00	1924-1925.....	170, 000. 00

In this work many private and State organizations have cooperated either by furnishing records or by assisting in collecting data. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on pages 9 and 10.

Measurements of stream flow have been made at about 4,990 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1924, 1,670 gaging stations were being maintained by the Survey and the cooperating organizations. Many miscellaneous discharge measurements are made at other points. In connection with this work data were also collected in regard to pre-

¹Includes \$4,500 appropriated in act of Apr. 25, 1896.

²Includes \$20,000 appropriated in deficiency bill of Mar. 30, 1900.

precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

DEFINITION OF TERMS

The volume of water flowing in a stream—the “run-off” or “discharge”—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, miner’s inches, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, and acre-feet. They may be defined as follows:

“Second-feet” is an abbreviation for “cubic feet per second.” A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which other are computed.

“Second-feet per square mile” is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

“Run-off in inches” is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in depth in inches.

An “acre-foot,” equivalent to 43,560 cubic feet, is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage for irrigation.

The following terms not in common use are here defined:

“Stage-discharge relation,” an abbreviation for the term “relation of gage height to discharge.”

“Control,” a term used to designate the section or sections of the stream below the gage which determine the stage-discharge relation at the gage. It should be noted that the control may not be the same section or sections at all stages.

The “point of zero flow” for a given gaging station is that point on the gage—the gage height—at which water ceases to flow over the control.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1923, and ending September 30, 1924. At the first of January in most parts of the United States much of the precipitation in the

preceding three months is stored as ground water, in the form of snow or ice, or in ponds, lakes, and swamps, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of dis-

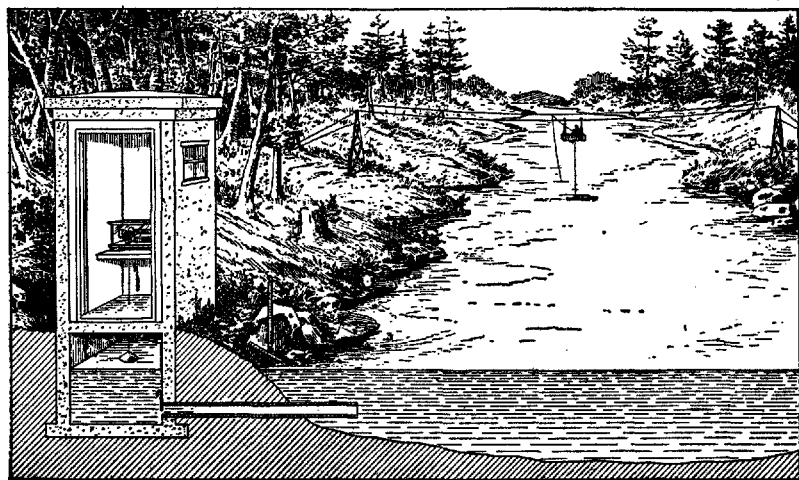


FIGURE 1.—Typical gaging station

charge are made with a current meter. The general methods are outlined in standard textbooks on the measurement of river discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

From the discharge measurements rating tables are prepared that give the discharge for any stage. The application of the daily gage heights to these rating tables, gives the daily discharge from which the monthly and yearly mean discharge is determined.

The data presented for each gaging station in the area covered by this report comprise a description of the station, a table giving results of discharge measurements, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

If the base data are insufficient to determine the daily discharge, tables giving daily gage heights and results of discharge measurements are published.

The description of the station gives, in addition to statements regarding location and equipment, information in regard to any conditions that may affect the permanence of the stage-discharge relation, covering such subjects as the occurrence of ice, the use of the stream for log driving, shifting of control, and the cause and effect of backwater; it gives also information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge, for the day. If such stations are equipped with water-stage recorders the mean daily discharge may be obtained by averaging discharge at regular intervals during the day, or by using the discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the mean flow for the day when the mean gage height was highest. As the gage height is the mean for the day, it does not indicate correctly the stage when the water surface was at crest height and the corresponding discharge was consequently larger than given in the maximum column. Likewise, in the column headed "Minimum" the quantity given is the mean flow for the day when the mean gage height was lowest. The column headed "Mean" is the average flow in cubic feet for each second during the month. On this average flow computations recorded in the remaining columns, which are defined on page 2, are based.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanence of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

A paragraph in the description of the station or footnotes added to the tables gives information regarding the (1) permanence of the stage-discharge relation, (2) precision with which the discharge rating curve is defined, (3) refinement of gage readings, (4) frequency of gage readings, and (5) methods of applying daily gage heights to the rating table to obtain the daily discharge.

For the rating tables "well defined" indicates, in general, that the rating is probably accurate within 5 per cent; "fairly well defined," within 10 per cent; "poorly defined," within 15 to 25 per cent. These notes are very general and are based on the plotting of the individual measurements with reference to the mean rating curve.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "Run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches. All figures representing "second-feet per square mile" and "run-off in inches" previously published by the Survey should be used with caution because of possible inherent but unknown sources of error.

Many gaging stations on streams in the irrigated sections of the United States are located above most of the diversions from those streams, and the discharge recorded does not show the water supply available for further development, as prior appropriations below the stations must first be satisfied. To give an idea of the amount of prior appropriations, a paragraph on diversions is presented in each station description. Where figures are given these can not be considered exact but as being the best information available.

The table of monthly discharge gives only a general idea of the flow at the station and should not be used for other than preliminary estimates; the tables of daily discharge allow more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, underground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, annual reports, and monographs.

The results of stream-flow measurements are now published annually in 12 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

Part I. North Atlantic slope basins (St. John River to York River).

II. South Atlantic and eastern Gulf of Mexico basins (James River to the Mississippi).

III. Ohio River basin.

IV. St. Lawrence River basin.

V. Upper Mississippi River and Hudson Bay basins.

VI. Missouri River basin.

VII. Lower Mississippi River basin.

VIII. Western Gulf of Mexico basins.

IX. Colorado River basin.

X. Great Basin.

XI. Pacific slope basins in California.

XII. North Pacific slope basins; in three volumes:

A. Pacific slope basins in Washington and Upper Columbia River basin.

B. Snake River basin.

C. Lower Columbia River basin and Pacific slope basins in Oregon.

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated below:

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will on application furnish lists giving prices.

2. Set of the reports may be consulted in the libraries of the principal cities in the United States.

3. Complete sets are available for consultation in the local offices of the water-resources branch of the Geological Survey, as follows:

Boston, Mass., 2500 Customhouse.

Albany, N. Y., 904 Home Savings Bank.

Trenton, N. J., State House.

Charlottesville, Va., care of University of Virginia.

Asheville, N. C., 608 City Hall.

Chattanooga, Tenn., 830 Power Building.

Columbus, Ohio, Engineering Experiment Station, Ohio State University.

Chicago, Ill., 1510 Consumers Building.

Madison, Wis., care of Railroad Commission of Wisconsin.

Rolla, Mo., Rolla Building, School of Mines and Metallurgy.

Helena, Mont., 45-46 Federal Building.

Denver, Colo., 403 Post Office Building.

Salt Lake City, Utah, 313 Federal Building.

Idaho Falls, Idaho, 228 Federal Building.

Boise, Idaho, Federal Building.

Tacoma, Wash., 404 Federal Building.

Portland, Oreg., 606 Post Office Building.

San Francisco, Calif., 303 Customhouse.

Los Angeles, Calif., 600 Federal Building.

Tucson, Ariz., 106 College of Law Building, University of Arizona.

Austin, Tex., State Capitol.

Honolulu, Hawaii, Territorial Office Building.

A list of the Geological Survey's publications may be obtained by applying to the Director, United States Geological Survey, Washington, D. C.

Stream-flow records have been obtained at about 4,990 points in the United States, and the data obtained have been published in the reports tabulated below:

Stream-flow data in reports of the United States Geological Survey

[A = Annual Report; B = Bulletin; W = Water-Supply Paper]

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to Sept., 1890.
12th A, pt. 2	do.	1884 to June 30, 1891.
13th A, pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Description, measurement, gage heights, and ratings	1893 to 1894.
16th A, pt. 2	Descriptive information only	
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11	Gage heights (also gage heights for earlier years).	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River, and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
W 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
W 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
W 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do.	1903.
W 124 to 135	do.	1904.
W 165 to 178	do.	1905.
W 201 to 214	do.	1906.
W 241 to 252	do.	1907 and 1908.
W 261 to 272	do.	1909.
W 281 to 292	do.	1910.
W 301 to 312	do.	1911.
W 321 to 332	do.	1912.
W 361 to 362	do.	1913.
W 381 to 394	do.	1914.
W 401 to 414	do.	1915.
W 431 to 444	do.	1916.
W 461 to 464	do.	1917.
W 471 to 484	do.	1918.
W 501 to 514	do.	1919 and 1920.
W 521 to 534	do.	1921.
W 541 to 554	do.	1922.
W 561 to 574	do.	1923.
W 581 to 594	do.	1924.

The records at most of the stations discussed in these reports extend over a series of years, and miscellaneous measurements at many points other than regular gaging stations have been made each year. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1924. The data for any particular station will, in general, be found in the reports covering the years during which the station was maintained. Results of miscellaneous measurements are published by drainage basins.

Numbers of water-supply papers containing results of stream measurements, 1899-1924

[For basins included, see p. 6]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
												A	B	C
1899	35	35, 36	36	36	36	36, 37	37	37	37, 38	38, 39	38, 39	38	38	38
1900	47, 48	48	48, 49	49	49	49, 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	65, 75	65, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	82, 83	83	83	83	83, 85	84	84	85	85	85	85	85	85
1903	97	97, 98	98	98	98	98, 99, 100	99	99	100	100	100	100	100	100
1904	124, 125, 126	126, 127	128	129	128, 130	130, 131	128, 131	132	133	133, 134	134	135	135	135
1905	165, 166, 167	167, 168	169	170	171	172	169, 173	174	176, 177	176, 177	177	178	178	177, 178
1906	201, 202, 203	203, 204	205	206	207	208	205, 209	210	211	212, 3	213	214	214	214
1907-8	241	242	243	244	245	246	247	248	249	250, 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, 271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594

* Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Monthly discharge for 1899 in Twenty-first Annual Report, Pt. IV.

† James River only.

‡ Gallatin River.

§ Green and Gunnison Rivers and Grand River above junction with Gunnison.

|| Mohave River only.

¶ Kings and Kern Rivers and south Pacific slope basins.

* Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Monthly discharge for 1900 in Twenty-second Annual Report, Pt. IV.

† Wissahickon and Schuylkill Rivers to James River.

‡ Scioto River.

§ Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.

|| Tributaries of Mississippi from east.

¶ Lake Ontario and tributaries to St. Lawrence River proper.

§ Hudson Bay only.

|| New England rivers only.

¶ Hudson River to Delaware River, inclusive.

§ Susquehanna River to Yadkin River, inclusive.

|| Platte and Kansas Rivers.

¶ Great Basin in California, except Truckee and Carson River basins.

§ Below junction with Gila.

|| Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

Investigation of the water resources of California is being carried on by the United States Geological Survey in cooperation with the State in accordance with acts of the State legislature, approved March 16, 1903, March 20, 1905, March 11, 1907, and April 22, 1909, empowering the State authorities to enter into contracts with the Director of the United States Geological Survey for the purpose of making topographic maps, gaging streams, and surveying reservoir sites and canal locations for the conservation and utilization of the flood and storm waters of the State. The work for the year 1924 was maintained in accordance with the contract signed by W. F. McClure, State engineer. Additional funds for the maintenance of river-measurement stations were provided by a special act of the State legislature, chapter 309, statutes of 1923, and disbursed by the division of water rights, Department of Public Works of the State of California, through Edward Hyatt, jr., chief of the division.

The entire expense of the stream-flow investigations in the Tuolumne River basin for the Hetch Hetchy project is paid by the city and county of San Francisco, through M. M. O'Shaughnessy, city engineer.

All stations in Los Angeles County are maintained in cooperation with the board of supervisors, and the department of Agriculture, represented by the Forest Service through F. E. Bonner, district engineer, and the Weather Bureau through H. B. Hersey, meteorologist. Los Angeles County and the Forest Service each pay the salary and expenses of one hydrographer detailed for field work. The Geological Survey supervises the work and compiles all stream-flow data for publication.

The stations in the Santa Ana River basin are maintained in cooperation with San Bernardino, Riverside, and Orange Counties through their boards of supervisors. Cooperation is also furnished by the Weather Bureau in maintaining precipitation stations.

Assistance in the maintenance of river-measurement stations was furnished by the Southern California Edison Co., San Joaquin Light & Power Corporation, Mount Shasta Power Corporation, Western States Gas & Electric Co., Snow Mountain Water & Power Co., Southern Sierras Power Co., Ed Fletcher, and Crocker & Preston.

Many complete records of run-off, gage-height records, and discharge measurements are furnished by various Federal bureaus, private companies, and individuals who are interested in the water resources of California. This cooperation is acknowledged and explained in the descriptions that precede the records.

The work in Oregon was carried on under a cooperative agreement with the State, through Rhea Luper, State engineer. Financial

cooperation was furnished by the United States Bureau of Reclamation, United States Office of Indian Affairs, California Oregon Power Co., Talent Irrigation District, Fort Klamath Meadows Co., and Rogue River Valley Canal Co.

DIVISION OF WORK

The data for stations in California were collected and prepared for publication under the direction of H. D. McGlashan, district engineer, by F. C. Ebert, William Kessler, R. C. Briggs, Charles Leidl, C. J. Emerson, K. M. Kelley, Jarrett Oliver, H. C. Troxell, Jesse Arnold, and H. J. Tompkins.

The data for stations in Oregon were collected and prepared for publication under the direction of F. F. Henshaw, district engineer, assisted by G. H. Canfield, Wendell Dawson, K. N. Phillips, and E. O. Hokanson, and by H. K. Smith, hydrographer of the Bureau of Reclamation.

The records were reviewed and the manuscript assembled by H. C. Troxell.

GAGING-STATION RECORDS

SWEETWATER RIVER BASIN

SWEETWATER RIVER NEAR DESCANSO CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 25, T. 15 S., R. 3 E., at Ellis ranch, 2 miles below mouth of Guatay Creek and $1\frac{1}{2}$ miles below Descanso, San Diego County.

DRAINAGE AREA.—43.7 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 21, 1905, to September 30, 1924.

GAGE.—Staff in three sections on left bank at the concrete and boulder control built in 1918, a short distance below intake of Ellis ditch; read by W. E. Ellis.

DISCHARGE MEASUREMENTS.—Made from cable 125 above gage or by wading.

CHANNEL AND CONTROL.—Channel is sand and fine gravel; bed shifting. Banks are generally high and not likely to be overflowed. A concrete and boulder control was built in November, 1918.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.74 feet April 5 (discharge, 67 second-feet); minimum stage, 1.36 feet several days during July, August, and September (discharge, 0.1 second-foot).

1905-1924: Maximum discharge, about 9,870 second-feet January 27, 1916; stream dry during a part of the years 1910, 1911, 1913, and 1916.

DIVERSIONS.—About 0.5 second-foot is diverted above gage for irrigation on Ellis ranch.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve well defined. Gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Sweetwater River near Descanso, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 19.....	1.44	0.3	Apr. 24.....	2.05	11	July 4.....	1.42	0.2
Nov. 17.....	1.54	.9	May 7.....	1.71	3.0	July 28.....	1.40	.15
Feb. 13.....	1.54	.7	May 25.....	1.60	1.6	Sept. 9.....	1.39	.1
Mar. 30.....	2.20	18						

Daily discharge, in second-feet, of Sweetwater River near Descanso, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1.....	0.4	0.6	1.0	7.5	1.1	0.9	16	3.9	0.6	0.2	0.2	0.2
2.....	.5	.6	1.1	4.7	1.2	4.0	16	3.9	.7	.2	.2	.2
3.....	.6	.6	1.0	2.2	1.1	4.0	18	3.9	.8	.2	.2	.2
4.....	.7	.9	1.0	2.4	.8	6	22	3.6	.6	.2	.2	.2
5.....	.6	1.0	1.0	2.5	1.0	5.5	46	3.2	.6	.2	.2	.2
6.....	.4	.8	1.0	2.0	1.0	4.9	28	3.1	.5	.2	.2	.2
7.....	.4	1.0	1.2	1.6	1.0	3.6	22	2.5	.6	.2	.2	.2
8.....	.6	1.1	1.2	1.8	1.0	2.8	18	2.4	.6	.2	.2	.2
9.....	.7	1.2	1.1	1.8	1.4	2.5	16	2.1	.6	.3	.2	.2
10.....	.4	1.0	1.3	1.3	1.3	1.3	15	2.4	.6	.3	.2	.2
11.....	.5	.8	1.1	1.3	1.3	1.3	12	2.2	.6	.2	.2	.2
12.....	.4	.8	1.0	1.3	1.1	1.1	12	1.8	.6	.2	.2	.2
13.....	.4	.7	.8	1.5	1.1	1.2	8.5	1.4	.6	.2	.2	.2
14.....	.6	.7	.8	3.2	1.2	1.2	8.5	1.6	.5	.2	.2	.2
15.....	.5	1.1	1.2	2.1	1.0	3.2	10	1.4	.5	.2	.2	.2
16.....	.4	1.0	1.0	1.3	1.0	2.8	10	1.3	.6	.2	.2	.2
17.....	.4	1.0	1.1	1.3	1.0	3.6	8.5	1.3	.5	.2	.2	.2
18.....	.5	.8	1.1	1.4	1.2	8.5	9	1.0	.4	.2	.2	.2
19.....	.7	.8	2.8	1.3	.9	11	8.5	1.0	.4	.2	.2	.2
20.....	.7	.7	2.4	1.4	1.0	10	9	1.0	.4	.2	.2	.2
21.....	.6	.8	2.2	1.3	1.1	10	7	1.0	.3	.2	.2	.2
22.....	.6	1.0	2.0	1.3	1.0	8.5	4.7	1.0	.4	.2	.2	.2
23.....	.6	.9	1.3	1.5	1.0	5	10	1.0	.3	.2	.2	.2
24.....	.6	.9	1.4	1.3	1.0	11	11	.8	.4	.2	.2	.1
25.....	.4	.7	1.3	1.3	1.0	9	7	.8	.5	.2	.2	.2
26.....	.4	1.0	1.9	1.4	.9	15	7	.9	.4	.2	.2	.2
27.....	.6	1.1	1.6	1.2	1.0	34	4.2	1.0	.5	.2	.2	.2
28.....	.6	1.0	2.8	1.2	1.0	24	4.0	.6	.2	.2	.2	.2
29.....	.5	1.0	6.5	1.2	.9	16	4.2	.7	.4	.2	.2	.1
30.....	.6	1.1	6	1.1	-----	16	3.7	.8	.2	.2	.2	.2
31.....	.7	-----	5	1.1	-----	13	-----	.6	-----	.2	.1	-----

Monthly discharge of Sweetwater River near Descanso, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.7	0.4	0.54	33.2
November.....	1.2	.6	.89	53.0
December.....	6.5	.8	1.81	111
January.....	7.5	1.1	1.86	114
February.....	1.4	.8	1.06	61.0
March.....	34	.9	7.77	478
April.....	46	3.7	12.5	744
May.....	3.9	.6	1.75	108
June.....	.8	.2	.50	29.8
July.....	.3	.2	.21	12.9
August.....	.2	.1	.20	12.3
September.....	.2	.1	.19	11.3
The year.....	46	.1	2.44	1,770

SAN DIEGO RIVER BASIN**SAN DIEGO RIVER NEAR SANTEE, CALIF.**

LOCATION.—At Loop Dam site, 6 miles west of Santee, San Diego County.

DRAINAGE AREA.—375 square miles (measured on topographic maps) for station at old Mansion Dam.

RECORDS AVAILABLE.—May 25, 1912, to September 30, 1924 (record not complete).

GAGE.—Water-stage recorder on right bank at Loop Dam site, $1\frac{1}{2}$ miles below old Mission Dam. Prior to November 20, 1920, station was at old Mission Dam.

DISCHARGE MEASUREMENTS.—Made from cable just above gage or by wading.

CHANNEL AND CONTROL.—Solid rock formation forces ground water above dam to surface. The old Loop Dam serves as incomplete control.

EXTREMES OF DISCHARGE.—1912–1924: Maximum stage recorded, 25.1 feet January 27, 1916 (discharge, 70,200 second-feet); stream practically dry for several months each year except for a small amount of ground water being forced to surface.

DIVERSIONS.—See Cuyamaca Water Co.'s flume near Lakeside. Water for irrigation is pumped from wells along the river above and below Lakeside.

REGULATION.—Water is stored at Cuyamaca Reservoir on Boulder Creek.

COOPERATION.—Gage-height record furnished by Cuyamaca Water Co., Ed Fletcher, manager.

There was no flow at this station during the year except for a small amount of ground water (always less than 0.1 second-foot) forced to the surface by solid bedrock control.

BOULDER CREEK NEAR JULIAN, CALIF.

LOCATION.—In Cuyamaca grant, at outlet of Cuyamaca Reservoir, 7 miles south of Julian, San Diego County, and 12 miles above mouth of creek.

DRAINAGE AREA.—12.0 square miles (measured on topographic map).

RECORDS AVAILABLE.—June 19, 1912, to September 30, 1924.

GAGE.—Vertical staff on right side of weir box, $3\frac{1}{2}$ feet above weir. Zero at elevation of crest of the 6-foot Cippoletti weir, which is 100 feet below outlet gates of reservoir. Gage read by watchman at dam.

DISCHARGE MEASUREMENTS.—Made by wading near weir. On account of velocity of approach, it has been necessary to rate weir.

CONTROL.—Cippoletti weir acts as control.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 14.0 second-feet July 18–20; stream dry several months during year.

1912–1924: Maximum mean daily discharge, 1,877 second-feet January 28, 1916. No water is released from reservoir except when needed for Cuyamaca Water Co.'s flume.

DIVERSIONS.—None.

REGULATION.—Flow completely regulated by operation of outlet gate of reservoir. Cuyamaca Dam, completed in 1886 and enlarged in 1894, has a capacity of 11,400 acre-feet. From the reservoir the water flows $12\frac{1}{2}$ miles down the natural channel of Boulder Creek and San Diego River to the intake of Cuyamaca Water Co.'s flume.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read to hundredths daily; additional observations are made when reservoir gates are changed. Records excellent.

COOPERATION.—Results of discharge measurements and record of daily gage heights furnished by Cuyamaca Water Co., Ed Fletcher, manager.

Discharge measurements of Boulder Creek near Julian, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 17.....	0.50	8.5	June 1.....	0.44	6.1	July 28.....	0.61	11.5
June 1.....	.28	3.0	June 30.....	.52	8.8			

Daily discharge, in second-feet, of Boulder Creek near Julian, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Feb.	Mar.	May	June	July	Aug.	Sept.
1.....	7.0	9.6	-----	-----	5.7	-----	3.3	6.2	11.0	8.0
2.....	7.0	4.6	-----	-----	5.7	-----	3.3	6.2	10.7	8.0
3.....	7.0	4.6	-----	-----	-----	-----	3.3	6.2	10.5	8.0
4.....	7.0	4.6	8.3	-----	-----	-----	5.3	10.5	10.5	8.0
5.....	7.0	4.6	8.3	-----	-----	-----	5.3	10.5	10.2	8.0
6.....	7.0	4.6	2.8	-----	-----	-----	5.3	10.5	11.6	8.0
7.....	7.0	4.6	2.8	-----	-----	-----	5.3	9.4	11.6	8.0
8.....	-----	4.6	2.8	-----	-----	-----	5.3	9.4	11.3	8.0
9.....	.6	4.6	2.8	-----	-----	-----	5.3	6.2	11.3	8.0
10.....	2.8	4.6	2.8	-----	-----	-----	5.3	6.2	11.3	8.0
11.....	2.8	4.6	2.8	-----	-----	-----	7.3	10.2	11.3	10.7
12.....	2.8	4.6	2.8	-----	-----	-----	7.3	10.2	11.0	10.7
13.....	2.8	4.6	2.8	-----	-----	-----	7.3	10.2	11.0	10.7
14.....	2.8	4.6	2.8	3.9	-----	-----	7.3	10.2	11.0	11.6
15.....	2.8	4.6	2.8	7.8	-----	5.2	7.3	13.1	11.0	11.6
16.....	2.8	4.6	1.4	8.3	-----	7.8	8.3	13.1	8.0	11.6
17.....	2.8	8.3	1.4	4.2	-----	7.8	8.3	13.1	8.0	11.6
18.....	2.8	8.3	-----	-----	-----	7.8	8.3	14.0	8.0	11.6
19.....	2.8	4.6	-----	-----	-----	7.8	8.3	14.0	8.0	11.6
20.....	2.8	4.6	-----	-----	-----	7.8	8.3	14.0	8.0	8.8
21.....	2.8	4.6	-----	-----	-----	7.8	7.5	10.4	8.0	8.8
22.....	2.8	4.6	-----	-----	-----	7.8	7.5	6.7	8.0	8.8
23.....	2.8	4.6	-----	-----	-----	7.8	7.5	6.7	8.0	8.0
24.....	2.8	4.6	-----	-----	-----	7.8	10.2	6.7	8.0	8.0
25.....	2.8	4.6	-----	4.4	-----	7.8	10.2	6.7	8.0	8.0
26.....	2.8	4.6	-----	8.8	-----	7.8	10.2	6.7	8.0	8.0
27.....	2.8	4.6	-----	.7	-----	7.8	9.9	6.7	8.0	8.0
28.....	2.8	4.6	-----	1.4	-----	7.8	9.6	11.3	8.0	8.0
29.....	2.8	7.0	-----	1.4	-----	7.8	8.8	11.3	8.0	8.0
30.....	2.8	-----	-----	-----	-----	7.8	8.8	11.0	8.0	8.0
31.....	6.9	-----	-----	-----	-----	7.8	-----	11.0	8.0	-----

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Boulder Creek near Julian, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	7.0	0	3.72	229
November.....	9.6	0	4.94	204
December.....	8.3	0	1.53	94.1
January.....	8.8	0	1.41	81.1
February.....	5.7	0	.37	22.8
March.....	7.8	0	4.19	258
April.....	10.2	3.3	7.17	427
May.....	14.0	6.2	9.63	592
June.....	11.6	8.0	9.46	582
July.....	11.6	8.0	9.07	540
August.....	-----	-----	-----	-----
September.....	-----	-----	-----	-----
The year.....	14.0	0	4.30	3,120

NOTE.—No flow during January and April.

BOULDER CREEK NEAR LAKESIDE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 12, T. 14 S., R. 2 E., just above junction with San Diego River and 14 miles northeast of Lakeside, San Diego County.

DRAINAGE AREA.—33.5 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 12, 1912, to January 26, 1916, and October 1, 1919, to September 30, 1924.

GAGE.—Vertical staff on right wing wall of a short lined section of channel. Datum lowered 0.15 foot January 22, 1924.

DISCHARGE MEASUREMENTS.—Made by wading or from foot plank.

CHANNEL AND CONTROL.—Sand and gravel, shifting. Control is a short lined section of channel. Stage-discharge relation is affected at times by the collection of gravel at a ford just below lined section. This gravel is removed frequently.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.22 feet April 5 (discharge, 51 second-feet); minimum discharge 1.5 second-feet several days each month from December to March.

1912-1916; 1919-1924: Maximum stage 9.5 feet, high-water mark of January 27, 1916 (discharge, about 3,000 second-feet); no flow July 2-8, 1914, and October 10-14, 1919.

DIVERSIONS.—None.

REGULATION.—Water is stored at Cuyamaca Reservoir and released during low-water period. See Boulder Creek near Julian.

ACCURACY.—Stage-discharge relation changed frequently during the year due to clearing control and lowering gage. Rating curves fairly well defined. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except June 16 to August 28 for which shifting-control method was used and January 6-21 for which it was interpolated. Records fair.

COOPERATION.—Results of discharge measurements and gage-height record furnished by Cuyamaca Water Co.

Discharge measurements of Boulder Creek near Lakeside, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 29.....	0.07	4.3	Feb. 12.....	0.10	1.3	May 31.....	0.29	7.5
Dec. 3.....	.01	2.7	Mar. 10.....	.14	2.2	Aug. 29.....	.26	6.6
Jan. 3.....	.12	3.8	Mar. 24.....	.42	10	Sept. 29.....	.21	5.2
Jan. 22.....	.10	1.6	Apr. 14.....	.29	6.7			

Daily discharge, in second-feet, of Boulder Creek near Lakeside, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5.5	10	10	11	1.5	1.5	9.5	5	7.5	7	8.5	7
2.....	6	5	4.8	11	1.5	3.5	13	5	5.5	4.5	8	7
3.....	6.5	5.5	2.8	3.5	1.5	6	14	5	3.8	3.8	8	6.5
4.....	6	4.8	11	3.5	1.5	4.8	10	4.5	4.0	3.8	7.5	6.5
5.....	6	5.5	11	2.5	1.5	9.5	31	4.2	4.5	3.8	7	6.5
6.....	5.5	7.5	11	2.4	1.5	3.5	24	4.0	5	6.5	7.5	6.5
7.....	5.5	8.5	5	2.4	1.5	3.3	16	4.0	4.8	7	8	6.5
8.....	7	8.5	4.2	2.3	1.5	3.1	13	3.5	4.8	7	8.5	6.5
9.....	4.5	9	4.0	2.2	1.5	2.5	11	3.5	5	7.5	8.5	6.5
10.....	3.0	9.5	3.8	2.2	1.5	2.3	9	3.5	5	6	9	6.5
11.....	3.8	9	3.5	2.1	1.5	1.5	8.5	3.2	5.5	4.8	9	6.5
12.....	4.2	9	3.3	2.1	1.5	1.5	8	3.0	6	4.8	9	6.5
13.....	4.0	6.5	2.7	2.0	1.5	1.5	7	3.0	6	7	9	8.5
14.....	3.8	4.5	2.7	2.0	1.5	1.5	6.5	3.0	6	7	9	10
15.....	3.5	4	2.7	1.9	9	1.5	7.5	2.8	6	7	7.5	9

Daily discharge, in second-feet, of Boulder Creek near Lakeside, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	3.5	4.0	2.9	1.8	9	2.1	6.5	4.8	8.5	9	9	9
17.....	3.5	6.5	2.3	1.8	9.5	2.3	6	8	7	10	7	9
18.....	4.0	9	2.1	1.7	6	4.5	4.9	8.5	6.5	11	6	9.5
19.....	5	6.5	2.5	1.7	1.9	4.8	4.3	8	7	10	6	9.5
20.....	4.5	4.0	3.5	1.6	1.5	4.2	4.0	8	6	10	6.5	10
21.....	4.2	4.0	1.9	1.6	1.5	7.5	4.0	8.	9	11	7	9
22.....	4.5	3.8	1.5	1.5	1.5	5.5	3.8	8.5	6	8	7.5	7.5
23.....	4.5	3.8	1.5	1.5	1.5	4.8	4.3	9	5.5	5.5	7.5	6.5
24.....	4.8	3.8	1.5	1.5	1.5	9	11	9	7	5	6.5	7
25.....	4.8	3.5	1.5	1.5	1.5	12	8.5	8.5	7	5	6	6.5
26.....	4.8	3.5	1.5	1.5	1.5	7.5	7	8.5	7.5	5.5	6	6.5
27.....	4.8	3.5	3.5	1.5	5	32	6.5	8.5	7	4.8	6	6.5
28.....	4.8	3.5	4.5	2.1	2.7	25	6	8	7	5	6	6
29.....	4.5	3.5	2.5	1.9	1.9	26	6	8	6.5	8	7	5.5
30.....	4.5	4.0	4.5	1.7	12	5.5	8	7	8	8	6.5	5.5
31.....	4.5		5	1.5	12		7.5				6.5	

Monthly discharge of Boulder Creek near Lakeside, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	7	3.0	4.71	290
November.....	10	3.5	5.79	345
December.....	11	1.5	4.07	250
January.....	11	1.5	2.56	157
February.....	9.5	1.5	2.64	152
March.....	32	1.5	7.05	433
April.....	31	3.8	9.21	548
May.....	9	2.8	6.00	369
June.....	9	3.8	6.13	365
July.....	11	3.8	6.82	419
August.....	9	6	7.45	458
September.....	10	5.5	7.33	436
The year.....	32	1.5	5.82	4,220

CUYAMACA WATER CO.'S FLUME AT DIVERTING DAM, NEAR LAKESIDE, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 11, T. 14 S., R. 2 E., just below intake, at diverting dam, 13 miles northeast of Lakeside, San Diego County.

RECORDS AVAILABLE.—June 1, 1912, to September 30, 1924, when station was discontinued.

GAGE.—Vertical staff in a stilling box on outside of flume, about 1,000 feet below intake, installed April 8, 1916. Part of the flume was rebuilt October 7–14, 1919, and a new gage installed October 15 at approximately same location and datum. Flume relined during later part of 1921. Original gage was similar but was 500 feet below intake and just above sand box. Datum has always been elevation of floor of flume. Gage read by employees of Cuyamaca Water Co.

DISCHARGE MEASUREMENTS.—Made from foot plank across flume at gage.

CHANNEL AND CONTROL.—The flume is lined with tar paper to reduce leakage.

EXTREMES OF DISCHARGE.—1912–1924: Maximum mean daily discharge, 51 second-feet March 24, 1913. No flow for periods nearly every year.

ACCURACY.—Stage-discharge relation permanent during the year. Rating curve well defined. Staff gage read to hundredths three times a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Cuyamaca Water Co., Ed. Fletcher, manager.

Cuyamaca Water Co.'s flume, which diverts water from San Diego River below the mouth of Boulder Creek and receives water from the South Fork of San Diego River, is 6 feet wide, 24 inches deep, and more than 30 miles long. It discharges into Eucalyptus Reservoir near Grossmont. A small amount of water is used in the vicinity of Eucalyptus Reservoir and the remainder carried by the La Mesa ditch into Murray Reservoir, about 8 miles northeast of San Diego. This system supplied the city of San Diego with water until 1906, when the Southern California Mountain Water Co. extended its system to the city. The flume was again used to supply the city of San Diego after the floods of 1916, and it now supplies water for irrigation and domestic use. The Capitan Grande Indian Reservation has a water right of 0.8 second-foot from this flume.

Discharge measurements of Cuyamaca flume at diverting dam, near Lakeside, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 29.....	0.39	3.3	Feb. 2.....	0.25	1.1	May 31.....	0.73	8.7
Dec. 3.....	.60	6.3	Mar. 10.....	.65	6.7	Aug. 29.....	.60	5.8
Jan. 3.....	.87	11.5	Mar. 24.....	1.21	18.8	Sept. 29.....	.47	4.3
Jan. 22.....	.39	2.8	Apr. 14.....	1.31	21			

Daily discharge, in second-feet, of Cuyamaca Water Co.'s flume at diverting dam, near Lakeside, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.3	8.0	7.1	9.0	3.2	4.9	21	9.2	4.3	5.4	8.8	6.2
2.....	3.3	7.8	6.9	9.2	3.2	4.9	19.5	10.5	2.4	4.8	8.8	6.2
3.....	3.3	7.5	6.4	11	3.2	5.4	19	6.4	2.1	4.6	8.8	6.2
4.....	5.9	7.3	5.9	10	3.2	9.2	17	5.1	4.8	4.3	8.4	6.2
5.....	4.0	7.3	5.8	9.4	3.0	10.5	21	4.5	5.6	5.7	7.6	6.6
6.....	4.2	6.6	5.6	6.0	3.0	12	21	3.6	5.9	6.2	7.3	8.8
7.....	3.0	6.2	5.4	5.7	3.0	12	21	3.2	6.2	6.2	9.0	7.6
8.....	11	6.2	4.6	4.6	3.0	11.5	21	2.4	5.9	6.2	9.2	7.6
9.....	6.2	6.7	3.3	4.3	3.0	8.8	20	2.1	5.9	7.3	9.2	7.3
10.....	2.1	6.9	3.2	4.3	3.0	7.3	20	3.8	4.9	7.6	9.2	6.7
11.....	2.1	6.9	3.2	4.3	3.2	5.1	22	3.8	4.6	7.1	9.2	6.6
12.....	1.4	8.0	3.2	3.5	1.7	4.8	22	3.2	4.6	6.6	9.4	6.6
13.....	1.4	7.8	3.2	3.3	1.7	3.6	22	4.2	4.6	7.3	9.4	6.9
14.....	1.4	6.9	3.2	3.5	1.7	3.0	21	4.6	4.6	7.5	9.6	8.4
15.....	1.4	6.9	3.2	3.8	2.6	3.2	20	4.6	4.6	7.5	9.4	8.0
16.....	1.4	4.6	3.3	3.5	2.8	3.3	22	6.9	9.0	9.2	7.5	8.6
17.....	2.3	6.0	3.9	3.5	2.8	7.5	19.5	8.0	7.3	9.8	6.6	8.6
18.....	2.6	6.7	3.9	3.5	5.7	9.2	16.5	8.4	6.9	10	8.2	8.8
19.....	5.6	6.4	2.6	3.3	3.5	12.5	13.5	8.4	6.9	10	6.2	9.0
20.....	2.9	4.6	1.6	3.2	3.0	13	12	7.3	8.4	10.5	6.6	6.9
21.....	2.5	4.6	1.6	2.1	2.5	13	11.5	7.3	8.8	11	6.6	6.9
22.....	2.5	4.6	1.6	3.0	3.6	15.5	10	6.9	8.4	11	6.7	6.6
23.....	2.5	4.8	1.6	3.0	3.3	19	10	6.9	8.0	7.6	6.9	6.2
24.....	3.0	4.9	1.6	3.0	3.2	19	19	7.5	6.6	7.1	6.7	6.2
25.....	3.2	4.9	1.6	3.0	3.2	22	20	7.6	6.2	5.9	6.4	6.2
26.....	3.1	4.9	1.6	3.0	2.9	20	19	8.8	6.7	5.9	9.4	7.6
27.....	3.1	4.9	1.6	3.0	3.9	22	16.5	9.0	6.9	5.9	6.9	8.4
28.....	3.1	4.9	1.6	2.9	4.0	22	17.5	9.0	6.9	8.4	6.2	7.1
29.....	3.1	6.2	2.6	3.1	4.2	22	14	8.8	6.9	8.6	6.2	5.1
30.....	3.1	6.6	7.1	3.3	-----	21	12.5	9.0	6.9	8.8	6.2	4.9
31.....	3.1	-----	8.4	3.2	-----	21	-----	8.8	-----	8.8	6.2	-----

Monthly discharge of Cuyamaca Water Co.'s flume at diverting dam, near Lakeside, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	11	1.4	3.26	200
November.....	8.0	4.6	6.22	370
December.....	8.4	1.6	3.75	231
January.....	11	2.9	4.60	253
February.....	5.7	1.7	3.11	179
March.....	22	3.0	11.9	732
April.....	22	10	18.0	1,070
May.....	10.5	2.1	6.45	397
June.....	9.0	2.1	6.06	361
July.....	11	4.3	7.51	462
August.....	9.6	6.2	7.83	481
September.....	9.0	4.9	7.10	422
The year.....	22	1.4	7.15	5,190

CUYAMACA WATER CO.'S FLUME NEAR LAKESIDE, CALIF.

LOCATION.—At patrolman's cabin, one-half mile above trestle crossing at Los Cocheros Creek, 3 miles southeast of Lakeside, San Diego County, and 20 miles below intake on San Diego River.

RECORDS AVAILABLE.—January 1, 1907, to September 30, 1924.

GAGE.—Vertical staff in a stilling box fastened to outside of flume just below patrolman's cabin; read by an employee of Cuyamaca Water Co.

DISCHARGE MEASUREMENTS.—Made from foot plank across flume near gage.

CHANNEL AND CONTROL.—In fall of 1914 the flume was deepened 8 inches and more tar-paper lining was put in. Capacity of flume was slightly increased as a result of repairs made December 1-19, 1917; December 7-19, 1918, and considerably increased after relining in later part of 1921.

EXTREMES OF DISCHARGE.—1907-1924: Maximum mean daily discharge, 31 second-feet June 13, 1922. No flow at times nearly every year.

ACCURACY.—Stage-discharge relation changed October 3 and July 15 when gage was repaired and set at a different datum. Rating curve well defined. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record and results of most of the measurements furnished by Cuyamaca Water Co., Ed. Fletcher, manager.

There is a small diversion from this flume at Capitán Grande Indian Reservation above the station. Water is also diverted into the flume from South Fork of San Diego River. For location of intake, description of flume, and explanation of the use of the water, see description of Cuyamaca Water Co.'s flume at diverting dam near Lakeside, page 16.

Discharge measurements of Cuyamaca flume near Lakeside, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.....	0.83	6.8	Feb. 12.....	0.64	3.7	June 1.....	1.07	12.5
Oct. 19.....	.78	5.3	Mar. 10.....	.86	8.7	July 5.....	.79	5.9
Oct. 29.....	.80	5.9	Mar. 24.....	1.40	22	July 22.....	1.12	11.2
Nov. 17.....	.70	4.5	Mar. 29.....	1.40	22	Aug. 4.....	1.05	9.5
Jan. 3.....	.99	11	Apr. 14.....	1.44	24	Aug. 29.....	1.02	7.7
Jan. 22.....	.62	3.2	Apr. 28.....	1.29	18.3	Sept. 29.....	.90	5.0

Daily discharge, in second-feet, of Cuyamaca Water Co.'s flume near Lakeside, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	11	10	7.7	11	3.9	4.0	24	14	11.0	10.5	9.0	8.5
2.....	11.5	8.8	8.1	11	3.9	4.5	22	13	7.3	7.5	8.2	8.2
3.....	7.3	7.9	7.7	10.5	3.9	7.3	23	10.5	5.7	7.5	9.0	8.8
4.....	9.5	7.3	6.9	12	3.8	10	24	8.3	5.7	7.3	9.0	8.8
5.....	7.7	7.7	5.7	11.5	3.6	15.5	24	6.9	8.8	5.9	7.5	7.3
6.....	8.1	6.9	6.1	8.1	3.6	14	24	6.9	9.0	9.0	7.1	10.5
7.....	6.9	7.1	5.7	6.7	3.9	13	25	5.3	9.8	8.5	6.7	10.5
8.....	12	6.3	4.5	5.7	3.6	12	25	3.9	9.8	9.0	8.1	9.5
9.....	6.9	6.3	4.9	7.1	3.6	10	24	3.0	9.8	9.0	9.5	9.2
10.....	3.2	6.9	2.7	4.7	3.6	7.7	25	3.9	10	10.5	10.5	8.8
11.....	5.1	7.7	3.2	4.2	3.8	6.7	25	6.9	9.0	10.5	10.5	9.0
12.....	4.9	7.7	3.3	4.7	3.9	5.3	25	4.9	8.8	10	10.5	8.2
13.....	4.9	7.7	3.4	4.9	2.4	4.5	24	4.7	8.8	9.8	11	9.0
14.....	4.9	7.5	3.6	4.5	2.2	3.3	23	5.9	7.9	11	11	11.5
15.....	4.9	7.5	3.6	4.7	2.7	3.9	23	4.5	8.1	10	11.5	11.5
16.....	5.1	4.0	3.3	3.6	3.6	4.5	24	8.1	8.8	8.8	9.8	11
17.....	4.2	5.7	3.4	3.9	4.7	4.4	22	7.1	7.5	9.5	8.4	11
18.....	6.1	6.1	3.9	3.9	6.3	12	17.5	7.7	9.8	10	7.1	11
19.....	6.1	6.1	3.3	3.9	4.5	13	15.5	7.7	10.5	10.5	7.1	11.5
20.....	6.3	3.6	1.8	3.6	3.9	14	14	6.9	11	11	6.7	12
21.....	6.9	4.4	1.0	3.6	2.8	16	12	6.9	12.5	11	8	11
22.....	6.5	4.9	1.8	3.4	2.7	16.5	11.5	6.5	12.5	11	8.2	10.5
23.....	6.9	4.9	2.1	3.4	4.9	19.5	12	6.9	12	8.0	8.5	10.5
24.....	6.9	4.9	1.4	3.4	3.4	21	22	7.3	11	7.3	8.5	9.5
25.....	6.9	4.9	2.0	3.4	3.0	22	24	8.1	9.2	5.9	7.8	9.0
26.....	6.9	4.9	2.1	3.4	3.0	21	23	7.1	9.8	5.9	4.5	9.2
27.....	6.3	3.9	2.2	5.3	3.8	21	20	7.7	10.5	5.7	8.0	9.5
28.....	6.9	3.8	2.0	3.8	3.6	21	18.5	8.1	9.8	8.5	7.5	11
29.....	6.9	3.6	2.0	3.8	3.0	22	18	7.1	10.5	8.5	7.5	10
30.....	6.9	5.7	7.9	4.2	-----	23	16	7.1	11	9.8	8.2	8.5
31.....	7.1	-----	9.0	4.2	-----	24	-----	9.0	-----	9.5	8.0	-----

Monthly discharge of Cuyamaca Water Co.'s flume near Lakeside, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	12	3.2	6.83	420
November.....	10	3.6	6.16	367
December.....	9.0	1.0	4.07	250
January.....	12	3.4	5.55	341
February.....	6.3	2.2	3.64	209
March.....	24	3.3	12.8	787
April.....	25	11.5	21.0	1,260
May.....	14	3.0	7.16	440
June.....	12.5	5.7	9.53	587
July.....	11	5.7	8.93	649
August.....	11.5	4.5	8.48	521
September.....	12	7.3	9.82	584
The year.....	25	1.0	8.66	6,290

SAN DIEGUITO RIVER BASIN

SANTA YSABEL CREEK NEAR MESA GRANDE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 21, T. 12 S., R. 2 E., at Sutherland Dam site, 1 mile below Sutherland, $1\frac{1}{2}$ miles above mouth of Black Canyon Creek, and $4\frac{1}{2}$ miles southwest of Mesa Grande, San Diego County.

DRAINAGE AREA.—53.4 square miles (measured on topographic map).

RECORDS AVAILABLE.—December 29, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on right bank just above Sutherland Dam site.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed is shifting sand. A concrete control has been constructed at an outcropping of bedrock 20 feet below gage. Banks are high, covered with brush, and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.10 feet at 7 a. m. March 27 (discharge, 111 second-feet); no flow July 1 to September 30.

1912-1924: Maximum stage recorded, 11 feet January 27, 1916 (discharge, 21,100 second-feet); stream dry October 1-2, 1913, August 12-29, September 6-13, 1914, July 6-14 and July 23 to September 30, 1921, and July 1 to September 30, 1924.

DIVERSIONS.—No large diversions above the station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Standard rating curve well defined. Water-stage recorder record good except for a few short periods when charts were not changed on time and clock stopped. Daily discharge ascertained by shifting-control method, and interpolated or estimated for days on which recorder was not in operation. Records good.

COOPERATION.—Results of discharge measurements and attendant for water-stage recorder furnished by Volcan Land & Water Co.

Discharge measurements of Santa Ysabel Creek near Mesa Grande, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4.....	1.06	1.2	Jan. 16.....	1.21	2.8	Apr. 8.....	1.74	19
Oct. 12.....	1.07	1.4	Jan. 23.....	1.20	2.8	Apr. 16.....	1.68	14
Oct. 30.....	1.04	1.1	Jan. 31.....	1.20	3.2	Apr. 24.....	1.69	14
Nov. 5.....	1.07	1.4	Feb. 14.....	1.17	2.3	May 7.....	1.30	4.5
Nov. 23.....	1.11	1.9	Feb. 29.....	1.13	1.9	May 19.....	1.16	2.5
Dec. 7.....	1.16	2.6	Mar. 5.....	1.50	8.9	June 2.....	1.04	1.7
Dec. 24.....	1.16	2.4	Mar. 20.....	1.37	7.2	June 23.....	.79	.04
Jan. 8.....	1.22	3.7	Mar. 27.....	1.98	72			

Daily discharge, in second-feet, of Santa Ysabel Creek near Mesa Grande, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	0.8	5	8.5	24	3.2	1.8	17	5.5	1.8
2.....	.8	2.8	4.3	8	3.2	3.1	27	5.5	1.8
3.....	1.0	2.5	3.7	6	3.1	10	18	5.5	1.3
4.....	1.1	1.9	3.4	5	3.1	15	20	5	1.1
5.....	1.2	1.5	3.1	4.8	3.0	12	28	4.9	1.1
6.....	1.1	1.4	3.0	4.6	2.8	5.5	20	4.6	.8
7.....	1.5	1.4	2.6	4.4	2.8	4.6	21	4.4	.8
8.....	1.4	1.4	2.6	3.7	2.8	4.2	19	4.3	1.1
9.....	1.3	1.9	2.6	3.6	2.6	4.0	18	4.2	.8
10.....	1.4	2.0	2.8	3.6	2.6	3.8	15	4.2	.7
11.....	1.4	2.2	3.0	3.4	2.6	3.7	14	4.2	.5
12.....	1.4	2.2	3.0	3.1	2.4	3.1	13	4.2	.4
13.....	1.3	2.0	2.8	3.1	2.3	3.1	11	4.2	.4
14.....	1.1	1.8	2.8	3.0	2.3	3.2	11	4.3	.4
15.....	1.2	1.6	2.6	2.8	2.3	4.0	19	4.0	.6
16.....	1.4	1.9	2.5	2.8	2.4	6	14	3.6	.6
17.....	1.4	1.9	2.4	2.8	2.4	5	11	3.2	.7
18.....	1.3	2.0	2.4	2.8	2.4	15	9	2.8	.7
19.....	1.2	2.0	3.4	2.6	2.2	12	8	2.5	.8
20.....	1.2	2.0	4.4	2.8	2.1	8	7	2.5	.3

Daily discharge, in second-feet, of Santa Ysabel Creek near Mesa Grande, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
21.....	1.2	2.0	3.2	2.8	2.0	26	6	2.5	0.2
22.....	1.2	2.0	3.0	2.8	2.0	12	5.5	3.0	.2
23.....	1.2	2.0	2.6	2.8	2.0	9	12	3.4	.1
24.....	1.2	1.9	2.4	2.8	2.0	22	14	3.7	.1
25.....	1.1	2.0	2.3	3	1.9	12	9.5	3.1	.1
26.....	1.1	2.0	2.8	2.8	1.9	11	7	3.0	.1
27.....	1.1	2.0	6	2.8	1.9	61	6	2.8	.1
28.....	1.1	2.0	4.8	3.6	1.9	57	6.5	3.1	.1
29.....	1.1	2.1	4.0	4.2	1.8	44	6	2.4	.1
30.....	1.1	2.2	10	3.6	-----	32	5.5	2.0	.1
31.....	1.4	-----	9	3.2	-----	22	-----	1.8	-----

Monthly discharge of Santa Ysabel Creek near Mesa Grande, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.5	0.8	1.20	73.8
November.....	5	1.4	2.05	122
December.....	10	2.3	3.74	230
January.....	24	2.6	4.24	261
February.....	3.2	1.8	2.41	139
March.....	61	1.8	14.0	861
April.....	28	5.5	13.3	791
May.....	5.5	1.8	3.69	227
June.....	1.8	.1	.60	35.7
The year.....	61	0	3.77	2,740

NOTE.—No flow during July, August, and September.

SAN DIEGUITO RIVER NEAR ESCONDIDO, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 18, T. 13 S., R. 2 W., at Lake Hodges Dam, $5\frac{1}{2}$ miles below Bernardo Bridge, $10\frac{1}{2}$ miles above mouth of river, and $5\frac{1}{2}$ miles southwest of Escondido, San Diego County.

DRAINAGE AREA.—299 square miles at the dam (measured on topographic maps).

RECORDS AVAILABLE.—January 17, 1916, to September 30, 1924.

DIVERSIONS.—East and West San Pasqual ditches divert water for irrigation from Santa Ysabel Creek at the upper end of San Pasqual Valley. Water for irrigation is also pumped from wells along the river.

COOPERATION.—Record of monthly storage and run-off furnished by San Dieguito Mutual Water Co.

Lake Hodges Reservoir was completed in 1919 and the gaging station formerly maintained at the dam site was abandoned. The following table gives monthly storage in the reservoir, and other data from which the inflow is computed.

Inflow of San Dieguito River to Lake Hodges near Escondido, Calif., for the year ending September 30, 1924

	Storage		Decrease during month			Inflow
	End of month	Increase or decrease	Draft	Net evaporation *	Leakage	
	<i>Acres-feet</i>	<i>Acres-feet</i>	<i>Acres-feet</i>	<i>Acres-feet</i>	<i>Acres-feet</i>	<i>Acres-feet</i>
October.....	32,589	-774	418	377	3	24
November.....	31,779	-810	527	343	3	63
December.....	31,544	-235	180	135	3	83
January.....	31,122	-422	360	151	3	92
February.....	30,728	-394	173	320	3	102
March.....	32,397	+1,669	368	16	3	2,056
April.....	33,631	+1,234	176	261	3	1,674
May.....	32,768	-863	354	655	3	149
June.....	31,661	-1,107	355	850	3	101
July.....	30,543	-1,118	480	871	3	236
August.....	29,486	-1,057	372	853	3	171
September.....	28,421	-1,065	448	614	3	0
Year.....		-4,942	4,211	5,446	36	4,751

* Net evaporation equals gross evaporation minus rainfall.

NOTE.—Inflow equals increase or decrease in storage, plus draft, net evaporation, and leakage.

BLACK CANYON CREEK NEAR MESA GRANDE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 17, T. 12 S., R. 2 E., 1 mile above junction with Santa Ysabel Creek and 4 miles southwest of Mesa Grande, San Diego County.

DRAINAGE AREA.—15.2 square miles (measured on topographic maps).

RECORDS AVAILABLE.—February 14, 1913, to September 30, 1924, when the station was discontinued.

GAGE.—Water-stage recorder in concrete gage house on right bank, opposite former inclined staff. Beginning March 28, 1923, the recorder datum is 0.40 foot higher than that of former staff.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Solid rock and boulders; free fall over bedrock at control.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder 2 feet at 6 a.m. March 27 (discharge, 66 second-feet); dry from about June 18 to September 30.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder gave good record, except for a few short periods. Daily discharge ascertained by applying mean daily gage height to rating table; interpolated for days on which recorder was not in operation. Records good.

COOPERATION.—Gage-height record and results of most of the discharge measurements furnished by San Diego County Water Co.

Discharge measurements of Black Canyon Creek near Mesa Grande, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 24.....	0.33	0.36	Mar. 20.....	0.50	1.6	Apr. 24.....	0.63	3.0
Jan. 8.....	.37	.46	Mar. 27.....	1.44	31	June 2.....	.22	.15
Feb. 14.....	.33	.41	Apr. 8.....	.71	4.7	June 23.....	.12	.03
Mar. 5.....	.53	1.7						

Daily discharge, in second-feet, of Black Canyon Creek near Mesa Grande, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.1	0.5	0.3	7	0.5	0.3	3.4	1.4	0.2
2	.1	.3	.6	2.0	.5	.6	3.5	1.2	.2
3	.1	.2	.5	1.2	.5	2.5	4.2	1.2	.2
4	.1	.2	.4	.8	.4	2.4	6.5	1.2	.2
5	.1	.1	.4	.6	.4	2.1	8	1.1	.1
6	.1	.1	.4	.5	.4	1.0	5	1.1	.1
7	.1	.1	.4	.5	.4	.7	5.5	.9	.1
8	.2	.1	.4	.5	.4	.6	4.8	.7	.2
9	.2	.2	.4	.5	.4	.5	3.8	.7	.2
10	.1	.2	.4	.5	.4	.5	3.6	.7	.2
11	.1	.2	.4	.5	.4	.5	3.1	.7	.2
12	.1	.2	.4	.5	.4	.5	3.0	.7	.2
13	.1	.2	.4	.5	.4	.4	2.6	.7	.2
14	.1	.2	.4	.5	.4	.4	3.0	.7	.1
15	.1	.2	.4	.5	.4	.5	6.5	.6	.1
16	.1	.2	.4	.5	.4	1.1	3.8	.6	.1
17	.1	.2	.4	.5	.4	.8	3.7	.5	.1
18	.1	.2	.4	.5	.4	3.7	3.6	.4	-----
19	.1	.2	.6	.5	.4	2.5	3.5	.3	-----
20	.1	.2	1.0	.5	.4	1.8	3.4	.3	-----
21	.1	.2	.6	.5	.4	5	3.3	.3	-----
22	.1	.2	.5	.4	.4	2.6	3.2	.3	-----
23	.1	.2	.4	.4	.4	2.0	3.1	.4	-----
24	.1	.2	.4	.4	.4	4.4	3.0	.4	-----
25	.1	.2	.4	.4	.3	2.6	2.5	.4	-----
26	.1	.2	.5	.4	.3	3.0	2.1	.4	-----
27	.1	.2	1.4	.4	.3	30	1.9	.4	-----
28	.1	.2	.8	.5	.3	17	1.9	.4	-----
29	.1	.2	.8	.7	.3	10	1.7	.3	-----
30	.1	.4	3.1	.5	-----	6	1.5	.3	-----
31	.2	-----	2.3	.5	-----	4.0	-----	.	-----

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Black Canyon Creek near Mesa Grande, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	0.2	0.1	0.11	6.8
November	.5	.1	.21	12.5
December	3.1	.4	.74	45.5
January	2.0	.4	.78	48.0
February	.5	.3	.39	22.4
March	30	.3	3.55	218
April	8.5	1.5	3.79	226
May	1.4	.2	.63	38.7
June	.2	0	.09	5.4
The year	30	0	.86	623

NOTE.—No flow during July, August, and September.

SAN LUIS REY RIVER BASIN

SAN LUIS REY RIVER AT LAKE HENSHAW, NEAR MESA GRANDE, CALIF.

LOCATION.—At Henshaw Dam, 5 miles north of Mesa Grande, San Diego County.

DRAINAGE AREA.—209 square miles (measured on topographic maps) at former gaging station 1 mile below dam.

RECORDS AVAILABLE.—October 3, 1911, to September 30, 1924.

DIVERSIONS.—None.

COOPERATION.—Complete record, except inflow, furnished by San Diego County Water Co.

Lake Henshaw Reservoir was completed in 1923 and the gaging station formerly maintained 1 mile below the dam was abandoned. The following table gives the inflow of San Luis Rey River to Lake Henshaw as computed from storage data on the lake.

Inflow of San Luis Rey River to Lake Henshaw, near Mesa Grande, Calif., for the year ending September 30, 1924

	Storage		Decrease during month			Inflow ^b
	End of month	Increase or decrease	Draft	Net evaporation ^a	Leakage	
	<i>Acre-feet</i>	<i>Acre-feet</i>	<i>Acre-feet</i>	<i>Acre-feet</i>	<i>Acre-feet</i>	<i>Acre-feet</i>
October.....	6,052.5	-644.5	481.0	328.0	2	164.5
November.....	5,847.5	-205.0	355.8	79.7	2	232.5
December.....	6,367.7	+520.2	177.0	-44.8	2	654.4
January.....	6,918.1	+550.4	0	69.4	1	620.8
February.....	6,779.5	-138.6	302.9	186.7	1	352.0
March.....	9,026.5	+2,247.0	48.2	-197.8	1	2,098.4
April.....	10,453.7	+1,427.2	0	96.9	1	1,525.1
May.....	10,067.1	-386.6	0	729.4	0	342.8
June.....	9,419.7	-647.4	42.4	805.6	0	200.6
July.....	7,055.0	-2,364.7	1,802.1	768.3	0	205.7
August and September.....	4,091.4	-2,963.6	2,034.6	994.9	0	125.9
Year		-2,605.6	5,304.0	3,814.3	10	6,522.7

^a Net evaporation equals gross evaporation minus rainfall.

^b Inflow computed by engineers of U. S. Geol. Survey. These figures do not agree with inflow as computed by the San Diego County Water Co., as their computations are corrected for conserved evaporation in accordance with a provision in the contract with the Escondido Mutual Water Co.

NOTE.—Inflow equals increase or decrease in storage, plus draft, net evaporation, and leakage.

SAN LUIS REY RIVER NEAR NELLIE, CALIF.

LOCATION.—Near west line of sec. 33, T. 10 S., R. 1 E. (unsurveyed), in Potrero Indian Reservation above intake of Escondido Mutual Water Co.'s canal, about 9 miles below Henshaw Dam and $4\frac{1}{2}$ miles southwest of Nellie, San Diego County.

DRAINAGE AREA.—240 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 1, 1915, to June 30, 1916, incomplete, and December 19, 1922, to June 30, 1924, when station was discontinued.

GAGE.—Water-stage recorder in reinforced concrete gage house on left bank at same location as gage house which was destroyed by flood of January, 1916. Recorder inspected by A. W. Westmoreland and F. E. Green.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Boulders and sand overlying solid rock. Control rocky and permanent except as affected by shifting sand.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.32 feet at 6 a. m. March 26 (discharge, 92 second-feet); minimum stage, 0.50 foot at 4 p. m. June 17 (discharge, about 0.9 second-foot).

DIVERSIONS.—None above the station.

REGULATION.—Flow regulated at Henshaw Dam.

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined by frequent discharge measurements. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by San Diego County Water Co.

Discharge measurements of San Luis Rey River near Nellie, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4.....	1.00	5.3	Jan. 16.....	0.88	3.0	Apr. 17.....	0.96	6.7
Oct. 13.....	.95	3.7	Feb. 1.....	.90	2.4	May 1.....	.93	4.7
Oct. 20.....	1.08	9.5	Feb. 15.....	1.32	24	May 15.....	.83	2.1
Nov. 24.....	1.08	3.2	Mar. 1.....	1.30	21	June 4.....	.71	1.2
Dec. 7.....	1.06	8.5	Mar. 14.....	.88	3.0	July 1.....	.49	1.8
Dec. 31.....	.94	5.2	Apr. 2.....	1.34	21			

Daily discharge, in second-feet, of San Luis Rey River near Nellie, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	1.3	12	21	14	2.2	21	5.5	4.4	1.1
2.....	6.5	5.5	9	7	2.2	23	15	4.4	1.1
3.....	5.5	5.5	8	5	2.4	9	8.5	4.2	1.2
4.....	5	5	8	4.4	2.5	5.5	12	3.7	1.2
5.....	5.5	6.5	8.5	3.7	2.8	5	14	3.4	1.3
6.....	6	6.5	8.5	3.4	3.0	3.4	10	3.4	1.3
7.....	9	9	8	3.2	3.1	3.2	9	3.1	1.3
8.....	4.4	10	5.5	3.1	3.1	3.0	8	3.0	1.3
9.....	3.1	13	5	3.1	3.9	3.0	7	3.0	1.5
10.....	3.0	14	5	3.0	6	3.0	7	3.0	1.6
11.....	3.9	9.5	6	2.8	5.5	2.8	7	2.8	1.7
12.....	3.9	8.5	5.5	2.8	5.5	2.8	7	2.8	1.6
13.....	3.7	7.5	6	2.8	5.5	2.8	6.5	2.5	1.7
14.....	7.5	7.5	6.5	2.8	19	2.8	8	2.2	1.7
15.....	10	7.5	6.5	3.0	24	3.4	11	1.8	1.3
16.....	11	8	6	3.1	24	4.7	8.5	1.7	1.0
17.....	10	7.5	6	3.0	23	5	7	1.6	1.0
18.....	10	7	6.5	3.0	6	17	7	1.5	1.2
19.....	10	7	8	2.8	3.1	7	7	1.3	5.5
20.....	9.5	7	7	2.8	3.0	5.5	6	1.3	2.0
21.....	9.5	7	6.5	2.5	3.0	9	6	1.3	1.7
22.....	10	7	3.4	2.5	3.1	5.5	6	1.4	1.6
23.....	10	7	3.2	2.8	3.2	5.5	9	1.4	1.7
24.....	10	7	3.2	2.6	3.4	9	10	1.6	1.6
25.....	9.5	7	3.2	2.6	3.7	5.5	7	1.6	1.4
26.....	9.5	7	4.4	2.5	6.5	7.5	6.5	1.6	1.3
27.....	9.5	7	8.5	2.5	7	53	5.5	1.6	1.3
28.....	9	7.5	5.5	2.6	7	26	5.5	1.5	1.2
29.....	9	7	4.2	2.6	17	20	5.5	1.2	1.2
30.....	9	8.5	6	2.6	-----	10	4.7	1.1	1.3
31.....	14	-----	5	2.2	-----	7	-----	1.1	-----

Monthly discharge of San Luis Rey River near Nellie, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	14	1.3	7.67	472
November.....	14	5	7.87	468
December.....	21	3.2	6.57	404
January.....	14	2.2	3.45	212
February.....	24	2.2	7.02	404
March.....	53	2.5	9.38	577
April.....	15	4.7	7.89	469
May.....	4.4	1.1	2.27	140
June.....	8.5	1.0	1.53	91
The period.....				3,240

SANTA MARGARITA RIVER BASIN

TEMECULA CREEK AT NIGGER CANYON, NEAR TEMECULA, CALIF.

LOCATION.—On the Pauba land grant, at upper end of Nigger Canyon about 10 miles east of Temecula, Riverside County. Arroyo Seco enters from the left above the gage.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 31, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in pipe well and wooden shelter on right bank. Datum lowered an unknown amount May 20, 1924.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet below gage or by wading. CHANNEL AND CONTROL.—Small gravel and sand; shifting.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 8.87 feet at 6 a. m. March 27 (discharge, 342 second-feet); minimum stage, 7.96 feet at 6 p. m. September 30 (discharge, 0.8 second-foot).

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Rating curves fairly well defined. Water-stage recorder record good. Daily discharge ascertained by applying mean daily gage height to rating table or by shifting-control method, except May 18 and 19, for which it was estimated. Records fair.

COOPERATION.—Gage-height record and results of most of the discharge measurements furnished by Vail & O'Neil.

Discharge measurements of Temecula Creek at Nigger Canyon, near Temecula, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 2.....	7.00	2.8	Jan. 20.....	7.18	7.0	May 17.....	6.73	3.7
Oct. 16.....	7.02	4.1	Feb. 3.....	7.22	7.3	May 20.....	7.98	3.6
Nov. 1.....	7.24	8.9	Feb. 17.....	7.20	7.6	June 4.....	7.96	3.0
Nov. 15.....	7.15	6.2	Mar. 2.....	7.27	10	July 4.....	7.94	2.3
Nov. 30.....	7.14	7.9	Mar. 7.....	7.23	8.8	July 17.....	7.93	2.2
Dec. 1.....	7.18	7.6	Mar. 16.....	7.20	8.0	Aug. 1.....	7.92	2.0
Dec. 16.....	7.12	6.0	Mar. 27.....	8.19	145	Aug. 7.....	7.96	2.1
Dec. 31.....	7.22	9.0	Apr. 2.....	7.61	35	Aug. 15.....	7.94	2.0
Jan. 2.....	7.29	12	Apr. 16.....	7.10	15	Aug. 31.....	7.96	2.0
Jan. 6.....	7.18	7.7	May 4.....	6.82	7.4	Sept. 14.....	7.94	2.0

Daily discharge, in second-feet, of Temecula Creek at Nigger Canyon, near Temecula, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.0	11	7	16	8	6	16	8.5	4.2	3.1	2.8	2.9
2.....	3.2	6.5	7	12	8	9.5	25	8	3.8	2.8	2.6	2.9
3.....	3.2	6	6.5	10	8	12	16	7.5	3.8	2.8	2.8	2.9
4.....	3.2	6	6.5	9	8	12	18	7	3.4	2.8	2.8	12
5.....	3.2	5.5	6	8	8	19	23	7	3.4	2.8	2.8	12
6.....	3.4	5.5	6	8	8	11	21	6	3.4	3.1	2.3	6
7.....	3.6	6	6.5	8	8	9.5	19	5.5	3.8	3.1	2.3	3.5
8.....	9	6	6.5	8	7.5	8.5	16	5.5	3.8	3.1	2.0	2.8
9.....	4.5	7.5	6.5	8.5	7.5	8	14	5.5	3.8	2.8	2.3	2.6
10.....	4.2	7	6.5	8	7.5	7.5	13	5.5	3.8	2.8	2.6	2.3
11.....	4.0	6.5	6.5	8	7.5	7.5	12	5.5	3.8	2.8	2.9	2.6
12.....	4.0	6.5	6.5	7.5	7	7.5	14	5	3.4	2.8	2.6	2.6
13.....	3.6	6.5	6.5	7.5	7	7.5	14	4.9	3.4	2.4	2.8	2.6
14.....	3.4	6	6.5	7.5	7	7.5	14	4.6	3.4	2.4	2.8	2.3
15.....	3.4	6.5	6.5	7.5	7.5	7.5	14	4.4	3.4	2.8	2.8	2.6

Daily discharge, in second-feet, of Temecula Creek at Nigger Canyon, near Temecula, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	3.6	6.5	6	7.5	7.5	7.5	16	4.1	3.4	2.8	2.8	2.6
17.....	3.6	6.5	6	7.5	7.5	8	14	4.1	3.4	2.8	2.6	2.6
18.....	3.6	6.5	6	7.5	7.5	16	14	4.0	3.8	2.4	2.6	2.6
19.....	3.6	6.5	8.5	7.5	7	13	12	3.9	3.4	2.8	2.8	3.2
20.....	3.4	6.5	7	7.5	7.5	11	12	3.8	3.4	2.8	3.2	2.9
21.....	3.4	6.5	7	7.5	7.5	15	12	4.2	3.1	2.8	3.5	2.9
22.....	3.6	6.5	8	7.5	7.5	14	10	4.5	3.1	2.8	3.5	2.6
23.....	4.0	6.5	8	7.5	7	13	12	5.5	3.1	2.8	3.5	2.9
24.....	4.2	6.5	7.5	7.5	7	31	14	6.5	3.1	2.8	3.5	3.2
25.....	4.7	6	7.5	7.5	6.5	24	12	7	3.1	2.8	3.5	2.9
26.....	4.9	6	9	7.5	6.5	23	10	6.5	3.1	2.8	2.9	2.6
27.....	4.9	6	12	7.5	6.5	170	10	6.5	2.8	2.4	2.9	2.3
28.....	4.9	6	9	8.5	6	76	9.5	6	2.8	2.8	2.6	1.9
29.....	4.9	6	8.5	9	6	64	9	5	2.8	3.1	2.9	1.9
30.....	4.9	6	9	8.5		39	9	4.5	3.1	-2.8	2.6	1.6
31.....	7		9	8		20		5		2.8	2.9	

Monthly discharge of Temecula Creek at Nigger Canyon, near Temecula, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	9	3.0	4.13	254
November.....	11	5.5	6.45	384
December.....	12	6	7.27	447
January.....	16	7.5	8.31	511
February.....	8	6	7.31	420
March.....	170	6	22.1	1,360
April.....	25	9	14.2	845
May.....	8.5	3.8	5.53	340
June.....	4.2	2.8	3.40	202
July.....	3.1	2.4	2.80	172
August.....	3.5	2.0	2.82	173
September.....	12	1.6	3.38	201
The year.....	170	1.6	7.31	5,310

TEMECULA CREEK AT RAILROAD CANYON, NEAR TEMECULA, CALIF.

LOCATION.—On Temecula land grant, at upper end of Temecula or Railroad Canyon, $1\frac{1}{2}$ miles south of Temecula, Riverside County. Murrieta Creek enters from right above station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 30, 1923, to September 30, 1924.

GAGE.—Water-stage recorder on left bank about 300 feet below Murrieta Creek.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Shifting sand.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.75 feet at 11 p. m. March 26 (discharge, 86 second-feet); minimum stage, 1.25 feet part of July 31, August-1 and 2 (discharge, 1.6 second-feet).

DIVERSIONS.—See "Regulation."

REGULATION.—Pumping diversions regulate flow to a considerable extent during irrigation season.

ACCURACY.—Stage-discharge relation not permanent. Rating curves fairly well defined. Water-stage recorder gave satisfactory record except January 9, April 9-12, April 24 to May 3, and May 11-20 when clock stopped. Daily discharge ascertained by applying mean daily gage height to rating table or by shifting-control method. Discharge estimated for days on which clock was stopped. Records fair.

COOPERATION.—Gage-height record and most of discharge measurements furnished by Vail & O'Neil.

Discharge measurements of Temecula Creek at Railroad Canyon, near Temecula, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 2	1.44	3.9	Jan. 20	1.78	13	May 20	1.46	4.7
Oct. 16	1.52	6.7	Feb. 3	1.70	9.7	June 4	1.44	3.4
Nov. 1	1.67	10	Feb. 17	1.68	12	June 18	1.48	4.7
Nov. 6	1.67	9.3	Mar. 2	1.98	18	July 4	1.38	3.0
Nov. 15	1.72	10	Mar. 7	1.67	9.8	July 17	1.32	2.2
Nov. 30	1.78	15	Mar. 16	1.78	11	Aug. 1	1.30	2.3
Dec. 1	1.80	13	Mar. 28	2.08	24	Aug. 7	1.38	3.1
Dec. 15	1.76	11	Apr. 2	1.96	19	Aug. 15	1.34	2.4
Dec. 31	1.78	15	Apr. 16	1.85	15	Aug. 31	1.42	3.8
Jan. 2	1.80	13	May 4	1.70	10	Sept. 14	1.48	5.1
Jan. 6	1.78	12	May 18	1.52	6.2			

Daily discharge, in second-feet, of Temecula Creek at Railroad Canyon, near Temecula, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	12	13	15	10	5.5	16	9.5	2.2	4.5	2.6	3.4
2	3.3	7.5	11	12	9.5	12	20	9.5	2.8	3.6	1.9	3.1
3	4.2	8	11	12	9.5	14	19	9.5	2.5	3.4	2.5	3.3
4	6	10	11	12	10	15	21	9.5	3.3	3.6	3.6	3.0
5	8	9.5	11	11	9	19	21	9	3.1	3.4	2.5	3.1
6	8.5	9.5	11	11	7.5	16	25	9	4.0	4.4	2.6	3.8
7	8.5	10	11	13	7	14	21	8.5	4.0	4.5	2.6	5.5
8	8.5	10	11	13	7	10	20	9	4.0	3.6	2.5	4.2
9	5.5	10	11	13	9.5	9.5	20	9	3.8	3.6	2.9	4.2
10	6	9.5	11	13	10	8.5	19	8.5	3.0	3.6	3.1	3.8
11	6.5	9.5	11	13	10	8.5	19	8.5	2.2	3.3	3.4	3.0
12	4.7	9.5	11	13	10	8	18	8	2.1	3.0	2.9	2.2
13	6.5	9.5	11	13	10	8.5	18	7.5	2.0	2.8	2.9	3.1
14	8.5	9.5	12	13	10	10	17	7	3.1	2.9	3.6	4.5
15	8	9.5	11	13	8.5	12	17	7	4.0	2.8	2.9	3.4
16	7.5	9	10	13	9	10	15	6.5	3.8	3.0	4.0	4.2
17	4.2	9.5	10	13	12	13	15	6.5	3.1	2.9	4.5	4.4
18	4.4	9.5	11	13	10	20	14	6	3.4	2.6	4.0	3.8
19	4.2	10	15	13	9	14	14	6	4.4	2.8	4.0	3.0
20	3.6	11	14	13	8.5	13	13	5.5	2.9	3.1	4.0	3.1
21	6.5	10	12	14	7.5	13	12	5.5	3.1	4.4	4.5	5
22	5.5	10	13	14	6.5	12	12	5.5	4.9	4.4	4.9	4.9
23	5.5	11	13	12	6	17	17	4.9	4.4	4.2	5	4.7
24	5	12	13	11	12	21	15	4.7	3.6	4.4	6	4.0
25	7	12	13	11	9.5	19	12	4.4	3.6	3.3	4.0	3.1
26	5.5	13	18	12	7.5	25	10	4.4	3.8	2.8	3.8	3.3
27	7.5	12	18	14	7	38	10	5.5	4.0	2.4	3.4	3.0
28	10	13	14	14	5.5	24	10	4.2	4.0	2.4	4.2	4.0
29	8	13	14	11	4.9	19	10	3.0	4.4	1.9	4.7	3.3
30	8.5	12	14	11		16	9.5	2.6	4.4	2.9	4.2	2.4
31	9.5		14	11		16		2.4		2.5	4.0	

Monthly discharge of Temecula Creek at Railroad Canyon, near Temecula, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	10	3.0	6.39	398
November.....	13	7.5	10.4	619
December.....	18	10	12.4	762
January.....	15	11	12.6	775
February.....	12	4.9	8.70	500
March.....	38	5.5	14.9	916
April.....	25	9.5	16.0	952
May.....	9.5	2.4	6.66	410
June.....	4.9	2.0	3.46	206
July.....	4.5	1.9	3.32	204
August.....	6	1.9	3.60	221
September.....	5.5	2.2	3.66	218
The year.....	38	1.9	8.50	6,180

SANTA MARGARITA RIVER AT YSIDORA, CALIF.

LOCATION.—On Santa Margarita y las Flores land grant, 3 miles above mouth of river, 4 miles north of Oceanside, at Ysidora, San Diego County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 19, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet below gage or by wading.

CHANNEL AND CONTROL.—Shifting sand.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 9.37 feet at 4 a. m. March 28 (discharge, 76 second-feet); no flow October 1 to November 30 and May 18 to September 30.

DIVERSIONS.—Pauba and Santa Margarita ranches divert considerable water for irrigation.

REGULATIONS.—See "diversions."

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined.

Water-stage recorder gave excellent record. Daily discharge ascertained by applying mean daily gage height to rating table, except January 5–19, for which shifting-control method was used, and December 1–3 and 5–14, for which discharge was estimated.

COOPERATION.—Gage-height record and results of most of the discharge measurements furnished by Vail & O'Neil.

Discharge measurements of Santa Margarita River at Ysidora, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 4.....	8.28	0.36	Feb. 3.....	8.72	8.8	Mar. 28.....	9.27	61
Dec. 15.....	8.50	4.3	Feb. 17.....	8.35	1.9	Do.....	9.24	58
Dec. 17.....	8.51	4.9	Mar. 2.....	8.64	7.0	Apr. 2.....	8.92	23
Jan. 2.....	8.72	14	Mar. 4.....	8.50	3.2	Apr. 19.....	8.38	1.5
Jan. 4.....	8.67	12	Mar. 16.....	8.44	1.8	May 4.....	8.36	1.3
Jan. 20.....	8.66	8.4	Mar. 19.....	8.48	2.2	May 18.....	8.14	.02

Daily discharge, in second-feet, of Santa Margarita River at Ysidora, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1.....	0.1	20	9.5	1.1	10	0.9	16.....	6	9	1.2	2.6	9.5	0.1
2.....	.2	14	9.5	3.0	19	1.3	17.....	5	9	1.0	2.8	3.2	.1
3.....	.3	12	9	8	18	1.1	18.....	5	9	1.1	3.7	1.8	-----
4.....	.4	11	8	4.0	16	1.1	19.....	8.5	8.5	1.2	2.7	1.4	-----
5.....	1.0	8	7.5	4.2	30	1.0	20.....	14	7	1.2	3.5	1.5	-----
6.....	2.0	7	8	2.6	22	.6	21.....	11	7	1.2	7	1.4	-----
7.....	2.5	7	7	2.6	18	.4	22.....	8	7.5	1.2	8.5	1.3	-----
8.....	3.0	8	6	2.4	18	.4	23.....	8	8	1.1	7.5	1.8	-----
9.....	3.5	9	6	2.2	15	.4	24.....	8	8	1.0	15	1.5	-----
10.....	4.0	8.5	6.5	2.4	14	.5	25.....	8	7	1.0	5.5	1.1	-----
11.....	4.5	8	6.5	2.4	13	.7	26.....	11	7	1.0	4.2	1.0	-----
12.....	5	8.5	6.5	2.0	13	.4	27.....	25	9.5	1.0	46	1.0	-----
13.....	5.5	8.5	6	1.8	12	.4	28.....	18	18	1.0	56	1.0	-----
14.....	6	9.5	4.7	1.8	12	.2	29.....	13	18	1.0	28	.9	-----
15.....	6	9.5	2.1	2.0	12	.1	30.....	14	12	-----	18	.9	-----
							31.....	13	10	-----	14	-----	-----

NOTE.—No flow Oct. 1 to Nov. 30 and May 18 to Sept. 30.

Monthly discharge of Santa Margarita River at Ysidora, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December.....	25	0.1	7.08	435
January.....	20	7	9.77	601
February.....	9.5	1.0	4.07	234
March.....	56	1.1	8.63	531
April.....	30	.9	9.04	538
May.....	1.3	0	.31	19.1
The year.....	56	0	3.25	2,360

NOTE.—No flow during months for which no record is given.

SANTA ANA RIVER BASIN

SANTA ANA RIVER NEAR MENTONE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 4, T. 1 S., R. 2 W., near mouth of canyon, one-fourth mile above Southern California Edison Co.'s Mentone power plant, half a mile above mouth of Deep Creek, and $3\frac{1}{2}$ miles northeast of Mentone, San Bernardino County.

DRAINAGE AREA.—189 square miles (measured on topographic map).

RECORDS AVAILABLE.—July 1, 1896, to September 30, 1924.

GAGE.—Water-stage recorder, in concrete well and shelter, on left bank at rock ledge one-fourth mile above power house.

DISCHARGE MEASUREMENTS.—Made from cable just above gage or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; shifting during high water.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.18 feet at 2 a. m. March 27 (discharge, 194 second-feet); minimum stage, 0.40 foot at 2 a. m. August 30 (discharge, about 0.3 second-foot).

1896-1924: Maximum discharge, 29,100 second-feet January 27, 1916; minimum discharge, 0.1 second-foot October 12, 1919.

DIVERSIONS.—Water is diverted at Southern California Edison Co.'s plant No. 2, $2\frac{1}{2}$ miles above the gage, for use at Mentone power house. The Greenspot pipe line diverts water for irrigation from the forebay at the Mentone power house. From the tailrace the water is carried across Santa Ana River and used for irrigation.

REGULATION.—Water is stored on Bear Creek at Bear Valley Reservoir. Southern California Edison Co.'s power plants Nos. 1 and 2 are $5\frac{1}{4}$ and $2\frac{3}{4}$ miles, respectively, above the Mentone plant. Capacity of Bear Valley Reservoir is 65,100 acre-feet.

ACCURACY.—Stage-discharge relation not changed during year. Rating curve well defined. Water-stage recorder gave good record except October 10–26, November 2–8, 11–15, January 29 to February 3, May 11–23, July 26 to August 3, and August 30–31. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge estimated October 10–26 and interpolated for all other periods of no gage-height record. Records good.

Discharge measurements of Santa Ana River near Mentone, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	0.71	1.6	Apr. 8.....	1.25	31	July 7.....	0.60	1.0
Nov. 16.....	.65	1.5	May 1.....	.71	2.4	July 21.....	.63	1.2
Jan. 8.....	.66	1.5	May 7.....	.70	2.4	Aug. 4.....	.61	1.2
Feb. 4.....	.61	1.1	May 27.....	.67	1.8	Aug. 17.....	.61	1.3
Feb. 29.....	.63	1.1	June 1.....	.67	1.7	Sept. 1.....	.60	1.1
Mar. 25.....	.75	3.4	June 14.....	.67	1.6	Sept. 15.....	.59	.9
Mar. 27.....	1.54	62	June 24.....	.65	1.4	Sept. 29.....	.63	1.1
Apr. 1.....	.79	4.2						

Daily discharge, in second-feet, of Santa Ana River near Mentone, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.0	1.7	1.9	2.9	1.1	1.3	4.2	2.2	1.8	1.6	0.7	1.0
2.....	.9	1.7	1.6	2.0	1.1	1.8	19	2.4	1.8	1.8	.7	1.1
3.....	.9	1.7	1.6	1.9	1.1	1.7	7.5	2.0	1.7	1.3	.7	1.0
4.....	.8	1.7	1.6	1.9	1.1	1.6	4.9	2.0	1.7	1.2	.7	1.2
5.....	.9	1.7	1.6	1.8	1.3	1.3	18	2.0	1.6	1.2	.7	1.3
6.....	1.2	1.7	1.6	1.8	1.3	1.2	28	2.0	1.7	1.2	.7	1.2
7.....	1.3	1.7	1.6	1.6	1.3	1.2	66	2.0	1.8	1.2	.7	1.0
8.....	23	1.7	1.1	1.6	1.2	1.2	32	2.0	1.8	1.2	.7	1.0
9.....	.9	4.2	1.3	1.6	1.1	1.2	25	2.0	1.8	1.1	.7	1.0
10.....		4.2	1.2	1.4	1.1	1.2	28	2.0	1.7	1.1	.7	.9
11.....		2.0	1.2	1.3	1.1	1.2	30	2.0	1.7	1.1	1.1	.9
12.....		2.0	1.2	1.3	1.1	1.2	29	2.0	1.6	1.1	1.1	.9
13.....		1.8	1.2	1.3	1.1	1.2	29	2.0	1.6	1.0	1.0	.9
14.....		1.6	1.3	1.3	1.1	1.2	30	2.0	1.6	.9	1.1	.9
15.....		1.4	1.3	1.3	1.1	1.2	27	2.0	1.6	1.0	1.1	.9
16.....		1.4	1.3	1.3	1.1	1.3	12	2.0	1.5	1.0	1.6	.9
17.....		1.4	1.3	1.3	1.0	1.5	6	2.0	1.5	1.0	1.3	.9
18.....	.9	1.4	1.3	1.3	1.0	1.5	2.0	1.9	1.5	1.1	1.1	1.0
19.....		1.7	1.4	1.3	1.0	1.2	2.4	1.9	1.3	1.1	1.2	1.1
20.....		1.7	1.3	1.3	1.0	1.2	3.1	1.9	1.2	1.0	1.3	1.2
21.....		1.4	1.3	1.2	1.1	1.5	3.1	1.9	1.1	1.0	1.3	1.0
22.....		1.3	1.3	1.1	1.1	1.7	2.4	1.9	1.1	.9	1.3	.9
23.....		1.3	1.2	1.1	1.1	1.8	6	1.9	1.1	.8	1.0	.9
24.....		1.3	1.2	1.0	1.1	8	8	1.9	1.2	.7	.8	.9
25.....		1.3	1.1	1.0	1.1	3.1	3.1	1.9	1.2	.7	.7	.9
26.....		1.6	1.3	.9	1.1	33	2.4	1.8	1.2	.7	.6	.9
27.....	1.0	1.4	1.4	.9	1.1	94	2.0	1.8	1.3	.7	.6	.9
28.....	1.0	1.4	1.3	1.1	1.1	85	2.0	1.7	1.3	.7	.5	1.0
29.....	.9	1.3	1.6	1.1	1.2	64	2.0	1.6	1.3	.7	.5	1.0
30.....	.9	1.4	2.0	1.1		36	2.2	1.7	1.5	.7	.7	1.0
31.....	1.6		2.4	1.1		6		1.8		.7	.9	

NOTE.—Braced figures show estimated mean discharge for the period indicated. See p. 38 for daily discharge of Southern California Edison Co.'s canal and Greenspot pipe line.

Monthly discharge of Santa Ana River near Mentone, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	23	-----	1.66	102
November.....	4.2	1.3	1.74	104
December.....	2.4	1.1	1.42	87.3
January.....	2.9	.9	1.39	85.5
February.....	1.3	1.0	1.11	63.8
March.....	94	1.2	11.6	718
April.....	66	2.0	14.5	863
May.....	2.4	1.6	1.94	119
June.....	1.8	1.1	1.49	88.7
July.....	1.8	.7	1.02	62.7
August.....	1.6	.5	.90	55.3
September.....	1.3	.9	.99	58.9
The year.....	94	.5	3.32	2,400

Combined daily discharge, in second-feet, of Santa Ana River and canals near Mentone, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	87	82	82	58	39	36	89	82	81	82	85	90
2.....	87	66	57	47	36	42	104	82	78	87	83	90
3.....	85	64	49	44	36	48	92	82	76	78	83	90
4.....	85	79	47	47	39	45	87	82	73	76	85	90
5.....	85	79	44	44	36	47	106	76	76	81	85	90
6.....	85	79	44	47	33	44	116	76	78	78	87	85
7.....	85	78	41	41	33	44	154	74	81	81	87	90
8.....	87	76	38	41	37	44	120	76	81	81	87	90
9.....	84	78	35	39	40	41	113	79	81	84	87	90
10.....	84	59	30	35	42	41	116	76	76	84	90	90
11.....	76	57	35	38	40	39	120	82	84	84	90	87
12.....	74	57	35	38	40	39	119	82	81	84	90	90
13.....	74	57	38	35	37	39	119	82	84	84	90	90
14.....	78	44	38	40	40	39	120	82	84	84	90	90
15.....	78	43	40	38	37	40	117	79	84	84	90	90
16.....	73	40	46	35	37	43	102	79	84	84	91	90
17.....	83	40	46	38	40	40	94	79	84	84	90	87
18.....	83	49	51	38	37	46	90	79	81	84	90	87
19.....	84	53	54	35	40	46	90	79	81	86	90	87
20.....	82	58	48	35	39	46	93	79	78	84	90	90
21.....	84	57	43	35	36	51	93	74	76	84	87	85
22.....	84	57	40	32	36	38	90	79	81	83	87	85
23.....	84	57	38	37	36	43	94	79	81	83	87	85
24.....	82	60	46	40	39	77	93	82	81	83	90	87
25.....	80	63	48	37	39	67	85	82	81	83	90	87
26.....	77	64	46	40	39	91	79	84	81	85	90	86
27.....	77	60	54	39	36	168	79	84	81	85	90	86
28.....	74	63	48	39	36	110	79	81	81	85	90	89
29.....	76	60	41	39	36	89	79	88	81	83	90	89
30.....	82	65	55	39	-----	61	82	78	82	83	90	86
31.....	84	-----	57	39	-----	91	-----	81	-----	83	90	-----

Combined monthly discharge of Santa Ana River and canals near Mentone, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	87	73	81.4	5,010
November.....	82	40	61.5	3,660
December.....	82	30	45.6	2,800
January.....	58	32	39.6	2,430
February.....	42	33	37.6	2,160
March.....	168	36	56.0	3,440
April.....	154	79	100	5,960
May.....	88	74	80.0	4,920
June.....	84	73	80.4	4,780
July.....	87	76	83.0	5,100
August.....	91	83	88.4	5,440
September.....	90	85	88.3	5,250
The year.....	168	30	70.2	50,900

SANTA ANA RIVER NEAR PRADO, CALIF.

LOCATION.—At Riverside-Orange County line in lower Santa Ana Canyon, 3 miles by river below Rincon Bridge and 3 miles southwest of Prado, Riverside County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 31, 1919, to September 30, 1924.

GAGE.—Water-stage recorder, in concrete well and house, on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 500 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed is shifting sand. Banks are low and subject to overflow at high stages; channel about 800 feet wide at extreme flood stages. Banks covered with trees and brush.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.53 feet at 1 p. m. March 27 (discharge, 1,600 second-feet); minimum discharge, 44 second-feet at 10 p. m. August 8.

1919-1924: Maximum stage, from water-stage recorder, 5.45 feet at 3 a. m. February 23, 1920 (discharge, about 7,560 second-feet); minimum discharge, 41 second-feet at 8 p. m. July 15, 1919.

DIVERSIONS.—Numerous water companies divert water from main river and its tributaries above and below station. Large quantities of water are taken out of underground storage by flowing wells and pumping plants.

REGULATION.—Storage has been developed at Bear Valley Reservoir in upper Santa Ana basin and Hemet Reservoir in San Jacinto basin. Lake Elsinore receives the run-off from San Jacinto basin and discharges into Temescal Creek only during seasons of very high run-off. (See Lake Elsinore at Elsinore, p. 67.)

ACCURACY.—Stage-discharge relation continually changing. Standard rating curves not well defined; shifting-control method used. Water-stage recorder gave good record except April 26-30, when there was no communication between gage well and stream, and December 7-12 and 17-20, when clock was stopped; daily discharge ascertained by shifting-control method or was estimated or interpolated during periods of no gage height. Records fair.

Discharge measurements of Santa Ana River near Prado, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4.....	0.49	99	Mar. 8.....	0.82	141	July 9.....	0.31	62
Oct. 19.....	.53	96	Mar. 19.....	.81	136	July 12.....	.26	60
Oct. 30.....	.58	108	Mar. 28.....	1.05	415	July 17.....	.28	58
Nov. 14.....	.78	142	Apr. 7.....	1.32	587	July 25.....	.28	57
Dec. 5.....	.84	153	Apr. 11.....	1.13	311	Aug. 1.....	.31	54
Dec. 13.....	.79	145	Apr. 18.....	1.07	254	Aug. 8.....	.27	50
Dec. 21.....	.94	190	May 2.....	.62	137	Aug. 15.....	.29	52
Jan. 14.....	.95	186	May 14.....	.44	90	Aug. 21.....	.38	65
Jan. 25.....	.99	222	May 26.....	.44	95	Aug. 29.....	.33	60
Jan. 31.....	1.02	233	June 9.....	.41	84	Sept. 6.....	.37	70
Feb. 7.....	1.02	207	June 13.....	.34	81	Sept. 20.....	.42	72
Feb. 13.....	.75	119	June 25.....	.24	56	Sept. 30.....	.44	58
Feb. 21.....	.68	112	July 8.....	.32	76			

Daily discharge, in second-feet, of Santa Ana River near Prado, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	94	186	200	218	238	114	457	157	83	66	54	60
2.....	96	169	179	162	242	148	570	139	79	65	54	61
3.....	94	139	186	186	242	254	505	139	80	65	52	60
4.....	98	130	179	173	218	218	557	132	83	66	49	62
5.....	100	132	170	179	207	170	577	130	83	66	52	63
6.....	96	127	179	200	222	151	626	121	77	75	53	62
7.....	102	127	176	214	207	143	680	114	81	79	52	65
8.....	102	130	172	238	200	134	290	104	84	76	49	68
9.....	100	136	169	230	200	139	259	98	81	61	49	66
10.....	106	200	166	214	230	151	305	97	80	58	49	67
11.....	106	183	163	214	179	165	315	98	83	58	50	67
12.....	102	173	159	200	134	146	300	96	81	58	53	66
13.....	91	168	156	183	119	130	305	90	79	59	49	64
14.....	102	154	168	190	117	117	305	92	79	59	49	64
15.....	103	154	168	173	116	119	350	94	76	57	52	68
16.....	106	148	159	226	114	116	277	90	71	56	56	69
17.....	104	139	166	226	117	121	268	84	71	58	56	68
18.....	98	139	172	222	119	156	259	81	68	61	56	68
19.....	96	141	178	226	116	139	277	79	63	59	55	76
20.....	92	141	184	214	121	134	277	80	57	62	59	72
21.....	91	141	190	218	116	132	264	84	63	65	64	74
22.....	94	141	176	230	119	130	239	85	67	59	65	75
23.....	97	139	159	230	110	146	242	86	65	61	63	74
24.....	98	146	170	242	97	286	264	85	60	62	64	69
25.....	97	159	193	238	100	356	235	87	57	56	65	72
26.....	97	162	210	242	108	460	222	94	58	56	60	71
27.....	100	151	208	246	110	1,100	209	96	60	56	61	63
28.....	102	141	210	232	112	505	196	90	60	56	61	63
29.....	106	143	242	277	112	421	183	87	57	55	59	58
30.....	108	162	264	246	.....	457	170	91	61	52	57	57
31.....	123	.....	226	238	.....	463	.....	87	.....	53	59	.....

Monthly discharge of Santa Ana River near Prado, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	123	91	100	6,150
November.....	200	127	150	8,930
December.....	268	156	186	11,400
January.....	282	162	219	13,500
February.....	242	97	153	8,800
March.....	1,100	114	239	14,700
April.....	680	170	333	19,800
May.....	157	79	99.6	6,120
June.....	84	57	71.6	4,260
July.....	79	52	61.1	3,760
August.....	65	49	55.7	3,420
September.....	76	57	66.4	3,960
The year.....	1,100	49	144	105,000

SANTA ANA RIVER AT HEADING OF ANAHEIM UNION AND SANTA ANA CANALS NEAR PRADO, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 35, T. 3 S., R. 8 W., at division box of Anaheim Union and Santa Ana Canals, three-fourths of a mile below the gaging station near Prado, $3\frac{3}{4}$ miles southwest of Prado, Riverside County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 9 to November 8, 1924, when station was discontinued.

GAGE.—Water-stage recorder in wooden well and shelter on left side of division box 40 feet above the weirs.

DISCHARGE MEASUREMENTS.—Made by wading just below gage.

CHANNEL AND CONTROL.—Division box of redwood planks is built in bed of Santa Ana River. It is 80 feet long, 20 feet wide, and 2.8 feet high. Weirs at lower end are each 10 feet long, 2 inches wide, beveled on lower side, and with suppressed contractions. Shifting sand is always present in the division box.

DIVERSIONS.—Anaheim Union and Santa Ana Canals divert the entire flow at lower end of division box. For other diversions see Santa Ana River near Prado, page 32.

REGULATION.—See Santa Ana River near Prado, page 32.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Santa Ana River at heading of Anaheim Union and Santa Ana Canals near Prado, Calif., during the period July 9 to November 8, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
June 9.....		77	July 25.....	0.81	55	Sept. 20.....	0.92	62
June 13.....		70	Aug. 1.....	.77	49	Oct. 10.....		82
June 25.....		54	Aug. 8.....	.74	45	Oct. 17.....	1.09	80
July 8.....		65	Aug. 15.....	.76	49	Oct. 28.....	1.18	101
July 9.....	0.85	56	Aug. 21.....	.90	66	Nov. 10.....	1.26	103
July 12.....	.70	42	Aug. 29.....	.86	56			
July 17.....	.83	58	Sept. 6.....	.88	60			

Daily discharge, in second-feet, of Santa Ana River at heading of Anaheim Union and Santa Ana Canals near Prado, Calif., for the period July 9 to November 8, 1924

Day	July	Aug.	Sept.	Oct.	Nov.	Day	July	Aug.	Sept.	Oct.	Nov.
1.....		49	52	60	91	16.....	51	52	58	79	
2.....		52	56	65	90	17.....	51	54	61	82	
3.....		53	55	64	98	18.....	52	55	61	84	
4.....		54	52	66	104	19.....	54	55	66	84	
5.....		52	54	68	100	20.....	55	56	67	90	
6.....		51	54	75	104	21.....	59	60	64	91	
7.....		50	56	82	102	22.....	54	64	65	88	
8.....		48	60	81	90	23.....	55	63	66	88	
9.....	48	49	60	80		24.....	55	61	68	88	
10.....	47	47	59	80		25.....	50	61	71	90	
11.....	45	48	55	78		26.....	50	56	71	90	
12.....	45	50	54	76		27.....	49	59	65	92	
13.....	48	47	55	76		28.....	50	55	63	93	
14.....	49	47	58	76		29.....	51	56	61	94	
15.....	50	52	58	76		30.....	50	53	59	97	
						31.....	52	53		92	

Monthly discharge of Santa Ana River at heading of Anaheim Union and Santa Ana Canals near Prado, Calif., for the period July 9 to November 8, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
July 9-31.....	59	45	50.9	2,320
August.....	64	47	53.6	3,300
September.....	71	52	60.1	3,580
October.....	97	60	81.8	5,030
November 1-8.....	104	90	97.4	1,550
The period.....				15,780

LOWER SANTA ANA RIVER

For comparative purposes, discharge measurements were made on the same day during the irrigating season at various points in the lower Santa Ana River basin. Measurements were also made at some of these points during the irrigating season, 1916 to 1923. Results of the measurements for the season of 1924 are given in the table following.

Discharge measurements, in second-feet, of lower Santa Ana River for the year ending September 30, 1924

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SURFACE WATER SUPPLY, 1924, PART XI

Date	Location													
	Rubidoux Bridge near Riverside *		Los Angeles & Salt Lake Railroad bridge near Arlington (Riverside Narrows)		Hamner Avenue Bridge near Corona		Auburndale Bridge near Corona †		Atchison, Topeka & Santa Fe Railway bridge near Prado		Riverside-Orange County line (Prado gaging station)		Just above intake of Anaheim Union and Santa Ana Canals	
	Time	Discharge	Time	Discharge	Time	Discharge	Time	Discharge	Time	Discharge	Time	Discharge	Time	Discharge
Oct. 4			10.00 a. m.	50	11.20 a. m.	44			1.10 p. m.	85	1.50 p. m.	99		
Oct. 19			9.10 a. m.	58	10.25 a. m.	52			Noon	95	12.50 p. m.	96		
Oct. 30			9.40 a. m.	42	10.55 a. m.	55			12.40 p. m.	97	1.55 p. m.	108		
Dec. 5			9.25 a. m.	110	10.40 a. m.	101					1.30 p. m.	153		
June 9			9.05 a. m.	57	11.10 a. m.	58			12.50 p. m.	83	1.25 p. m.	84		
June 25	9.45 a. m.	9.8	10.25 a. m.	42	11.45 a. m.	40	12.50 p. m.	55	2.10 p. m.	55	3.10 p. m.	56		
July 8	3.00 p. m.	7.2	2.05 p. m.	46	12.55 p. m.	30	12.10 p. m.	58	9.05 a. m.	78	9.35 a. m.	76		
July 17	3.50 p. m.	6.8	9.40 a. m.	33	10.55 a. m.	31	11.50 a. m.	49	12.50 p. m.	60	2.00 p. m.	58	1.25 p. m.	58
July 25	2.40 p. m.	6.0	1.50 p. m.	36			11.50 a. m.	54	9.00 a. m.	68	9.35 a. m.	67	10.30 a. m.	55
Aug. 1	3.40 p. m.	6.5	9.45 a. m.	45			10.50 a. m.	55	12.20 p. m.	50	1.00 p. m.	54	1.40 p. m.	49
Aug. 8	4.15 p. m.	5.5	9.00 a. m.	37	11.30 a. m.	29			12.55 p. m.	51	1.35 p. m.	50	2.30 p. m.	45
Aug. 15	4.55 p. m.	6.5	10.40 a. m.	42	12.50 p. m.	37			1.40 p. m.	59	2.20 p. m.	52	3.05 p. m.	48
Aug. 21	3.45 p. m.	8.2	9.40 a. m.	44	11.20 a. m.	40			12.30 p. m.	64	1.50 p. m.	65	1.10 p. m.	56
Aug. 29	3.20 p. m.	7.5	9.15 a. m.	44	10.30 a. m.	35			Noon	63	1.40 p. m.	60	12.40 p. m.	50
Sept. 6	12.15 p. m.	7.9	11.10 a. m.	45	7.20 a. m.	37			8.10 a. m.	73	8.40 a. m.	70	9.25 a. m.	59
Sept. 20			10.15 a. m.	40					12.10 p. m.	68	12.40 p. m.	72	1.30 p. m.	52
Sept. 30	8.15 a. m.	10	8.50 a. m.	41	10.00 a. m.	42			11.05 a. m.	67	11.40 a. m.	58		

* Includes Spring Brook.

† Includes Durkey ditch.

NOTE.—See also daily discharge tables of Warm Creek near Colton and Meeks & Daley Canal near Colton and list of miscellaneous measurements for Spring Brook at Riverside and Durkey ditch at Auburndale Bridge.

SANTA ANA RIVER AT SANTA ANA, CALIF.

LOCATION.—At Fifth Street Bridge, Santa Ana, Orange County, 2 miles below junction with Santiago Creek and about 10 miles above mouth.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 8, 1923, to September 30, 1924.

GAGE.—Water-stage recorder at the east pier of bridge.

DISCHARGE MEASUREMENTS.—Made from cable under the bridge or by wading.

CHANNEL AND CONTROL.—Shifting sand.

EXTREMES OF DISCHARGE.—Maximum stage during the year, from water-stage recorder, 0.84 foot at 5 a. m. April 7 (discharge, about 200 second-feet); no flow during several months.

DIVERSIONS.—The ordinary flow of the river is diverted above for irrigation and the flow past the station is either return water or waste water.

REGULATION.—See paragraph above.

ACCURACY.—Stage-discharge relation not permanent. Rating curves fairly well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table, except November 27, 29, 30, December 1-3, 24-30, January 31, February 1, and May 2-9, for which it was estimated. Records fair.

Discharge measurements of Santa Ana River at Santa Ana, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 11.....	0.42	11	Feb. 6.....	0.34	3.7	Apr. 14.....	.....	0.5
Jan. 17.....	.46	13	Mar. 28.....	.28	21	Apr. 22.....	.....	4.2
Jan. 23.....	.38	8.1	Apr. 3.....	.24	6.6	Apr. 25.....	0.26	4.3
Jan. 30.....	.28	4.6	Apr. 7.....	.60	74	Apr. 30.....	.27	4.5

Daily discharge, in second-feet, of Santa Ana River at Santa Ana, Calif., for the year ending September 30, 1924

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1.....		8	0.3	6	.....	.....	3.6
2.....		6	.....	7.5	.....	2.8	3.2
3.....		4	32	8.5	.....	4.2	2.8
4.....		2.5	83	8.5	0.5	3.2	2.4
5.....		2.2	65	3.9	.3	2.8	2
6.....		4.2	7	5	.2	.5	1.6
7.....		.5	3.6	3.9	.....	43	1.2
8.....		.....	7.5	.7	.....	10	.8
9.....		.....	4.2	9.5	4.2	2.5	.4
10.....		.....	21	1.9	1.5	1.5	.....
11.....		.....	13	5.5	.1	1	.....
12.....		.....	10	.9	.....	.7	.....
13.....		1.6	1.2	.....	.....	.6	.....
14.....		4.2	2.5	.....	.....	.5	.....
15.....		6	5	.....	.....	.2	.....
16.....		26	13	.....	.....	.....	.....
17.....		8.5	8.5	.....	.....	.....	.....
18.....		1.2	10	.....	.....	.....	.....
19.....		1.2	6	.....	.....	.1	.....
20.....		2.5	7	.....	.....	3.9	.....
21.....		2.5	10	.....	.....	1.9	.....
22.....		.4	11	.....	.....	.8	.....
23.....		11	9.5	.....	.....	3.6	.....
24.....		9	3.6	.....	.....	3.9	.....
25.....		7	1.2	.....	.....	3.9	.....
26.....	16	5	11	.....	.....	3.6	.....
27.....	16	3	6	.....	25	3.6	.....
28.....	16	.....	25	.....	46	1.5	.....
29.....	14	.....	26	.....	.....	4.2	.....
30.....	11	.....	3.9	.....	.....	4.2	.....
31.....	.....	.4	5	.....	.....	.....	.....

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Santa Ana River at Santa Ana, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November.....	16	0	2.43	145
December.....	26	0	3.80	234
January.....	83	0	13.3	818
February.....	9.5	0	2.13	123
March.....	46	0	2.51	154
April.....	43	0	3.62	215
May.....	3.6	0	.58	35.7
The year.....	83	0	2.37	1,720

NOTE.—No flow during months for which no record is given.

SOUTHERN CALIFORNIA EDISON CO.'S CANAL AND GREENSPOT PIPE LINE NEAR MENTONE, CALIF.

LOCATION.—At Southern California Edison Co.'s Mentone power plant at mouth of canyon, $2\frac{3}{4}$ miles below intake on Santa Ana River and 3 miles northeast of Mentone, San Bernardino County.

RECORDS AVAILABLE.—1896 to September 30, 1924.

DISCHARGE.—Canal discharge computed from records showing kilowatt output of power plant. Pipe-line discharge computed from weir record at fore bay.

EXTREMES OF DISCHARGE.—1896–1924: Maximum mean daily discharge of canal, 97 second-feet March 16, 1905; no flow during short periods nearly every year.

DIVERSIONS.—Water diverted from the fore bay of power plant by the Greenspot pipe line must be added to give total flow of canal above fore bay. From 1903 to 1911 pipe line diverted from canal above fore bay but no discharge was reported. The present pipe line was put in operation September 7, 1911.

ACCURACY.—The record for power canal is computed on the assumption that 1 second-foot develops 18.9 kilowatts. The weir record for the pipe line is considered good.

COOPERATION.—Record furnished by Southern California Edison Co. through H. W. Dennis, chief civil engineer.

The intake of this canal is at Southern California Edison Co.'s power plant No. 2, $2\frac{3}{4}$ miles above the Mentone plant. All the water, except that taken by the Greenspot pipe line, is first used for development of power. After it leaves the Mentone power house it is carried across Santa Ana River in a flume and discharged into a lined canal from which it is distributed for irrigation. Before it enters the irrigation canal it has passed through three power plants.

Daily discharge, in second-feet, of Southern California Edison Co.'s canal near Mentone, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	80	75	72	53	35	32	80	75	72	72	77	80
2.....	77	59	53	43	32	37	80	75	69	77	75	80
3.....	75	57	45	40	32	43	80	75	67	69	75	80
4.....	75	72	43	43	35	40	77	75	64	67	75	80
5.....	75	72	40	40	32	43	83	69	67	72	75	80
6.....	75	72	40	43	29	40	83	69	69	69	77	75
7.....	75	69	37	37	29	40	83	67	72	72	77	80
8.....	58	67	35	37	32	40	83	69	72	72	77	80
9.....	77	67	32	35	35	37	83	72	72	75	77	80
10.....	77	48	27	32	37	37	83	69	67	75	80	80
11.....	69	48	32	35	35	35	85	75	75	75	80	77
12.....	67	48	32	35	35	35	85	75	72	75	80	80
13.....	67	48	35	32	32	35	85	75	75	75	80	80
14.....	69	35	35	37	35	35	85	75	75	75	80	80
15.....	69	35	37	35	32	37	85	72	75	75	80	80

Daily discharge, in second-feet, of Southern California Edison Co.'s canal near Mentone, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	64	32	43	32	32	40	85	72	75	75	80	80
17.....	77	32	43	35	35	37	83	72	75	75	80	77
18.....	77	45	48	35	32	43	83	72	72	75	80	77
19.....	77	48	51	32	35	43	83	72	72	77	80	77
20.....	75	53	45	32	35	43	85	72	69	75	80	80
21.....	77	53	40	32	32	48	85	67	67	75	77	75
22.....	77	53	37	29	32	35	83	72	72	75	77	75
23.....	77	53	35	29	32	40	83	72	72	75	77	75
24.....	75	56	43	32	35	67	80	75	72	75	80	77
25.....	72	59	45	29	35	59	77	75	72	75	80	77
26.....	69	59	43	32	35	53	72	77	72	77	80	77
27.....	69	56	51	35	32	69	72	75	72	77	80	77
28.....	67	59	45	35	32	20	72	72	72	77	80	80
29.....	69	56	37	35	32	20	72	79	72	75	80	80
30.....	75	56	51	35	-----	20	75	69	72	75	80	77
31.....	77	-----	53	35	-----	80	-----	72	-----	75	80	-----

Monthly discharge of Southern California Edison Co.'s canal near Mentone, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	80	58	72.9	4,480
November.....	75	32	54.7	3,250
December.....	72	27	42.1	2,590
January.....	53	29	35.5	2,180
February.....	37	29	33.2	1,910
March.....	80	20	41.4	2,550
April.....	85	72	81.0	4,820
May.....	79	67	72.6	4,460
June.....	75	64	71.4	4,250
July.....	77	67	74.3	4,570
August.....	80	75	78.6	4,830
September.....	80	75	78.4	4,670
The year.....	86	20	61.4	44,600

Daily discharge, in second-feet, of Greenspot pipe line near Mentone, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	6	5	8	2	3	3	5	5	7.5	8	7.5	9
2.....	9	5	2	2	3	3	5	5	7.5	8	7.5	9
3.....	9	5	2	2	3	3	5	5	7.5	8	7.5	9
4.....	9	5	2	2	3	3	5	5	7.5	8	9	9
5.....	9	5	2	2	3	3	5	5	7.5	8	9	9
6.....	9	5	2	2	3	3	5	5	7.5	7.8	9	9
7.....	9	7	2	2	3	3	5	5	7.5	7.8	9	9
8.....	6	7	2	2	4	3	5	5	7.5	7.8	9	9
9.....	6	7	2	2	4	3	5	5	7.5	7.8	9	9
10.....	6	7	2	2	4	3	5	5	7.5	7.8	9	9
11.....	6	7	2	2	4	3	5	5	7.5	7.8	9	9
12.....	6	7	2	2	4	3	5	5	7.5	7.8	9	9
13.....	6	7	2	2	4	3	5	5	7.5	7.8	9	9
14.....	8	7	2	2	4	3	5	5	7.5	7.8	9	9
15.....	8	7	2	2	4	1.6	5	5	7.6	7.8	9	9
16.....	8	7	2	2	4	1.6	5	5	7.5	7.8	9	9
17.....	5	7	2	2	4	1.6	5	5	7.5	7.8	9	9
18.....	5	3	2	2	4	1.6	5	5	7.5	7.5	9	9
19.....	6	3	2	2	4	1.6	5	5	7.5	7.5	9	9
20.....	6	3	2	2	3	1.6	5	5	7.5	7.5	9	9
21.....	6	3	2	2	3	1.6	5	5	7.5	7.5	9	9
22.....	6	3	2	2	3	1.6	5	5	8	7.5	9	9
23.....	6	3	2	7	3	1.6	5	5	8	7.5	9	9
24.....	6	3	2	7	3	1.6	5	5	8	7.5	9	9
25.....	7	3	2	7	3	5	5	5	8	7.5	9	9
26.....	7	3	2	7	3	5	5	5	8	7.5	9	8
27.....	7	3	2	3	3	5	5	7.5	8	7.5	9	8
28.....	6	3	2	3	3	5	5	7.5	8	7.5	9	8
29.....	6	3	2	3	3	5	5	7.5	8	7.5	9	8
30.....	6	8	2	3	-----	5	5	7.5	8	7.5	9	8
31.....	5	-----	2	3	-----	5	-----	7.5	-----	7.5	9	-----

Monthly discharge of Greenspot pipe line near Mentone, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	9	5	6.8	418
November.....	8	3	5.0	298
December.....	8	2	2.2	135
January.....	7	2	2.8	172
February.....	4	3	3.4	196
March.....	5	1.6	3.0	184
April.....	5	5	5.0	298
May.....	7.5	5	5.40	332
June.....	8	7.5	7.65	455
July.....	8	7.5	7.70	473
August.....	9	7.5	8.85	544
September.....	9	8	8.8	524
The year.....	9	1.6	5.55	4,080

MILL CREEK NEAR CRAFTONVILLE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 13, T. 1 S., R. 2 W., at mouth of canyon, on Redlands-Bear Valley highway, $5\frac{1}{4}$ miles northeast of Craftonville, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 21, 1919, to September 30, 1924.

GAGE.—Water-stage recorder on left bank just above Southern California Edison Co.'s concrete diversion dam. Datum lowered 1 foot November 21, 1922.

DISCHARGE MEASUREMENTS.—Made from highway bridge 75 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel and boulders; shifts during high stages; control is concrete diversion dam but is not very satisfactory on account of the gravel which collects at the dam.

EXTREMES OF DISCHARGE.—Maximum discharge during year, estimated by observer, about 60 second-feet April 6; all water diverted into Mill Creek power canal No. 1 October 1 to March 25, March 28 to April 5, April 7–12, and May 8 to September 30.

1919–1924: Maximum stage recorded, 4.80 feet December 20, 1921 (discharge, about 896 second-feet); all water diverted into Mill Creek power canal No. 1 at various times.

DIVERSIONS.—Mill Creek power canal No. 1 heads at the diversion dam at the station. Power canal No. 2 heads about 3 miles farther up the canyon and canal No. 3 about 3 miles above the headworks of canal No. 2. Canals Nos. 2 and 3 lead to power plants Nos. 2 and 3 which are located in a combined power house near the intake of canal No. 1. The tailrace of the combined power house discharges into canal No. 1 and the water is used in power plant No. 1. Water is diverted from Mill Creek by canal No. 1 only when the water discharged from the combined power house is insufficient to operate power plant No. 1 to capacity.

ACCURACY.—Stage-discharge relation not determined during year. Daily discharge estimated by observer March 26 to April 20 and interpolated between discharge measurement made April 21 and flow in canal on May 8 as water was wasted back to creek from No. 1 canal. Combined daily discharge of creek and canals is the sum of flow in creek, power canals Nos. 2 and 3, and canal No. 1. Records poor.

COOPERATION.—Water-stage recorder attended by employee of Southern California Edison Co.

The following discharge measurement was made:

April 21, 1924: Gage height, 0.92 foot; discharge, 10 second-feet.

Daily discharge, in second-feet, of Mill Creek near Craftonville, Calif., for the year ending September 30, 1924

Day	Mar.	Apr.	May	Day	Mar.	Apr.	May	Day	Mar.	Apr.	May
1.....			10	11.....				21.....			10
2.....			10	12.....				22.....			10
3.....			10	13.....		18		23.....			10
4.....			10	14.....		24		24.....			10
5.....			10	15.....		40		25.....			10
6.....		60	10	16.....		20		26.....	14	10	
7.....			10	17.....		10		27.....	30	10	
8.....				18.....		10		28.....		10	
9.....				19.....		6		29.....		10	
10.....				20.....		6		30.....		10	

NOTE.—Entire flow of creek diverted into Mill Creek power canal No. 1 on days for which no discharge is given.

Monthly discharge of Mill Creek near Craftonville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March.....	30	0	1.42	87.3
April.....	60	0	9.80	583
May.....	10	0	2.26	139
The year.....	60	0	1.11	809

NOTE.—Flow diverted into power canal No. 1 during months for which no discharge is given.

Daily discharge, in second-feet, of Mill Creek and power canals Nos. 1, 2, and 3, near Craftonville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	26	25	24	26	21	21	30	41	32	21	16.6	13.3
2.....	26	24	22	25	21	22	30	41	31	22	16.2	12.7
3.....	25	23	22	24	21	21	28	41	29	22	16.0	13.6
4.....	25	24	22	24	21	21	27	41	37	20	16.0	14.8
5.....	25	23	22	25	21	21	30	41	37	19.4	16.2	18.0
6.....	25	22	21	24	21	20	86	42	36	19.5	15.7	15.6
7.....	24	22	22	24	21	21	37	41	38	19.9	15.3	15.2
8.....	28	24	21	24	21	19.8	32	42	32	19.5	14.9	15.0
9.....	26	26	22	23	21	19.8	30	44	31	19.5	15.1	14.9
10.....	26	24	20	22	21	19.8	41	39	33	19.4	15.5	14.9
11.....	24	24	18.4	22	21	19.7	35	40	30	19.8	15.2	14.7
12.....	26	23	20	22	21	19.5	37	40	26	18.9	15.1	14.9
13.....	26	23	18.2	24	21	19.4	52	40	26	18.7	14.6	14.5
14.....	25	24	22	22	20	19.4	56	37	26	19.6	14.8	14.2
15.....	25	22	21	22	21	18.4	67	36	25	19.4	14.5	14.0
16.....	25	23	22	22	21	16.8	61	37	23	18.2	15.0	13.9
17.....	25	24	20	22	20	18.3	53	36	24	18.3	15.3	14.2
18.....	25	21	21	22	21	17.8	47	37	24	18.0	14.2	14.9
19.....	22	22	24	22	20	19.1	38	38	24	18.9	14.4	14.7
20.....	23	23	23	22	20	21	44	36	23	18.4	15.3	15.5
21.....	22	22	21	22	21	22	38	37	23	18.2	15.5	14.5
22.....	22	22	20	21	20	20	40	37	23	18.2	14.5	13.8
23.....	23	22	22	22	20	24	40	37	23	17.9	14.6	14.1
24.....	23	21	22	22	19.6	25	40	36	23	16.8	13.8	13.5
25.....	22	22	22	21	20	24	40	36	22	17.4	14.0	14.3
26.....	22	20	22	21	20	38	40	36	22	15.5	13.4	13.7
27.....	23	20	25	22	20	51	40	36	22	16.9	13.2	14.1
28.....	22	21	24	22	20	30	40	35	21	16.5	13.9	14.1
29.....	22	22	25	21	20	29	41	36	20	16.7	13.8	14.3
30.....	22	22	28	21	-----	28	41	34	21	16.7	13.1	14.0
31.....	24	-----	25	21	-----	30	-----	34	-----	16.6	13.7	-----

Monthly discharge of Mill Creek and power canals Nos. 1, 2, and 3, near Craftonville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	28	22	24.2	1,490
November.....	26	20	22.7	1,350
December.....	28	18.2	22.1	1,360
January.....	26	21	22.5	1,380
February.....	21	19.6	20.6	1,180
March.....	51	16.8	23.1	1,420
April.....	86	27	42.0	2,500
May.....	44	34	38.2	2,350
June.....	38	20	26.9	1,600
July.....	22	15.5	18.6	1,140
August.....	16.6	13.1	14.8	910
September.....	18.0	12.7	14.5	863
The year.....	86	12.7	24.2	17,600

MILL CREEK POWER CANAL NO. 3 AT INTAKE, NEAR FOREST HOME, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 12, T. 1 S., R. 1 W., at sand box 200 feet below diversion dam on Mill Creek, half a mile west of Forest Home, San Bernardino County.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter in the sand box just above the outlet weir.

DISCHARGE MEASUREMENTS.—Made from a plank across a rectangular concrete canal leading to the sand box.

CHANNEL AND CONTROL.—Sand box is 100 feet long and 50 feet wide. Control is a sharp-crested weir 10.85 feet long without end contractions. Crest of weir at gage height 0.00 foot.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, more than 25 second-feet, April 6 to May 30; minimum mean daily discharge, 9.6 second-feet September 2, 3, 24, and 27–30.

ACCURACY.—Stage-discharge relation permanent only at times when there is a free fall over the weir. Rating curve well defined. Water-stage recorder record excellent except October 14–20, November 4–10, December 15, December 30 to January 4, February 3–4, April 6 to May 30, June 8–20, July 6–7, and August 12–15. Daily discharge ascertained by applying mean daily gage height to rating table; except April 6 to May 30, when water was wasted over top of sand box, and discharge was not computed. Discharge interpolated for periods of no gage-height record. The record shows the flow of the canal only on those days when the entire flow of Mill Creek was all diverted. Records good.

Discharge measurements of Mill Creek power canal No. 3 at intake, near Forest Home, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 31.....	0.51	15.0	May 23.....	1.34	25	Aug. 4.....	0.43	11.2
Dec. 7.....	.49	14.9	June 5.....	.67	22	Aug. 17.....	.41	10.3
Dec. 18.....	.46	12.5	June 23.....	.56	15.8	Aug. 30.....	.40	10.3
Feb. 5.....	.44	12.9	July 7.....	.50	14.2	Sept. 11.....	.42	10.6
Apr. 14.....	1.08	25	July 21.....	.46	12.1	Sept. 25.....	.39	9.6

Daily discharge, in second-feet, of Mill Creek power canal No. 3 at intake, near Forest Home, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	15.8	15.8	15.3	15.8	12.1	11.7	17.2		25	16.3	13.0	10.1
2.....	15.8	15.8	14.3	15.3	11.7	11.3	18.2		24	16.3	12.6	9.6
3.....	15.8	15.3	14.3	15.3	11.7	11.7	18.2		24	16.3	11.7	9.6
4.....	15.8	15.3	13.9	14.8	11.7	11.7	18.2		24	15.8	11.7	11.7
5.....	15.8	15.3	13.0	14.8	11.7	11.7	18.2		24	15.8	12.1	12.1
6.....	15.3	15.3	13.0	14.8	11.7	11.7			23	15.8	11.7	11.3
7.....	18.2	15.8	13.9	14.8	11.7	11.7			23	15.3	11.7	10.9
8.....	17.2	15.8	13.9	14.3	11.7	12.1			23	15.3	11.7	10.9
9.....	16.8	15.8	12.6	13.9	12.1	11.7			22	14.8	12.1	10.4
10.....	16.3	15.3	13.0	13.5	12.1	11.7			22	14.8	13.0	10.4
11.....	15.8	15.8	13.5	13.5	12.6	11.3			22	14.8	13.0	10.9
12.....	15.3	14.8	13.0	13.5	12.1	11.3			22	14.8	12.6	10.9
13.....	15.8	14.3	13.5	13.9	12.1	11.3			22	14.8	12.1	10.9
14.....	15.8	14.3	13.9	14.3	11.3	11.3			21	14.8	11.7	10.1
15.....	15.8	14.3	13.5	13.9	11.3	11.7			20	14.8	11.3	10.1
16.....	15.8	15.3	13.0	14.3	11.7	11.7			20	14.3	10.9	10.1
17.....	15.8	15.3	13.0	13.5	11.7	12.1			20	14.3	10.4	10.4
18.....	15.3	14.3	13.0	13.5	11.7	12.1			19.6	14.3	10.4	10.9
19.....	15.3	14.3	13.5	14.3	11.7	12.1			19.6	14.3	11.3	10.9
20.....	15.3	14.3	13.5	13.0	11.7	12.6			19.2	13.9	11.3	10.1
21.....	15.3	14.3	13.5	13.0	11.7	12.6			18.7	13.0	10.9	10.4
22.....	15.3	13.9	13.5	13.5	11.7	12.6			18.7	13.5	10.9	10.4
23.....	15.3	13.5	13.5	13.0	11.7	12.6			18.2	13.0	10.9	10.1
24.....	15.3	13.5	13.9	13.0	11.7	12.6			17.7	13.0	10.9	9.6
25.....	14.3	13.5	14.3	12.6	11.7	12.6			17.2	13.0	10.4	10.1
26.....	14.3	13.5	15.3	12.6	11.7	13.9			16.8	13.5	10.4	10.1
27.....	15.3	13.5	16.8	12.1	11.7	12.6			16.3	13.0	10.4	9.6
28.....	15.3	13.9	14.8	12.1	11.7	10.9			16.3	13.0	10.4	9.6
29.....	14.8	13.5	16.3	12.1	11.7	13.0			16.3	12.6	10.4	9.6
30.....	14.8	14.3	16.3	11.7		14.3			15.8	13.0	10.1	9.6
31.....	15.8		15.8	11.7		16.3		24		12.6	10.1	

Monthly discharge of Mill Creek power canal No. 3 at intake, near Forest Home, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	18.2	14.3	15.6	959
November.....	15.8	13.5	14.7	875
December.....	16.8	12.6	14.0	861
January.....	15.8	11.7	13.6	836
February.....	12.6	11.3	11.8	679
March.....	16.3	11.3	12.2	750
June.....	25	15.8	20.4	1,210
July.....	16.3	12.6	14.3	879
August.....	13.0	10.1	11.4	701
September.....	12.1	9.6	10.4	619

MILL CREEK POWER CANALS NOS. 2 AND 3 NEAR CRAFTONVILLE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 13, T. 1 S., R. 2 W., at Southern California Edison Co.'s power plant near Redlands-Bear Valley highway, 5 miles northeast of Craftonville, San Bernardino County.

RECORDS AVAILABLE.—January 1, 1919, to September 30, 1924.

DISCHARGE.—Computed from weir records in common tailrace of power plants.

EXTREMES OF DISCHARGE.—1919-1924: Maximum mean daily discharge recorded, 36 second-feet November 19, 1922, and June 7, 1924; no flow May 27, 1923.

ACCURACY.—Records good.

COOPERATION.—Records furnished by Southern California Edison Co.

Mill Creek power canal No. 2 diverts from Mill Creek in sec. 8, T. 1 S., R. 1 W. The headworks of canal No. 3 are in sec. 13, T. 1 S., R. 1 W., about 3 miles above the intake for canal No. 2. The canals serve power plants Nos. 2 and 3 which discharge into a common tailrace. The water then passes into Mill Creek power canal No. 1 and is used again at power plant No. 1.

Daily discharge, in second-feet, of Mill Creek power canals Nos. 2 and 3 near Craftonville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	23	21	21	23	18.8	18.8	24	31	30	19.6	15.2	12.0
2.....	23	22	20	22	18.8	18.8	23	31	29	20	14.8	11.4
3.....	22	21	19.6	21	18.8	19.1	22	31	27	19.8	14.6	12.3
4.....	22	22	20	22	18.8	18.8	21	31	35	18.6	14.6	13.4
5.....	22	21	20	22	18.8	18.8	21	31	35	18.0	14.8	16.7
6.....	22	20	18.6	21	18.8	18.3	26	32	34	18.0	14.3	14.3
7.....	21	20	19.8	21	18.6	18.6	24	31	36	18.4	14.0	13.9
8.....	24	22	19.3	21	18.7	17.7	22	32	30	18.0	13.6	13.7
9.....	24	23	19.1	21	18.8	17.7	22	35	29	18.0	13.8	13.6
10.....	24	21	17.2	20	18.8	17.6	32	32	31	18.0	14.2	13.6
11.....	22	22	15.9	20	18.6	17.6	27	33	28	18.4	13.9	13.4
12.....	23	21	18.0	20	18.6	17.4	29	33	24	17.5	13.8	13.6
13.....	23	21	15.9	21	18.6	17.3	31	34	24	17.3	13.4	13.2
14.....	23	22	20	20	18.4	17.2	32	31	24	18.2	13.5	13.2
15.....	23	19.6	19.1	19.9	18.7	16.2	27	31	23	18.0	13.2	13.0
16.....	23	19.6	19.6	20	18.6	14.7	32	32	21	16.8	13.7	12.9
17.....	23	22	18.4	19.8	18.5	16.0	32	32	22	16.9	13.9	13.2
18.....	23	18.8	18.9	19.8	18.6	15.7	28	32	22	16.6	12.8	13.7
19.....	20	19.6	20	19.8	18.6	17.0	27	34	22	17.4	13.0	13.4
20.....	21	21	19.4	19.7	18.5	18.2	28	31	21	16.9	13.8	14.2
21.....	20	20	17.8	20	18.5	19.4	28	32	21	16.7	14.0	13.2
22.....	20	20	18.0	18.5	18.3	17.8	30	32	21	16.8	13.0	12.6
23.....	21	20	20	19.4	18.3	20	30	32	21	16.5	13.1	12.9
24.....	21	19.2	20	19.6	17.4	18.2	30	31	21	15.4	12.6	12.3
25.....	20	20	20	19.1	18.3	19.2	30	32	20	18.0	12.8	13.0
26.....	20	18.4	20	19.1	18.2	22	30	32	20	14.2	12.2	12.5
27.....	21	18	22	19.4	18.4	21	30	32	19.9	15.7	11.9	12.8
28.....	20	19.2	22	19.3	18.2	21	30	32	19.6	15.3	12.6	12.8
29.....	20	20	22	19.1	18.3	20	31	33	19.0	15.5	12.6	13.1
30.....	20	19.4	23	18.8	-----	21	31	32	19.2	15.4	11.8	12.8
31.....	21	-----	22	18.6	-----	23	-----	32	-----	15.2	12.4	-----

Monthly discharge of Mill Creek power canals Nos. 2 and 3 near Craftonville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	24	20	21.8	1,340
November.....	23	18.0	20.5	1,220
December.....	23	15.9	19.6	1,210
January.....	23	18.5	20.2	1,240
February.....	18.8	17.4	18.5	1,060
March.....	23	14.7	18.5	1,140
April.....	32	21	27.7	1,650
May.....	35	31	32.0	1,970
June.....	36	19.0	25.0	1,490
July.....	20	14.2	17.2	1,060
August.....	15.2	11.8	13.5	830
September.....	16.7	11.4	13.2	768
The year.....	36	11.4	20.6	15,000

MILL CREEK POWER CANAL NO. 1 NEAR CRAFTONVILLE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 13, T. 1 S., R. 2 W., one-fourth mile below intake on Mill Creek, on Redlands-Bear Valley highway, 5 miles northeast of Craftonville, San Bernardino County.

RECORDS AVAILABLE.—January 21, 1919, to September 30, 1924.

GAGE.—Water-stage recorder just above weir.

DISCHARGE.—Computed from gage-height record showing head over 6-foot, sharp-crested, rectangular weir without end contractions.

ACCURACY.—Stage-discharge relation permanent. Daily discharge ascertained by applying mean daily gage height to weir table. No record October 1, 16–20, 26–28, December 13–17, May 11–12, 25–26, June 1, 8, 22; discharge estimated. Records good.

COOPERATION.—Water-stage recorder attended by electrician of Southern California Edison Co.

Canal diverts water from Mill Creek in NE. $\frac{1}{4}$ sec. 13, T. 1 S., R. 2 W., at gaging station on Mill Creek near Craftonville. Below the weir it receives the discharge from the tailrace of the combined power house of canals Nos. 2 and 3. After going through Mill Creek power house No. 1 the water is distributed for irrigation.

Daily discharge, in second-feet, of Mill Creek power canal No. 1 near Craftonville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.0	3.6	3.0	3.0	2.2	1.9	6.2	-----	2.2	1.7	1.4	1.3
2.....	3.3	1.9	2.3	2.8	2.2	3.0	7.1	-----	2.2	1.7	1.4	1.3
3.....	3.1	1.9	2.2	2.8	2.1	2.3	6.2	-----	2.1	1.7	1.4	1.3
4.....	3.1	2.1	2.1	2.5	2.2	2.2	6.4	-----	2.1	1.5	1.4	1.4
5.....	3.3	2.1	2.1	2.6	2.2	2.2	9.1	-----	2.1	1.4	1.4	1.3
6.....	3.4	1.9	2.1	2.6	2.1	2.2	-----	-----	2.2	1.5	1.4	1.3
7.....	3.4	1.9	2.2	2.5	2.1	2.1	13.0	-----	2.2	1.5	1.3	1.3
8.....	3.8	2.1	2.1	2.5	2.1	2.1	9.8	9.8	2.2	1.5	1.3	1.3
9.....	2.2	2.5	3.4	2.3	2.2	2.1	8.4	9.3	2.3	1.5	1.3	1.3
10.....	2.2	3.3	3.1	2.3	2.1	2.2	8.6	7.1	2.2	1.4	1.3	1.3
11.....	2.3	2.5	2.5	2.5	2.1	2.1	8.1	6.8	2.1	1.4	1.3	1.3
12.....	2.5	2.2	2.3	2.3	2.1	2.1	7.9	6.5	2.1	1.4	1.3	1.3
13.....	2.6	2.1	2.3	2.5	2.1	2.1	2.6	6.2	1.9	1.4	1.2	1.2
14.....	2.2	1.9	2.3	2.5	2.1	2.2	-----	6.2	1.8	1.4	1.3	1.0
15.....	2.1	2.1	2.2	2.3	2.1	2.2	-----	5.4	1.8	1.4	1.3	1.0
16.....	2.1	3.3	2.2	2.2	2.1	2.1	9.3	4.7	1.8	1.4	1.3	1.0
17.....	2.0	2.1	2.1	2.2	1.9	2.3	11.4	4.5	1.7	1.4	1.4	1.0
18.....	2.0	2.1	2.1	2.3	2.1	2.1	9.3	4.7	1.8	1.4	1.4	1.2
19.....	1.9	1.9	4.0	2.2	1.9	2.1	4.7	4.3	1.8	1.5	1.4	1.3
20.....	1.9	2.1	3.6	2.3	1.9	3.0	9.5	4.5	1.8	1.5	1.5	1.3
21.....	1.9	1.9	2.8	2.2	2.1	3.1	-----	5.1	1.9	1.5	1.5	1.3
22.....	1.8	1.9	2.2	2.2	1.9	2.5	-----	5.1	1.8	1.4	1.5	1.2
23.....	1.7	2.2	2.2	2.2	1.9	4.3	-----	5.1	1.7	1.4	1.5	1.2
24.....	1.7	2.1	2.3	2.2	2.2	7.1	-----	4.5	1.8	1.4	1.2	1.2
25.....	1.7	2.1	2.3	2.2	2.2	4.3	-----	4.5	1.8	1.4	1.2	1.3
26.....	1.7	2.1	2.3	2.2	2.1	2.4	-----	4.0	1.8	1.3	1.2	1.2
27.....	1.6	2.3	2.8	2.3	2.1	-----	-----	4.0	1.7	1.2	1.3	1.3
28.....	1.6	2.2	2.5	2.2	2.1	8.8	-----	3.0	1.7	1.2	1.3	1.3
29.....	1.5	2.2	3.3	2.2	2.1	8.6	-----	3.1	1.5	1.2	1.2	1.2
30.....	1.5	2.5	4.5	2.2	-----	7.6	-----	2.5	1.7	1.3	1.3	1.2
31.....	2.6	-----	3.3	2.2	-----	6.6	-----	2.3	-----	1.4	1.3	-----

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Mill Creek power canal No. 1 near Craftonville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	3.8	1.5	2.31	142
November.....	3.6	1.9	2.24	133
December.....	4.5	2.1	2.60	160
January.....	3.0	2.2	2.37	146
February.....	2.2	1.9	2.09	120
March.....	8.8	0	3.22	198
April.....	13.0	0	4.59	273
May.....	9.8	0	3.97	244
June.....	2.3	1.5	1.93	115
July.....	1.7	1.2	1.43	87.9
August.....	1.5	1.2	1.34	82.4
September.....	1.4	1.0	1.24	73.8
The year.....	13.0	0	2.44	1,780

PLUNGE CREEK NEAR EAST HIGHLANDS, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 1, T. 1 S., R. 3 W., at mouth of canyon at crossing of North Fork ditch siphon, 2 miles northeast of East Highlands, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 26, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank 10 feet above siphon.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; shifting. Concrete control built during October, 1923. Right bank high; left bank subject to overflow during extreme floods.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.70 feet about noon March 27 (discharge, 218 second-feet); no flow for several months during year.

1919-1924: Maximum stage, from water-stage recorder, 3.15 feet at 4 a. m. March 14, 1921 (discharge, 1,100 second-feet); no flow for several months during each year.

DIVERSIONS.—The East Highlands Orange Co. controls Plunge Creek water and diverts at several points, from 2 to 5 miles above station. A small quantity of water is diverted about 200 feet above gage, which is wasted back into creek just below control when not needed for irrigation.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed in October when a new control was built. Rating curve well defined below 60 second-feet. Water-stage recorder stopped February 29 to March 23. Daily discharge ascertained by applying mean daily gage height to rating table, except March 24-26, for which shifting-control method was used. Discharge estimated February 29 to March 23. Records good.

Discharge measurements of Plunge Creek near East Highlands, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 30.....	0.17	0.05	Mar. 29.....	0.82	11	Apr. 15.....	0.86	12
Mar. 24.....	.83	6.7	Apr. 1.....	.74	7.0	May 1.....	.48	1.1
Mar. 27.....	1.13	45	Apr. 8.....	.93	16			

Daily discharge, in second-feet, of Plunge Creek near East Highlands, Calif., for the year ending September 30, 1924

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		0.2	7	0.1	0.1	8	1.1	0.1
2		.1	2.8	.1	.1	15	1.0	.1
3			2.1	.1	.1	8	.7	.1
4			1.6	.1	.1	8	.5	
5			.6	.1	.1	13	.4	
6			.5	.1	.1	40	.3	
7			.4	.1	.1	40	.2	
8			.2	.1	.1	21	.1	.1
9	0.2			.1	.1	20	.1	.1
10	.1			.1	.1	22	.1	.1
11					.1	20	.1	.1
12					.1	15	.1	.1
13					.1	14	.1	.1
14					.1	13	.1	
15				.1	.1	13	.1	
16		.1		.1	.1	9.5		
17		.1			.1	8	.1	
18	.1				.1	7	.1	
19	.1	.8			.1	6.5		
20	.1	1.0		.1	.1	5	.1	
21	.1	.4		.1	.1	4.5	.1	
22	.1	.2		.1	.1	3.3	.1	
23	.1	.2		.1	.1	5.5	.1	
24		.2		.1	4.2	7	.1	
25		.2		.1	2.6	6	.1	
26		.2		.1	2.3	4.2	.1	
27		.5			32	3.3	.1	
28		.2		.1	20	2.8	.1	
29		.4		.1	11	2.3	.1	
30		5.5	.1		8.5	1.7	.1	
31		2.6	.1		8.5		.1	

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Plunge Creek near East Highlands, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	0.2	0	0.03	1.8
December	5.5	0	.40	24.6
January	7	0	.50	30.7
February	.1	0	.08	4.6
March	32	.1	2.95	181
April	40	1.7	11.6	690
May	1.1	0	.21	12.9
June	.1	0	.03	1.8
The year	40	0	1.30	947

NOTE.—No flow during months for which no record is given.

WARM CREEK NEAR COLTON, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 21, T. 1 S., R. 4 W., at Colton Avenue highway bridge, $1\frac{1}{4}$ miles east of Colton, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 7, 1920, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank just above highway bridge.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed of sand and gravel; continually shifting; control indefinite.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.15 feet November 9 (discharge, 230 second-feet); minimum discharge, 36 second-feet, September 13.

1920-1924: Maximum stage recorded, 6.58 feet at 1 a. m. December 21, 1921 (discharge, 2,780 second-feet); minimum discharge, that of September 13, 1924.

DIVERSIONS.—Meeks & Daley Canal diverts water half a mile above the gage. See page 63.

REGULATION.—Slightly regulated by diversion into Meeks & Daley Canal.

ACCURACY.—Stage-discharge relation changed continually. Standard rating curves fairly well defined. Water-stage recorder gave satisfactory record except November 7-14 and December 11-14. Daily discharge ascertained by shifting-control method; estimated for days of no gage-height record. Records good.

Discharge measurements of Warm Creek near Colton, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.....	2.69	52	Mar. 1.....	2.87	84	June 25.....	1.84	62
Oct. 11.....	2.71	80	Mar. 8.....	2.70	73	July 2.....	1.77	62
Oct. 20.....	2.84	58	Mar. 15.....	2.75	73	July 11.....	1.66	51
Oct. 30.....	2.90	67	Mar. 22.....	2.71	82	July 17.....	1.56	50
Nov. 15.....	3.05	75	Mar. 28.....	2.80	98	July 19.....	1.55	52
Nov. 24.....	3.02	69	Apr. 3.....	2.82	98	July 25.....	1.47	56
Dec. 1.....	3.46	122	Apr. 9.....	2.82	90	Aug. 2.....	1.38	51
Dec. 15.....	3.09	68	Apr. 19.....	2.69	93	Aug. 9.....	1.28	52
Dec. 22.....	3.11	70	May 6.....	2.43	73	Aug. 16.....	1.20	49
Jan. 5.....	3.22	93	May 12.....	2.34	64	Aug. 23.....	1.19	57
Jan. 15.....	3.17	81	May 19.....	2.27	69	Aug. 29.....	1.07	45
Jan. 26.....	3.03	83	May 24.....	2.22	68	Sept. 5.....	1.03	50
Jan. 31.....	3.01	81	May 31.....	2.11	67	Sept. 13.....	.86	36
Feb. 8.....	2.91	71	June 7.....	1.93	62	Sept. 20.....	.91	51
Feb. 16.....	3.00	86	June 13.....	1.89	60	Sept. 27.....	.76	45
Feb. 23.....	2.94	89						

Daily discharge, in second-feet, of Warm Creek near Colton, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	54	84	101	111	81	83	93	74	66	62	52	47
2.....	52	65	81	106	80	108	126	73	66	62	51	48
3.....	51	68	80	102	78	91	97	74	65	60	51	48
4.....	52	65	79	98	76	86	98	73	64	59	51	49
5.....	52	65	81	94	74	79	94	74	63	57	51	50
6.....	50	66	79	93	73	75	109	72	62	56	51	48
7.....	52	66	79	91	71	74	105	70	62	55	51	46
8.....	57	66	78	89	70	68	91	68	62	54	52	44
9.....	52	110	74	88	90	68	88	66	62	53	52	42
10.....	51	85	79	86	87	75	89	66	62	52	51	40
11.....	51	85	77	85	78	70	90	65	61	51	51	38
12.....	54	80	75	84	80	70	91	64	61	51	51	37
13.....	53	80	73	83	88	67	91	65	60	61	50	36
14.....	54	75	71	82	87	66	91	65	60	51	50	38
15.....	52	75	69	81	85	73	91	66	60	50	49	40
16.....	52	75	69	83	86	78	90	66	60	50	49	42
17.....	52	75	69	82	86	85	91	67	60	50	50	44
18.....	52	77	61	78	91	86	91	68	60	51	51	46
19.....	52	76	83	80	88	76	91	68	60	52	52	48
20.....	57	74	88	81	88	83	88	68	60	53	53	51

Daily discharge, in second-feet, of Warm Creek near Colton, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	59	72	73	83	89	85	84	68	61	54	54	50
22.....	66	71	72	83	88	81	81	68	61	54	55	49
23.....	68	69	78	84	89	92	88	68	61	55	57	48
24.....	68	69	83	82	89	104	88	67	61	56	55	48
25.....	68	69	79	83	89	88	82	65	62	56	53	17
26.....	66	70	87	83	86	123	79	65	62	56	51	46
27.....	66	70	104	84	88	174	79	65	62	55	48	45
28.....	68	70	89	93	90	101	78	66	62	54	47	46
29.....	69	70	96	84	87	95	78	67	62	54	45	46
30.....	65	75	95	82	-----	94	76	67	62	53	46	47
31.....	68	-----	95	81	-----	93	-----	67	-----	52	46	-----

Monthly discharge of Warm Creek near Colton, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	69	50	57.5	3,540
November.....	110	65	73.9	4,400
December.....	104	69	80.9	4,970
January.....	111	78	87.1	5,360
February.....	91	70	83.9	4,830
March.....	174	66	86.8	5,340
April.....	126	76	90.3	5,370
May.....	74	64	67.9	4,180
June.....	66	60	61.7	3,680
July.....	62	50	54.2	3,330
August.....	57	45	50.8	3,120
September.....	51	36	45.1	2,630
The year.....	174	36	70.0	50,800

Combined daily discharge, in second-feet, of Warm Creek and Meeks & Daley Canal near Colton, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	69	88	106	111	88	95	93	87	82	80	69	64
2.....	67	71	88	106	86	112	126	87	82	78	68	66
3.....	66	74	86	105	84	95	97	87	80	78	67	66
4.....	66	71	84	103	82	90	98	86	80	78	70	67
5.....	66	70	86	96	83	83	94	89	80	75	70	67
6.....	64	71	84	93	82	81	109	86	78	74	70	66
7.....	65	73	83	91	80	81	105	84	77	72	70	64
8.....	69	75	83	89	79	75	91	84	77	71	71	61
9.....	64	113	77	90	95	74	88	84	78	70	71	57
10.....	62	85	81	90	91	82	89	85	79	68	70	53
11.....	61	85	78	88	84	77	90	85	78	67	68	54
12.....	63	80	76	87	87	77	91	84	78	67	68	52
13.....	59	80	75	87	95	73	91	84	76	67	67	51
14.....	60	75	77	86	93	73	91	83	77	67	67	56
15.....	62	75	77	83	94	82	91	85	76	66	67	56
16.....	63	75	78	84	97	88	90	85	76	67	67	57
17.....	63	75	78	85	95	92	91	85	76	68	68	59
18.....	63	77	80	86	98	89	91	86	76	68	69	62
19.....	62	81	87	87	96	80	91	86	77	70	69	64
20.....	66	86	93	88	97	83	88	86	78	71	69	68
21.....	68	84	84	90	97	85	90	87	77	71	72	64
22.....	76	84	82	89	93	81	91	85	76	71	74	64
23.....	78	82	86	92	93	92	95	84	76	72	74	63
24.....	74	82	87	90	94	104	88	82	76	72	72	64
25.....	76	82	80	91	96	88	90	81	79	72	69	62
26.....	73	84	88	91	94	123	90	82	79	70	67	60
27.....	80	82	105	90	96	174	90	82	79	72	64	55
28.....	81	80	89	94	96	101	89	82	79	72	64	55
29.....	81	80	96	88	95	95	89	84	79	72	63	54
30.....	74	82	95	89	-----	94	86	84	80	70	64	56
31.....	74	-----	95	87	-----	93	-----	84	-----	69	62	-----

Combined monthly discharge of Warm Creek and Meeks & Daley Canal near Colton, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	81	59	68.2	4, 190
November.....	113	70	80.1	4, 770
December.....	106	75	85.3	5, 240
January.....	111	83	91.2	5, 610
February.....	98	79	91.0	5, 230
March.....	174	73	90.7	5, 580
April.....	126	86	93.1	5, 540
May.....	89	81	84.7	5, 210
June.....	82	76	78.0	4, 640
July.....	80	66	71.1	4, 370
August.....	74	62	68.4	4, 210
September.....	68	51	60.2	3, 580
The year.....	174	51	80.1	58, 200

STRAWBERRY CREEK NEAR ARROWHEAD SPRINGS, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 11, T. 1 N., R. 4 W., at the Del Rosa Water Co.'s diversion dam half a mile south of Arrowhead Springs, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 27, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank 100 feet above diversion dam.

DISCHARGE MEASUREMENTS.—Made from footbridge 200 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of large boulders. Control is of boulders and concrete 15 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from floodmarks, 2.35 feet about 6 a. m. March 27 (discharge, 48 second-feet); minimum stage, from water-stage recorder, 0.12 foot about 6 p. m. August 1-3 (discharge, 0.4 second-foot).

1919-1924: Maximum stage, from water-stage recorder, 3.87 feet at 5 a. m. January 2, 1922 (discharge, 408 second-feet); minimum stage, that of August 1-3, 1924.

DIVERSIONS.—Arrowhead Hotel Co. diverts water through a 3-inch pipe line for domestic use from East Twin Creek 1 mile above gage.

REGULATION.—Slight regulation at low water from diversion of Arrowhead Hotel Co.

ACCURACY.—Stage-discharge relation changed frequently when control and channel above were cleared of sand. Discharge measurements show practically continuous change in stage-discharge relation. Two well defined rating curves. Water-stage recorder record good except October 2-7, 10-18, 28-31, November 1-2, and February 12-13. Daily discharge ascertained by shifting-control method. Discharge for days of no gage-height record was interpolated. Records good.

Discharge measurements of Strawberry Creek near Arrowhead Springs, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 18.....	0.55	1.7	Mar. 27.....	1.88	30	June 24.....	0.67	0.85
Nov. 2.....	.92	2.4	Apr. 2.....	1.13	6.8	June 30.....	.63	.9
Nov. 9.....	1.29	7.4	Apr. 8.....	1.24	8.7	Do.....	.20	.7
Nov. 16.....	1.06	1.9	Apr. 10.....	1.16	7.6	July 14.....	.29	.9
Dec. 15.....	.86	2.0	Apr. 15.....	.86	5.0	July 28.....	.15	.55
Jan. 4.....		2.9	Apr. 22.....	.73	2.9	Aug. 6.....	.12	.34
Jan. 16.....	.90	2.6	Apr. 30.....	.84	3.8	Aug. 20.....	.22	.65
Feb. 4.....	.87	2.2	May 8.....	.77	2.4	Sept. 3.....	.13	.4
Feb. 14.....	.87	2.3	May 16.....	.75	1.9	Sept. 17.....	.17	.47
Mar. 5.....	.92	2.5	May 29.....	.73	1.8			
Mar. 24.....	1.38	9.3	June 10.....	.74	1.7			

Daily discharge, in second-feet, of Strawberry Creek near Arrowhead Springs, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.7	4.4	1.9	3.8	2.5	1.6	8	3.6	1.8	0.8	0.4	0.5
2.....	1.7	2.9	1.7	2.0	2.6	2.7	6.5	3.5	1.7	.8	.4	.5
3.....	1.7	2.2	1.9	1.4	2.3	2.5	6	3.4	1.7	.7	.4	.4
4.....	2.0	2.2	1.9	3.4	2.2	2.4	6	3.2	1.7	.7	.5	.5
5.....	1.7	2.2	1.6	3.0	2.0	2.4	7	3.0	1.6	.8	.4	.5
6.....	1.7	2.2	1.7	3.0	2.0	2.2	8.5	2.8	1.6	.8	.4	.5
7.....	2.2	2.2	1.9	3.0	2.1	2.2	11	2.6	1.8	.8	.4	.5
8.....	2.9	2.7	2.2	3.1	2.2	2.2	9	2.4	1.8	.8	.4	.5
9.....	2.7	5.5	1.9	3.1	2.4	2.2	8.5	2.3	1.7	.7	.4	.5
10.....	2.6	3.1	1.7	2.9	2.6	2.2	7.5	2.3	1.7	.7	.5	.6
11.....	2.4	2.8	1.7	2.7	2.5	1.9	6.5	2.3	1.5	.7	.5	.5
12.....	2.4	2.4	1.9	2.7	2.4	1.9	6	2.2	1.5	.7	.4	.4
13.....	2.3	1.6	1.9	2.7	2.4	1.8	5.5	2.1	1.5	.8	.4	.4
14.....	2.2	1.5	1.9	2.7	2.3	1.9	5.5	2.0	1.4	.7	.5	.4
15.....	2.0	2.2	2.0	2.7	2.3	2.1	4.8	1.8	1.3	.5	.5	.4
16.....	1.9	2.2	2.1	2.7	2.3	2.2	4.5	1.8	1.2	.6	.5	.4
17.....	1.8	2.2	2.1	2.7	2.2	2.5	4.3	1.8	1.1	.5	.5	.4
18.....	1.7	1.3	1.9	2.5	2.2	2.6	3.7	1.9	1.1	.6	.4	.6
19.....	1.4	1.0	2.2	2.5	2.2	2.4	3.5	1.9	1.0	.7	.5	.7
20.....	1.5	1.0	1.7	2.5	2.2	2.8	3.3	1.8	.9	.8	.6	.8
21.....	1.5	1.0	1.6	2.4	2.1	3.1	3.2	1.8	.9	.8	.6	.6
22.....	1.6	1.0	1.6	2.4	2.0	2.8	2.9	1.9	.9	.8	.6	.6
23.....	1.4	1.0	1.8	2.4	2.0	9.5	4.9	1.9	.9	.6	.5	.6
24.....	1.2	.9	1.8	2.4	1.9	11	4.0	1.9	.9	.6	.5	.5
25.....	1.1	.9	1.8	2.4	1.8	5	3.7	1.9	.9	.6	.4	.5
26.....	1.1	.9	1.6	2.4	1.7	12	3.7	1.8	.9	.5	.4	.5
27.....	.9	.9	2.2	2.6	1.6	30	3.7	1.8	.9	.5	.4	.4
28.....	.8	1.0	1.9	2.9	1.6	16	3.7	1.8	.9	.5	.5	.6
29.....	.8	1.1	2.1	2.5	1.6	14	3.7	1.8	.9	.6	.5	.5
30.....	.9	1.2	2.2	2.5	-----	12	3.7	1.8	.7	.5	.5	.4
31.....	1.9	-----	2.7	2.4	-----	10	-----	1.8	-----	.5	.5	-----

Monthly discharge of Strawberry Creek near Arrowhead Springs, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2.9	0.8	1.73	106
November.....	5.5	.9	1.92	114
December.....	2.7	1.6	1.91	117
January.....	3.8	1.4	2.66	164
February.....	2.6	1.6	2.14	123
March.....	30	1.6	5.49	338
April.....	11	2.9	5.43	323
May.....	3.6	1.8	2.22	136
June.....	1.8	.7	1.28	76.2
July.....	.8	.5	.67	41.2
August.....	.6	.4	.46	28.3
September.....	.8	.4	.51	30.3
The year.....	30	.4	2.20	1,600

WATERMAN CANYON CREEK NEAR ARROWHEAD SPRINGS, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 2, T. 1 N., R. 4 W., 600 feet above old toll house and 1 mile northwest of Arrowhead Springs, San Bernardino County.

DRAINAGE AREA.—4.55 square miles (measured on topographic map).

RECORDS AVAILABLE.—November 2, 1911, to October 30, 1914, and December 31, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from highway bridge 500 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of boulders. Control is a natural boulder dam with a drop of 6 feet at low stage. Concrete weir constructed on control November 6-9, 1923.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.28 feet at 7 p. m. March 26 (discharge, 36 second-feet); no flow part of July to September.

1911-1914; 1920-1924: Maximum stage occurred during January or February, 1914, stage and discharge unknown; no flow part of September, 1913, and part of July to September, 1924.

DIVERSIONS.—Huley Poppet diverts water through a 2-inch pipe line at the control for domestic use.

REGULATION.—One small private power plant above the gage may affect the record slightly.

ACCURACY.—Stage-discharge relation changed when a concrete weir was built November 9, 1923. Rating curve well defined below 15 second-feet and extended above. Water-stage recorder record good. Daily discharge ascertained by applying mean daily gage height to rating table, except October 1 to November 5, for which shifting-control method was used. Discharge interpolated November 4 and 6-9.

Discharge measurements of Waterman Canyon Creek near Arrowhead Springs, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.....	0.71	0.9	Mar. 3.....	1.84	1.2	May 23.....	1.77	1.1
Nov. 2.....	.74	1.3	Mar. 24.....	2.13	3.9	June 4.....	1.62	.35
Nov. 9.....	2.02	2.8	Mar. 27.....	2.61	13	June 18.....	1.60	.24
Nov. 16.....	1.74	.95	Mar. 31.....	2.07	3.4	July 5.....	1.63	.42
Dec. 15.....	1.78	1.4	Apr. 8.....	2.15	4.1	July 18.....	1.56	.1
Jan. 4.....	1.82	1.7	Apr. 17.....	1.98	2.7	July 22.....	1.49	0
Jan. 30.....	1.81	1.1	May 8.....	1.78	1.3	July 29.....	1.49	0

Daily discharge, in second-feet, of Waterman Canyon Creek near Arrowhead Springs, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	0.7	2.0	1.8	2.4	1.2	1.0	3.2	1.3	0.6	0.2	-----	-----
2.....	.7	1.4	1.4	1.7	1.2	1.6	3.8	1.3	.6	.2	-----	-----
3.....	.7	1.2	1.4	1.6	1.2	1.4	3.2	1.3	.6	.2	-----	-----
4.....	.8	1.2	1.5	1.4	1.1	1.3	3.3	1.3	.6	.1	-----	-----
5.....	.7	1.3	1.5	1.3	1.1	1.3	3.2	1.3	.6	.1	-----	-----
6.....	.7	1.6	1.6	1.3	1.2	1.1	3.6	1.3	.6	.1	-----	-----
7.....	1.3	1.8	1.6	1.3	1.2	1.1	4.3	1.1	.7	.1	-----	-----
8.....	1.4	2.0	1.6	1.3	1.2	1.1	4.1	1.1	.7	.1	-----	-----
9.....	1.0	2.3	1.6	1.2	1.4	1.0	3.7	1.0	.7	.1	-----	-----
10.....	.8	1.9	1.7	1.2	1.3	1.0	3.4	1.1	.6	.1	-----	-----

Daily discharge, in second-feet, of Waterman Canyon Creek near Arrowhead Springs, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....	0.7	1.8	1.5	1.2	1.1	1.0	3.3	1.1	0.5	0.1		
12.....	.7	1.6	1.1	1.2	1.1	1.0	3.2	1.1	.4	.1		
13.....	.7	1.6	1.1	1.3	1.1	1.0	3.0	1.1	.4	.1		
14.....	.7	1.6	1.1	1.3	1.1	1.0	3.1	1.0	.4	.1		
15.....	.9	1.6	1.1	1.3	1.1	1.0	3.0	.8	.4	.1		
16.....	.8	.9	1.1	1.3	1.1	1.0	2.7	.8	.3	.1		
17.....	.7	1.0	1.2	1.3	1.1	1.2	2.5	.7	.4	.1		
18.....	.5	1.0	1.3	1.3	1.1	1.3	2.4	.7	.4	.2		
19.....	.5	1.0	1.6	1.3	1.1	1.1	2.2	.7	.3	.2		
20.....	.5	1.0	1.4	1.2	1.0	1.4	2.1	.7	.3	.2		0.1
21.....	.7	1.0	1.3	1.2	1.0	1.7	2.1	.7	.3	.2	0.1	.1
22.....	1.1	1.0	1.3	1.2	1.0	1.4	2.1	.7	.2	.2	.1	
23.....	1.1	1.0	1.4	1.2	1.0	4.2	2.5	.9	.3	.2	.1	
24.....	1.3	1.0	1.5	1.2	1.1	4.7	2.1	.9	.3	.1	.1	
25.....	1.2	1.0	1.5	1.2	1.0	2.9	1.9	1.0	.3	.1		
26.....	1.0	1.0	1.3	1.2	1.1	8	1.8	1.1	.2	.1		
27.....	1.1	1.2	1.4	1.3	1.1	13	1.8	1.0	.2			
28.....	1.1	1.8	1.2	1.6	1.0	5.5	1.8	.9	.2			
29.....	1.2	2.1	1.3	1.3	1.0	4.3	1.7	.9	.2			
30.....	1.2	2.1	1.8	1.3		3.6	1.6	.9	.2			
31.....	2.7		1.8	1.2		3.3		.8				

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Waterman Canyon Creek near Arrowhead Springs, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2.7	0.5	0.94	57.8
November.....	2.3	.9	1.43	85.1
December.....	1.8	1.1	1.42	87.3
January.....	2.4	1.2	1.33	81.8
February.....	1.4	1.0	1.11	63.8
March.....	13	1.6	2.44	150
April.....	4.3	.7	2.76	164
May.....	1.3	.7	.99	60.9
June.....	.7	.2	.42	25.0
July.....	.2	0	.11	6.8
August.....	.1	0	.01	.6
September.....	.1	0	.01	.6
The year.....	13	0	1.08	784

CITY CREEK NEAR HIGHLAND, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 27, T. 1 N., R. 3 W., $1\frac{1}{4}$ miles northeast of Highlands, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank 300 feet above North Fork Ditch Co.'s trestle.

DISCHARGE MEASUREMENTS.—Made from cable 400 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of shifting boulders and sand above and below a concrete control.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.47 feet at 2 p. m. November 9 (discharge, 345 second-feet); no flow May 17 to September 30.

1919-1924: Maximum stage, from water-stage recorder, 6.20 feet at 3 a. m. March 14, 1921 (discharge, 1,320 second-feet); no flow for periods during each year.

DIVERSIONS.—City Creek Water Co. diverts water three-fourths mile above gage.
REGULATION.—None.

ACCURACY.—Stage-discharge relation constantly changing due to collection of sand at control. Standard rating curve fairly well defined. Water-stage recorder record good. Daily discharge ascertained by shifting-control method. Records good.

Discharge measurements of City Creek near Highland, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	2.19	0.5	Jan. 4.....	2.64	7.5	Apr. 8.....	3.02	30
Oct. 18.....	2.21	.6	Jan. 21.....	2.80	1.2	Apr. 10.....	2.91	25
Nov. 1.....	2.66	5.4	Jan. 30.....	2.03	.1	Apr. 14.....	2.77	18
Nov. 10.....	2.67	8.8	Mar. 5.....	2.46	4.7	Apr. 15.....	2.78	18
Nov. 16.....	2.74	6.0	Mar. 24.....	2.94	24	Apr. 22.....	2.58	16
Dec. 3.....	2.84	5.8	Mar. 27.....	3.54	75	May 1.....	2.33	4.2
Dec. 11.....	2.69	4.7	Mar. 29.....	2.92	23	May 8.....	2.03	.2
Dec. 20.....	2.72	5.6	Apr. 1.....	2.92	17			

Daily discharge, in second-feet, of City Creek near Highland, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1.....	0.6	6.5	9.5	13	0.1	0.1	17	9
2.....	.6	4.0	7	9.5	.1	1.9	21	4.8
3.....	.5	1.1	5.5	8	.4	6.5	18	4.5
4.....	.5	.9	7.5	7.5	.4	4.0	19	4.0
5.....	.5	.8	7	7	.1	5.0	25	3.8
6.....	.4	.6	4.3	7	.1	3.8	39	2.2
7.....	2.4	.1	2.7	7	.1	3.4	38	.9
8.....	15		2.9	7	.1	.5	30	.2
9.....	9.5	23	3.1	7	.4	.5	26	.1
10.....	6.5	10	2.4	6.5	5.5	.2	24	.1
11.....	4.5	11	5	6	.9	.2	22	.1
12.....	3.1	10	6.5	5	.1	.2	18	.1
13.....	2.0	5.5	6.5	5	.1	.2	16	.1
14.....	1.7	6.5	5.5	4.0	.1	.2	18	.1
15.....	1.4	6.5	5.5	3.5	.1	.2	20	.1
16.....	1.2	5.5	5.5	3.0	.1	.2	16	.1
17.....	1.1	6	4.3	2.5	.1	.9	15	
18.....	.6	6	2.2	2.0	.2	1.7	13	
19.....	.4	5.5	5.5	1.5	.1	.2	13	
20.....	.5	5.5	5.5	1.0	.1	3.3	13	
21.....	1.9	5.5	5.5	.6	.1	3.8	13	
22.....	.5	5.5	1.7	.1	.1	2.4	14	
23.....	.8	5	.6	.1	.1	16	26	
24.....	1.9	5.5	.6	.1	.1	33	22	
25.....	5	6	.6	.1	.1	18	17	
26.....	6	5.5	.6	.1	.1	38	13	
27.....	5.5	6	2.9	.9	.1	82	12	
28.....	4.8	5.5	1.7	9	.1	30	11	
29.....	4.0	5.5	2.2	1.9	.1	26	10	
30.....	3.6	6	7.5	.4		22	12	
31.....	6.5		10	.1		19		

NOTE.—No flow May 17 to Sept. 30.

Monthly discharge of City Creek near Highland, Calif., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	15	0.4	3.02	186
November.....	23	.1	5.70	339
December.....	10	.6	4.45	274
January.....	13	.1	4.09	251
February.....	5.5	.1	.35	20.1
March.....	82	.1	10.4	640
April.....	39	10	19.0	1,190
May.....	9	.0	.97	59.6
The year.....	82	0.0	4.00	2,900

NOTE.—No flow during months for which no record is given.

CITY CREEK WATER CO.'S CANAL NEAR HIGHLAND, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 28, T. 1 N., R. 3 W., 1 mile northeast of Highland, San Bernardino County.

RECORDS AVAILABLE.—May 27 to September 30, 1924.

GAGE.—Water-stage recorder on right bank at division box, 200 yards north of the George Thompson barns.

DISCHARGE MEASUREMENTS.—Made from plank 25 feet above gage, in concrete-lined canal.

CHANNEL AND CONTROL.—Concrete-lined canal with division box leading into two concrete-lined canals through two weirs with adjustable lengths. Permanence of rating depends upon manipulation of these weir lengths.

EXTREMES OF DISCHARGE.—Maximum stage during period of record, from water-stage recorder, 0.60 foot at 10 a. m. May 27 (discharge, 6.4 second-feet); canal emptied for a few minutes on morning of June 25.

DIVERSIONS.—The canal diverts from City Creek one-half mile above gage. During summer entire flow of City Creek is ordinarily diverted. At times water is pumped from the canal above the gage.

REGULATION.—Flow controlled by gates at head of canal.

ACCURACY.—Stage-discharge relation changed July 17. Rating curves well defined. Water-stage recorder gave good record except June 7–12, August 28, 29, and September 7. Daily discharge ascertained by applying mean daily gage reading to rating table, except for June 7–12, 23, July 9, 10, 17, August 28, 29, September 7, for which it was interpolated. Records good.

Discharge measurements of City Creek Water Co.'s canal near Highland, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
May 27.....	0.61	6.6	July 14.....	0.28	1.7	Aug. 20.....	0.40	1.6
June 3.....	.44	2.5	July 28.....	.40	1.6	Sept. 3.....	.26	1.0
June 12.....	.39	3.0	Aug. 6.....	.31	1.0	Sept. 17.....	.24	.8
June 30.....	.36	2.6						

Daily discharge, in second-feet, of City Creek Water Co.'s canal near Highland Calif., for the year ending September 30, 1924

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1		4.1	1.6	1.4	0.8	16		2.8	1.6	1.3	1.0
2		4.1	1.8	.8		17		3.0	1.2	.8	.6
3		3.8	2.0	1.2	1.2	18		3.2	.9	.9	1.4
4		4.0	2.0	1.3	1.2	19		3.0	1.8	1.3	1.7
5		4.0	2.0	1.2	1.2	20		2.8	1.8	1.6	1.8
6		4.1	1.9	1.2	1.1	21		2.9	1.8	1.7	1.6
7		4.0	2.1	1.2	1.1	22		2.9	1.7	1.6	1.5
8		3.9	2.1	1.2	1.2	23		2.9	1.6	1.6	1.5
9		3.8	1.9	.8	1.2	24		2.9	1.6	1.4	1.5
10		3.7	1.8	1.0	1.2	25		2.8	1.6	1.2	1.6
11		3.6	1.7	1.0	1.2	26		2.7	1.5	1.2	1.6
12		3.6	1.7	1.2	1.2	27	5.7	2.3	1.4	1.2	1.2
13		3.5	1.7	1.2	1.2	28	5.3	2.2	1.4	1.2	1.2
14		2.8	1.6	1.2	1.2	29	4.3	2.1	1.4	1.2	1.4
15		2.1	1.5	1.2	1.2	30	4.8	2.1	1.4	1.2	1.5
						31	4.8		1.2	1.2	

Monthly discharge of City Creek Water Co.'s canal near Highland, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 27-31	5.7	4.3	4.98	49.4
June	4.1	2.1	3.19	190
July	2.1	.9	1.65	101
August	1.7	.8	1.22	75.0
September	1.8	.6	1.27	75.6
The period				491

DEVIL CANYON CREEK NEAR SAN BERNARDINO, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 6, T. 1 N., R. 4 W., 7.3 miles northwest of San Bernardino, San Bernardino County.

DRAINAGE AREA.—6.16 square miles (measured on topographic map).

RECORDS AVAILABLE.—November 1, 1911, to October 31, 1914; December 27, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank, 300 feet above the ford at the mouth of canyon.

DISCHARGE MEASUREMENTS.—Made from timber footbridge at the gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel and boulders. Artificial control formed of concrete and large boulders. Channel not permanent on account of alternate filling and scouring just above artificial control.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.20 feet about 7 p. m. March 26 (discharge, 78 second-feet); practically dry during parts of July, August, and September.

1919-1924: Maximum stage, from water-stage recorder, 3.12 feet January 2, 1922 (discharge, 111 second-feet); stream practically dry September 27-28, 1921, and parts of July, August, and September, 1924.

DIVERSIONS.—Water diverted above gage by city of San Bernardino and spread over canyon floor to increase absorption.

REGULATION.—See preceding paragraph

ACCURACY.—Stage-discharge relation changed continually during period March 22 to April 30, when debris brought down by the rise of March 23 and 27 was washed out gradually or was removed. Rating curve before and after change well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table, except March 22 to April 29, for which shifting-control method was used. Records good.

Discharge measurements of Devil Canyon Creek near San Bernardino, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.....	0.75	0.45	Apr. 7.....	1.65	13	June 17.....	0.63	0.24
Nov. 15.....	.80	.65	Apr. 10.....	1.25	5.3	June 27.....	.63	.16
Dec. 14.....	.81	.9	Apr. 17.....	.90	2.6	July 10.....	.56	.02
Jan. 8.....	.83	.9	Apr. 22.....	.87	1.7	July 24.....	.55	.02
Jan. 30.....	.83	.85	Apr. 30.....	.83	1.7	Aug. 6.....	.54	.05
Mar. 3.....	.84	1.0	May 8.....	.77	1.1	Aug. 20.....	.56	.05
Mar. 24.....	1.18	5.4	May 16.....	.73	.75	Sept. 3.....	.51	.02
Mar. 29.....	1.49	6.4	May 20.....	.75	.9	Sept. 17.....	.51	.05
Mar. 31.....	1.51	4.6	June 3.....	.71	.59			

Daily discharge, in second-feet, of Devil Canyon Creek near San Bernardino, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1.....	0.4	1.2	1.4	1.7	1.0	1.1	5	1.5	0.5	0.1	-----
2.....	.4	.8	1.1	1.5	1.0	1.1	6	1.5	.5	.1	-----
3.....	.4	.6	1.0	1.3	1.0	1.1	6	1.4	.4	.1	-----
4.....	.4	.6	1.0	1.2	1.0	1.2	7	1.4	.3	.1	-----
5.....	.4	.6	.9	1.1	1.0	1.1	7.5	1.4	.4	.1	-----
6.....	.4	.6	.9	1.0	1.0	1.0	10	1.3	.4	.1	-----
7.....	.7	.6	.9	1.0	1.1	1.1	12	1.1	.4	.1	-----
8.....	1.1	.6	.9	1.0	1.1	1.1	10	1.1	.4	.1	0.1
9.....	.8	1.0	1.0	1.0	1.3	1.2	8	1.1	.4	.1	.1
10.....	.6	1.0	1.0	1.0	1.4	1.2	5	1.1	.4	.1	.1
11.....	.5	1.0	.9	1.0	1.2	1.2	4.5	1.1	.3	.1	.1
12.....	.4	.8	.9	1.0	1.1	1.2	4.1	1.0	.2	-----	.1
13.....	.4	.7	.8	1.0	1.1	1.2	3.9	1.0	.2	-----	.1
14.....	.4	.6	.7	1.0	1.1	1.2	3.7	.9	.2	-----	.1
15.....	.4	.6	.6	.9	1.1	1.2	3.3	.8	.2	-----	.1
16.....	.4	.7	.6	1.0	1.1	1.2	3.1	.8	.2	-----	.1
17.....	.4	.7	.6	1.0	1.1	1.2	2.6	.8	.2	-----	.1
18.....	.4	.7	.6	1.1	1.1	1.4	2.4	.8	.3	-----	.1
19.....	.4	.8	.9	.9	1.1	1.3	2.2	.9	.3	-----	.1
20.....	.4	.7	1.0	.9	1.1	1.4	2.0	.8	.2	.1	.1
21.....	.4	.8	.8	.9	1.1	1.9	1.8	.8	.2	.1	.1
22.....	.5	.8	.7	.9	1.1	1.7	1.7	.9	.2	.1	.1
23.....	.6	.7	.6	.9	1.1	3.9	2.4	1.1	.2	.1	.1
24.....	.5	.7	.6	.9	1.1	6	2.4	1.1	.2	.1	.1
25.....	.5	.8	.6	.9	1.1	4.0	2.1	.9	.2	-----	.1
26.....	.5	.6	.6	.9	1.1	9	1.8	.9	.2	-----	.1
27.....	.5	.6	.8	.9	1.1	14	1.8	.9	.1	-----	-----
28.....	.6	.7	.7	1.2	1.1	10	1.7	.8	.1	-----	-----
29.....	.6	.8	.8	1.1	1.1	7	1.7	.7	.1	-----	-----
30.....	.6	.8	1.2	1.0	-----	6	1.6	.7	.1	-----	-----
31.....	1.0	-----	1.3	1.0	-----	4.3	-----	.6	-----	-----	-----

NOTE.—Practically no flow July 12-19, July 25 to Aug. 7, and Aug. 27 to Sept. 30.

Monthly discharge of Devil Canyon Creek near San Bernardino, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.1	0.4	0.52	32.0
November.....	1.2	.6	.74	44.0
December.....	1.4	.6	.85	52.3
January.....	1.7	.9	1.04	64.0
February.....	1.4	1.0	1.10	63.3
March.....	14	1.0	2.95	181
April.....	12	1.6	4.24	152
May.....	1.5	.6	1.01	62.1
June.....	.5	.1	.27	16.0
July.....	.1	0	.05	3.1
August.....	.1	0	.06	3.7
The year.....	14	0	1.07	774

LYTLE CREEK AND FONTANA PIPE LINE NEAR FONTANA, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 6, T. 1 N., R. 5 W., unsurveyed; one-fourth mile below Lytle Creek power plant of Southern California Edison Co., $4\frac{1}{2}$ miles above Fontana power plant and $7\frac{1}{2}$ miles north of Fontana, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1918, to September 30, 1921, and October 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; shifts at high stages.

EXTREMES OF DISCHARGE.—During the year ending September 30, 1924, there was no record of flow past the Lytle Creek gaging station.

DIVERSIONS.—Water is diverted about 3 miles above gage in sec. 26, T. 2 N., R. 6 W., by Southern California Edison Co. for the Lytle Creek power plant. This water is then carried directly across the creek by a siphon to the headworks of the Fontana pipe line which serves the plant of the Fontana Power Co., located in sec. 22, T. 1 N., R. 5 W., about $4\frac{1}{2}$ miles downstream. The Fontana Union Water Co. develops ground water by means of a tunnel above the headworks of the Fontana pipe line which is supplied to the pipe line, and also diverts water by means of a temporary diversion dam on Lytle Creek above Lytle Creek power plant into the Fontana pipe line in order to operate the Fontana plant at capacity when water is available. During low-water period water is pumped from gravels into the Lytle Creek power plant canal by Fontana Union Water Co.

ACCURACY.—Amount of water used at the power house is recorded twice daily at 6 a. m. and 5.30 p. m. Kilowatt output equivalent used to compute discharge. Records considered reliable.

COOPERATION.—Record of daily discharge of Fontana pipe line furnished by Southern California Edison Co.

Daily discharge, in second-feet, of Fontana pipe line near Fontana, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	28	27	26	25	20	22	23	22	24	18.2	15.7	13.9
2.....	28	27	25	24	20	23	23	23	23	18.6	15.7	13.9
3.....	29	26	25	23	20	25	23	23	23	19.2	15.2	13.4
4.....	29	26	25	21	20	24	23	23	22	18.8	15.2	13.6
5.....	29	26	25	21	20	24	24	23	22	18.3	15.2	13.6
6.....	29	26	25	21	20	24	23	22	22	17.3	15	13.6
7.....	29	26	25	21	20	24	30	22	22	16.6	15	13.2
8.....	29	26	24	21	20	23	28	23	22	17	14.8	12.9
9.....	29	25	21	21	20	23	26	24	22	16.5	14.8	12.6
10.....	28	25	20	21	20	23	25	25	22	16.2	14.4	12.9
11.....	27	26	22	21	20	23	24	25	21	18.2	14.4	12.9
12.....	28	26	24	21	20	23	24	25	21	16.5	14.8	12.9
13.....	26	25	25	21	20	23	24	25	21	15.4	14.6	12.9
14.....	28	25	25	21	21	23	24	24	21	15.1	14.4	13.8
15.....	28	25	25	21	24	23	24	24	20	16.5	14.6	12.9
16.....	28	26	25	20	24	23	25	24	20	17.8	14.6	13.4
17.....	27	26	25	20	24	23	25	25	19.8	17.8	14.6	12.9
18.....	28	25	25	20	24	24	24	26	20	17	14.6	13.6
19.....	26	25	25	20	24	24	22	26	20	17.2	14.6	15.2
20.....	26	25	25	20	24	24	24	26	20	16.7	14.6	14.8
21.....	26	25	24	20	24	24	24	26	19.5	14.5	14.6	14.8
22.....	26	26	24	20	24	24	24	26	19.3	16.7	14.6	14.8
23.....	27	26	25	20	23	27	25	26	18.8	16.7	14.6	14.8
24.....	28	26	24	20	24	26	25	25	18.8	16.5	14.8	14.6
25.....	28	25	24	20	24	21	24	25	18.3	16.2	14.6	14.8
26.....	27	25	25	20	23	37	24	25	18.8	16.5	13.8	13.9
27.....	26	25	25	20	23	42	24	25	18.5	16.2	13.8	13.4
28.....	26	25	25	20	23	29	24	25	18.5	16	13.8	12.4
29.....	26	25	25	20	23	23	24	25	18	15.7	14.2	12.4
30.....	26	24	25	20	-----	23	22	25	18.8	15.5	14.2	12.4
31.....	26	-----	25	20	-----	23	-----	25	-----	15.7	14.2	-----

Monthly discharge of Fontana pipe line near Fontana, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	29	26	27.4	1,680
November.....	27	24	25.5	1,520
December.....	26	20	24.5	1,510
January.....	25	20	20.8	1,280
February.....	24	20	21.9	1,260
March.....	42	22	24.7	1,550
April.....	30	22	24.3	1,450
May.....	26	22	24.5	1,410
June.....	24	18	20.5	1,220
July.....	19.2	15.1	16.9	1,040
August.....	15.7	13.8	14.6	898
September.....	15.2	12.4	13.6	800
The year.....	42	12.4	21.6	15,700

CAJON CREEK NEAR KEENBROOK, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 12, T. 2 N., R. 6 W., 300 feet above mouth of Lone Pine Creek, 1 mile north of Keenbrook, San Bernardino County.

DRAINAGE AREA.—not measured.

RECORDS AVAILABLE.—December 26, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 150 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel; not permanent. Sharp crested concrete weir installed October 1-14, 1923.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.61 feet at 8 p. m. March 26 (discharge, 135 second-feet); minimum discharge, 1.8 second-feet August 9-15, 18, and 24.

1919-1924: Maximum stage recorded, 9.0 feet estimated from floodmarks, December 20, 1921 (discharge, estimated about 5,000 second-feet); minimum stage, 1.05 feet at 7.30 p. m. June 25, 1920 (discharge, 0.05 second-foot).

DIVERSIONS.—None above gage. Muscupiabe Land & Water Co. diverts entire flow during irrigating season below gage.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changes slightly at low water. Rating curve fairly well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Discharge interpolated October 1-14; based on discharge measurement of October 5. Records good.

Discharge measurements of Cajon Creek near Keenbrook, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 5.....	3.09	3.6	Mar. 4.....	3.11	4.3	June 17.....	3.07	3.2
Oct. 15.....	3.09	3.4	Mar. 6.....	3.05	4.7	July 1.....	3.00	2.2
Oct. 17.....	3.08	3.4	Mar. 24.....	3.30	7.7	July 14.....	2.96	1.8
Oct. 25.....	3.08	2.7	Mar. 26.....	4.48	112	July 28.....	2.97	2.0
Nov. 1.....	3.10	3.4	Mar. 29.....	3.34	8.7	Aug. 6.....	3.00	2.3
Nov. 15.....	3.11	3.6	Apr. 2.....	3.28	7.3	Aug. 11.....	2.96	1.4
Dec. 14.....	3.10	3.8	Apr. 7.....	3.44	12	Aug. 25.....	3.01	2.0
Jan. 8.....	3.09	4.7	Apr. 10.....	3.21	6.8	Sept. 8.....	2.99	2.4
Jan. 18.....	3.09	3.5	May 20.....	3.07	3.4	Sept. 22.....	2.99	2.4
Jan. 30.....	3.09	4.1	June 3.....	3.05	3.2			

Daily discharge, in second-feet, of Cajon Creek near Keenbrook, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.3	4.6	6.5	5	4.6	3.9	5.5	4.2	3.1	2.6	2.0	2.2
2.....	3.4	3.1	4.1	4.6	4.6	7.5	8.6	4.1	3.1	2.6	2.0	2.4
3.....	3.4	2.8	4.1	4.8	4.4	5	5.5	4.2	3.1	2.6	2.2	2.4
4.....	3.5	2.5	4.1	5	4.4	4.6	6	4.4	3.2	2.5	2.4	2.4
5.....	3.6	3.0	4.2	5.5	4.8	4.4	5	4.4	3.1	2.2	2.2	2.5
6.....	3.6	3.0	4.1	4.8	5	5	14	4.1	3.4	2.2	2.1	2.5
7.....	3.6	2.8	4.2	4.6	5	5	16	3.7	3.4	2.4	2.1	2.6
8.....	3.6	3.2	4.2	4.8	5	4.6	9	3.7	3.4	2.4	1.9	2.6
9.....	3.6	3.7	3.9	4.6	5	4.6	8.5	3.7	3.4	2.2	1.8	2.6
10.....	3.6	3.6	3.9	4.6	5	4.6	7.5	3.7	3.4	2.1	1.8	2.6
11.....	3.7	3.7	3.7	4.4	4.8	4.2	7.5	3.7	3.1	2.0	1.8	2.6
12.....	3.7	3.9	3.7	4.2	4.6	3.9	7	3.7	3.1	2.2	1.8	2.6
13.....	3.7	3.7	3.7	4.1	4.6	3.9	6.5	3.6	3.1	2.2	1.8	2.5
14.....	3.7	3.6	3.9	3.7	4.8	3.7	6.5	3.4	3.1	2.2	1.8	2.6
15.....	3.7	3.6	4.2	3.6	4.8	3.7	5.5	3.2	3.1	2.1	1.8	2.6
16.....	3.7	3.7	4.2	3.6	4.6	3.7	5.5	3.1	3.1	2.2	1.9	2.6
17.....	3.7	3.9	3.9	3.6	4.4	4.2	5	3.1	3.0	2.2	1.9	2.6
18.....	3.7	3.9	3.9	3.6	4.2	4.2	5	3.1	3.0	2.2	1.8	2.8
19.....	3.4	3.9	4.6	4.1	4.4	3.7	4.8	3.1	2.8	2.4	2.0	3.1
20.....	3.2	3.9	4.4	3.6	4.4	4.4	4.6	3.2	2.6	2.4	2.0	3.0
21.....	3.0	3.7	4.2	3.4	4.4	4.6	4.4	3.4	2.6	2.4	2.1	2.6
22.....	3.0	3.9	4.1	3.9	4.2	4.8	9	3.6	2.6	2.4	2.1	2.6
23.....	3.0	3.9	4.2	4.2	4.2	11	9	3.6	2.6	2.4	2.0	2.8
24.....	3.1	4.1	4.2	3.9	4.1	11	6.5	3.4	2.6	2.4	1.8	2.8
25.....	3.2	3.9	4.2	3.9	4.1	5.5	6	3.4	2.6	2.2	1.9	3.0
26.....	3.4	3.9	4.4	4.1	4.1	37	5.5	3.6	2.6	2.2	1.9	2.8
27.....	3.4	3.9	6.5	4.2	4.1	35	5.5	3.6	2.6	2.1	1.9	2.8
28.....	3.0	3.9	4.8	4.2	4.1	12	5	3.4	2.6	2.2	2.1	2.8
29.....	3.0	4.1	4.8	4.2	3.9	8.5	4.6	3.4	2.5	2.2	2.1	2.8
30.....	2.8	4.2	5	4.2	-----	6.5	4.2	3.4	2.6	2.1	2.0	2.8
31.....	4.2	-----	4.8	4.2	-----	5.5	-----	3.1	-----	2.0	2.1	-----

Monthly discharge of Cajon Creek near Keenbrook, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	4.2	2.8	3.44	212
November.....	4.6	2.5	3.65	217
December.....	6.5	3.7	4.35	267
January.....	5.5	3.4	4.23	260
February.....	5	3.9	4.50	259
March.....	37	3.7	7.43	457
April.....	16	4.2	6.62	394
May.....	4.4	3.1	3.59	221
June.....	3.4	2.5	2.95	176
July.....	2.6	2.0	2.27	140
August.....	2.4	1.8	1.97	121
September.....	3.1	2.2	2.65	158
The year.....	37	1.8	3.97	2,880

LONE PINE CREEK NEAR KEENBROOK, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 12, T. 2 N., R. 6 W., 50 feet above Atchison, Topeka & Santa Fe Railway bridge, 100 feet above mouth, and 1 mile north of Keenbrook, San Bernardino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 26, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank 50 feet above railway bridge.

DISCHARGE MEASUREMENTS.—Made from timber footbridge at the gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel and small boulders; not permanent. Concrete weir installed October 1–16, 1923, at site of natural waterfall 10 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.52 feet at 2.30 p. m. March 26 (discharge, 26 second-feet); minimum discharge, 0.4 second-foot at 4 p. m. September 27.

1919–1924: Maximum stage, from water-stage recorder, 4.1 feet at 1 p. m. December 19, 1921 (discharge, about 810 second-feet); minimum stage, 0.57 foot August 31, 1921 (discharge, estimated 0.2 second-foot).

DIVERSIONS.—None above gage. Entire flow diverted by Muscupiabe Land & Water Co. through a pipe line, 100 feet below gage, during irrigating season.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed frequently until the high water of March 26; no doubt most of the changes were due to smoothing out of the channel between the gage and control, and after the high-water conditions were fairly permanent. Rating curve fairly well defined. Water-stage recorder record good, except November 1, December 7–9, 12–13, December 30 to January 4, February 12–14, March 18–23, and April 23 to May 2 when the paper was torn by the pencil. Daily discharge ascertained by applying mean daily gage height to rating table, except October 17 to March 25, for which shifting-control method was used. Discharge for missing periods estimated by comparison with records for Cajon Creek. Records fair.

Discharge measurements of Lone Pine Creek near Keenbrook, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....		1.5	Mar. 4.....	1.21	1.1	July 14.....	1.07	0.50
Oct. 17.....	1.21	1.1	Mar. 24.....	1.26	1.5	July 28.....	1.06	.55
Oct. 25.....	1.21	1.3	Mar. 26.....	2.36	21	Aug. 6.....	1.08	.65
Nov. 1.....	1.25	1.2	Apr. 7.....	1.28	1.8	Aug. 11.....	1.06	.50
Nov. 15.....	1.25	1.1	Apr. 10.....	1.21	1.3	Aug. 25.....	1.07	.60
Dec. 14.....	1.24	1.3	May 20.....	1.16	.95	Sept. 8.....	1.05	.55
Jan. 8.....	1.23	1.0	June 3.....	1.13	.90	Sept. 22.....	1.04	.47
Jan. 18.....	1.23	1.1	June 16.....	1.14	.75			
Jan. 30.....	1.23	1.5	July 1.....	1.09	.70			

Daily discharge, in second-feet, of Lone Pine Creek near Keenbrook, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.5	1.7	1.8	1.1	1.5	1.0	1.4	1.2	0.9	0.8	0.6	0.5
2.....	1.5	1.2	1.3	1.1	1.5	1.8	1.6	1.2	.8	.8	.6	.6
3.....	1.5	1.2	1.2	1.0	1.5	1.3	1.4	1.2	.9	.8	.6	.6
4.....	1.5	1.1	1.1	1.0	1.4	1.2	1.6	1.2	.8	.8	.6	.6
5.....	1.5	1.1	1.2	1.0	1.4	1.1	1.4	1.2	.8	.8	.6	.6
6.....	1.5	1.1	1.2	1.0	1.4	1.0	3.5	1.1	.9	.8	.6	.6
7.....	1.5	1.1	1.2	1.0	1.3	1.0	2.1	1.0	.9	.8	.6	.6
8.....	1.5	1.1	1.2	1.0	1.3	1.0	1.7	1.1	.9	.7	.6	.6
9.....	1.4	1.4	1.2	1.0	1.3	1.0	1.6	1.1	.9	.7	.6	.5
10.....	1.4	1.3	1.2	1.0	1.3	1.0	1.4	1.1	.8	.7	.6	.5
11.....	1.4	1.1	1.2	1.0	1.2	.9	1.3	1.1	.8	.7	.6	.5
12.....	1.3	1.0	1.2	1.0	1.2	.9	1.3	1.1	.8	.7	.6	.5
13.....	1.3	1.0	1.2	1.1	1.2	.8	1.3	1.1	.8	.7	.6	.5
14.....	1.3	1.0	1.3	1.1	1.1	.8	1.2	1.1	.8	.7	.6	.5
15.....	1.2	1.0	1.3	1.1	1.1	.9	1.2	1.0	.8	.6	.6	.5
16.....	1.2	1.0	1.3	1.2	1.1	.8	1.1	1.0	.8	.6	.6	.5
17.....	1.2	1.0	1.3	1.2	1.0	1.0	1.1	1.0	.8	.6	.6	.5
18.....	1.2	1.0	1.3	1.2	1.0	1.0	1.0	1.0	.8	.6	.6	.6
19.....	1.3	1.0	1.5	1.1	1.1	.9	1.0	1.0	.8	.7	.6	.6
20.....	1.3	1.1	1.4	1.2	1.0	1.0	.9	1.0	.8	.7	.6	.6
21.....	1.3	1.0	1.3	1.2	1.1	1.1	.9	1.0	.8	.6	.7	.6
22.....	1.4	1.1	1.3	1.2	1.1	1.1	.9	1.0	.8	.6	.7	.5
23.....	1.4	1.0	1.2	1.2	1.0	1.4	2.0	1.1	.8	.6	.6	.5
24.....	1.4	1.0	1.2	1.3	1.0	1.4	1.6	1.1	.8	.6	.6	.5
25.....	1.4	1.1	1.2	1.3	1.1	1.3	1.5	1.0	.8	.6	.6	.5
26.....	1.3	1.0	1.3	1.3	1.1	9.5	1.4	1.0	.8	.6	.5	.5
27.....	1.3	1.0	1.4	1.4	1.0	4.6	1.4	1.0	.8	.6	.5	.5
28.....	1.2	1.0	1.2	1.6	1.0	1.9	1.3	1.0	.8	.6	.5	.5
29.....	1.1	1.1	1.2	1.5	1.0	1.6	1.2	1.0	.8	.6	.5	.5
30.....	1.0	1.2	1.2	1.5	-----	1.5	1.2	1.0	.8	.6	.6	.5
31.....	1.6	-----	1.2	1.5	-----	1.3	-----	.9	-----	.6	.5	-----

Monthly discharge of Lone Pine Creek near Keenbrook, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.6	1.0	1.35	83.0
November.....	1.7	1.0	1.10	65.5
December.....	1.8	1.1	1.27	78.1
January.....	1.6	1.0	1.17	71.9
February.....	1.5	1.0	1.18	67.9
March.....	9.5	.8	1.52	93.5
April.....	3.5	.9	1.42	84.5
May.....	1.2	.9	1.06	65.2
June.....	.9	.8	.82	48.8
July.....	.8	.6	.67	41.2
August.....	.7	.5	.59	36.3
September.....	.6	.5	.54	32.1
The year.....	9.5	.5	1.06	768

MECKS & DALEY CANAL NEAR COLTON, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 21, T. 1 S., R. 4 W., on Colton Avenue, 1 mile below point of diversion from Warm Creek and 1 mile east of Colton, San Bernardino County.

RECORDS AVAILABLE.—September 18, 1920, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on south side of Colton Avenue.

DISCHARGE MEASUREMENTS.—Made from footbridge at the gage.

CHANNEL AND CONTROL.—Concrete-lined canal. Sand and moss cause changes in stage-discharge relation. Flashboards are placed in canal below gage to divert water into irrigation ditches.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 19.7 second-feet May 11; no flow at various times.

1920-1924: Maximum mean daily discharge that of May 11, 1924; no flow at times each year.

ACCURACY.—Stage-discharge relation not permanent. Rating curves not well defined. Water-stage recorder gave excellent record except for October 6-10, November 5, and December 9. Daily discharge ascertained by shifting-control method, except for days of no gage-height record, for which it was estimated. Records good.

Meeks & Daley Canal diverts from right bank of Warm Creek about $1\frac{1}{2}$ miles northeast of Colton. Water is used near Colton for irrigation.

Discharge measurements of Meeks & Daley Canal near Colton, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.....	2.03	15.2	Feb. 23.....	1.24	4.2	July 11.....	2.05	16.4
Oct. 11.....	1.65	10.3	Mar. 1.....	1.93	11.7	July 19.....	2.10	18.4
Oct. 20.....	1.75	10.0	Mar. 8.....	1.63	7.3	July 25.....	1.91	15.7
Oct. 29.....	1.85	11.1	Mar. 15.....	1.79	8.8	Aug. 2.....	2.02	17.6
Nov. 24.....	1.95	12.9	Apr. 26.....	1.59	11.1	Aug. 9.....	2.16	19.8
Dec. 1.....	1.36	7.9	May 6.....	1.80	15.2	Aug. 16.....	2.10	18.4
Dec. 15.....	1.57	8.4	May 12.....	2.15	20.3	Aug. 23.....	1.94	16.2
Dec. 22.....	1.87	11.4	May 19.....	2.08	18.1	Aug. 29.....	2.07	17.6
Jan. 6.....	.47	2	May 24.....	1.96	16.1	Sept. 5.....	2.04	17.7
Jan. 19.....	1.62	7.2	May 31.....	2.20	17.6	Sept. 13.....	1.55	11.0
Jan. 26.....	1.69	8.3	June 7.....	2.08	15.6	Sept. 20.....	1.96	16.5
Jan. 31.....	1.48	6.7	June 13.....	2.12	16.2	Sept. 27.....	1.56	10.5
Feb. 8.....	1.74	9.1	June 25.....	2.15	17.9			
Feb. 16.....	1.92	11.4	July 2.....	2.04	17.8			

Daily discharge, in second-feet, of Meeks & Daley Canal near Colton, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	15.1	4.5	5.2	-----	6.6	11.6	-----	12.7	16.4	17.5	16.7	16.6
2.....	15.3	6.3	6.8	-----	6.3	4.0	-----	14.4	16.4	16.0	16.9	17.9
3.....	14.8	6.2	6.0	2.9	6.0	4.4	-----	13.1	15.4	18.3	16.2	17.6
4.....	14.4	5.8	5.4	4.9	5.7	3.9	-----	13.5	16.3	18.5	18.5	17.9
5.....	14.2	5.4	5.3	2.0	8.6	3.7	-----	15.0	16.9	18.2	18.8	17.2
6.....	13.6	5.1	4.6	.3	9.4	6.4	-----	14.4	15.6	17.8	18.6	18.1
7.....	12.9	7.3	3.9	-----	9.2	6.9	-----	14.5	14.9	17.5	18.6	17.8
8.....	12.3	9.0	5.0	-----	9.2	6.6	-----	16.1	15.2	16.9	18.9	17.2
9.....	11.6	2.9	3.3	2.2	5.4	6.4	-----	18.5	15.9	16.5	19.2	15.4
10.....	11.0	-----	1.6	3.9	4.4	6.6	-----	19.3	16.9	16.2	18.5	13.3
11.....	10.3	-----	1.4	3.4	6.1	6.6	-----	19.7	16.7	15.8	17.0	15.7
12.....	9.0	-----	1.3	3.4	6.8	6.6	-----	19.6	16.7	16.1	17.2	15.4
13.....	6.3	-----	1.8	3.7	7.1	6.2	-----	18.6	16.0	16.0	17.3	15.2
14.....	6.4	-----	5.6	3.6	6.4	7.1	-----	18.4	16.7	15.9	17.1	16.7
15.....	9.7	-----	8.2	2.4	8.8	8.9	-----	18.8	15.8	15.8	17.6	16.2

Daily discharge, in second-feet, of Meeks & Daley Canal near Colton, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.-----	10.7	-----	8.5	0.5	11.3	9.6	-----	18.6	16.3	17.2	18.1	14.6
17.-----	10.6	-----	8.6	2.7	9.1	7.5	-----	18.1	16.0	18.3	17.7	15.4
18.-----	10.6	-----	9.1	7.8	7.3	3.2	-----	18.0	16.2	17.0	17.8	15.7
19.-----	10.1	4.9	4.1	7.4	8.5	4.0	-----	18.0	17.4	18.4	16.6	16.4
20.-----	9.2	12.2	5.1	7.3	8.6	-----	-----	18.4	17.5	17.8	16.3	16.8
21.-----	8.7	12.5	11.0	7.2	8.0	-----	5.8	18.9	15.8	17.1	17.6	14.2
22.-----	9.6	12.8	9.7	6.3	5.4	-----	9.6	17.2	15.3	16.9	18.5	14.8
23.-----	7.8	12.9	8.2	7.5	4.3	-----	6.9	16.1	15.1	16.7	17.3	15.3
24.-----	6.3	13.0	4.4	8.1	5.0	-----	-----	14.8	15.4	16.2	16.9	15.7
25.-----	8.2	13.3	1.5	7.9	6.8	-----	7.7	15.8	16.8	16.1	16.3	15.3
26.-----	6.9	13.6	1.0	7.7	8.0	-----	10.8	16.8	16.8	14.0	16.0	13.8
27.-----	13.6	11.6	.8	5.6	7.8	-----	11.0	16.8	17.1	17.3	15.6	9.7
28.-----	13.1	10.1	-----	1.1	6.2	-----	11.3	16.3	17.4	17.8	16.9	8.7
29.-----	11.6	10.3	-----	3.8	8.2	-----	10.6	16.8	16.6	17.6	17.9	7.8
30.-----	9.3	7.5	-----	6.6	-----	-----	10.2	16.9	17.5	17.5	17.8	8.6
31.-----	6.4	-----	-----	6.4	-----	-----	-----	16.8	-----	17.2	16.4	-----

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Meeks & Daley Canal near Colton, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.-----	15.3	6.3	10.6	652
November.-----	13.6	0	6.24	371
December.-----	11.0	0	4.43	272
January.-----	8.1	0	4.08	251
February.-----	11.3	4.3	7.26	418
March.-----	11.6	0	3.88	239
April.-----	11.3	0	2.80	167
May.-----	19.7	12.7	16.8	1,030
June.-----	17.5	14.9	16.3	970
July.-----	18.5	14.0	17.0	1,050
August.-----	19.2	15.6	17.4	1,070
September.-----	18.1	7.8	15.0	893
The year.-----	19.7	0	10.2	7,380

SAN JACINTO RIVER NEAR SAN JACINTO, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 13, T. 5 S., R. 1 E., at highway bridge $8\frac{1}{4}$ miles southeast of San Jacinto, Riverside County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 25, 1920, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank, 100 feet below highway bridge.

DISCHARGE MEASUREMENTS.—Made from cable, from highway bridge, or by wading.

CHANNEL AND CONTROL.—Sand, gravel, and boulders; shifts during floods. Channel straight 100 feet above and below gage. Banks high; gravel; not subject to overflow except during extreme stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.75 feet at 10 a. m. March 6 (discharge, 238 second-feet); stream dry October 1 to December 20 and June 28 to September 30.

1920-1924: Maximum stage, from water-stage recorder, 6.30 feet at 1 a. m. February 10, 1922 (discharge, 2,180 second-feet); stream dry several months each year.

DIVERSIONS.—Water is diverted from Lake Hemet on South Fork of San Jacinto River, $3\frac{3}{4}$ miles above station, from Strawberry Creek $3\frac{3}{4}$ miles above, and from North Fork of San Jacinto River 1 mile above station.

REGULATION.—Lake Hemet Water Co. stores water on South Fork of San Jacinto River at Lake Hemet.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve well defined. Water-stage recorder record fair. Daily readings from staff gage available for periods when recorder did not operate. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of San Jacinto River near San Jacinto, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 1.....	2.38	9.4	Mar. 28.....	2.80	34	Apr. 25.....	2.75	32
Jan. 9.....	2.20	5.5	Apr. 4.....	2.76	32	May 17.....	1.75	.44
Jan. 29.....	1.89	2.4	Apr. 8.....	3.07	74	May 29.....	1.70	.2
Mar. 7.....	1.69	.7	Apr. 15.....	2.95	54	June 12.....	1.69	.22

Daily discharge, in second-feet, of San Jacinto River near San Jacinto, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....		10	0.7	0.2	27	25	0.4
2.....		5.5	.5	.4	39	24	.3
3.....		4.6	.4	1.3	27	22	.3
4.....		4.2	.4	1.0	32	21	.2
5.....		3.6	.4	.4	42	19	.2
6.....		3.1	.3	.3	168	18	.3
7.....		3.0	.3	.3	117	16	.3
8.....		3.3	.3	.3	74	12	.3
9.....		5	.3	.3	69	7.5	.3
10.....		3.6	.3	.2	77	2.5	.3
11.....		2.7	.2	.2	79	1.3	.3
12.....		2.6	.2	.2	70	1.0	.2
13.....		2.4	.2	.2	65	.9	.3
14.....		2.2	.2	.2	59	.8	.3
15.....		1.3	.2	.2	54	.7	.3
16.....		1.3	.2	.2	36	.6	.3
17.....		1.2	.1	.2	31	.6	.3
18.....		1.2	.1	.3	29	.5	.3
19.....		1.2	.1	.3	29	.6	.3
20.....		1.2	.1	.3	32	.5	.3
21.....	0.8	1.2	.1	.3	30	.5	.3
22.....	.3	1.2	.1	.3	28	.6	.3
23.....	.3	1.2	.2	.9	33	.7	.2
24.....	.3	1.2	.2	6.5	35	.6	.2
25.....	.3	1.2	.2	13	32	.6	.1
26.....	.3	1.2	.2	10	27	.6	.1
27.....	5	1.3	.2	50	26	.6	.1
28.....	3.4	1.4	.2	37	26	.5	
29.....	2.4	1.6	.2	29	26	.4	
30.....	18	1.5		26	26	.5	
31.....	12	1.3		33		.4	

NOTE.—No flow Oct. 1 to Dec. 20 and June 28 to Sept. 30.

Monthly discharge of San Jacinto River near San Jacinto, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December.....	18	0	1.39	85.6
January.....	10	1.2	2.50	154
February.....	.7	.1	.24	13.8
March.....	50	.2	6.87	422
April.....	168	26	48.2	2,870
May.....	25	.4	5.82	358
June.....	.4	0	.24	14.3
The year.....	168	0	5.39	3,920

NOTE.—No flow during months for which discharge is not given.

SAN JACINTO RIVER NEAR ELSINORE, CALIF.

LOCATION.—Near east line sec. 9, T. 6 S., R. 4 W., $2\frac{1}{4}$ miles above junction with Elsinore Lake (low-water stage), one-fourth mile above highway crossing and 2 miles southeast of Elsinore, Riverside County.

DRAINAGE AREA.—717 square miles (measured on topographic maps).

RECORDS AVAILABLE.—January 1, 1916, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; practically permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.20 feet at midnight March 26 (discharge, 56 second-feet); stream dry October 1 to December 14 and May 8 to September 30.

1916–1924: Maximum discharge recorded, 14,000 second-feet January 28, 1916; stream dry for several months each year.

DIVERSIONS.—The Temescal Water Co. diverts water for irrigation above the station. Water is also diverted above San Jacinto for irrigation.

REGULATION.—Water is stored for irrigation at Hemet Reservoir on South Fork of San Jacinto River.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Daily discharge ascertained by applying mean daily gage height to rating table, except December 20, March 26 and 27, for which hourly discharge was averaged. Records good.

Discharge measurements of San Jacinto River near Elsinore, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 17.....	2.17	0.3	Mar. 7.....	2.21	0.3	Apr. 8.....	2.31	1.4
Dec. 31.....	2.19	.5	Mar. 28.....	2.41	2.7			

Daily discharge, in second-feet, of San Jacinto River near Elsinore, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1		0.3	0.3	0.2	1.1	0.2	16	0.1	0.3	0.2	0.2	0.9	
2		.2	.2	.2	1	.2	17	.2	.2	.2	.2	.7	
3		.2	.2	.4	1	.2	18	.2	.2	.2	.4	.5	
4		.2	.2	.4	1	.2	19	.3	.2	.2	.3	.4	
5		.2	.2	.3	1.1	.2	20	4.1	.2	.2	.4	.3	
6		.2	.2	.4	1.3	.2	21	.9	.3	.2	.4	.2	
7		.2	.2	.4	2.1	.1	22	.5	.4	.2	.4	.2	
8		.2	.2	.3	1.7		23	.5	.6	.2	.5	.3	
9		.1	.2	.3	1.1		24	.6	.4	.1	.6	.4	
10		.1	.2	.3	1		25	.6	.3	.1	.7	.3	
11		.1	.2	.2	1.1		26	.6	.3	.2	2.6	.2	
12		.1	.2	.2	1.1		27	2.5	.3	.2	21	.2	
13		.2	.2	.2	.7		28	1	.3	.2	5.5	.2	
14		.2	.2	.2	.6		29	.6	.5	.2	9	.2	
15	0.1	.2	.2	.2	.6		30	.4	.6		2.9	.2	
							31	.3	.5		1.7		

NOTE.—No flow Oct. 1 to Dec. 14 and May 8 to Sept. 30.

Monthly discharge of San Jacinto River near Elsinore, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December	4.1	0	0.44	27.1
January	.6	.1	.27	16.6
February	.3	.1	.20	11.5
March	21	.2	1.65	101
April	2.1	.2	.72	42.8
May	.2	0	.04	2.5
The year	21	0	.28	202

NOTE.—No flow during October, November, and June to September.

ELSINORE LAKE AT ELSINORE, CALIF.

LOCATION.—On northeast shore near outlet at Elsinore, Riverside County.

RECORDS AVAILABLE.—December 1, 1915, to September 30, 1924.

GAGE.—Vertical staff on northeast shore near outlet; read by W. L. Wilhite.

Elsinore Lake overflows only during and after years of heavy rainfall. Temescal Creek is the high-water outlet for the lake. The heavy rains during the winter and spring of 1916 filled the lake and there was flow in Temescal Creek during 1916 and until July, 1917. The surface of the lake has been below the outlet, since the latter date. A history of the lake is published in United States Geological Survey Water-Supply Papers 426, 429, and 441.

Daily elevation, in feet, of Elsinore Lake at Elsinore, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												50.0
2	53.4			52.6	52.5		52.5	52.3	51.7		50.3	
3		52.9	52.7			52.4						
4				52.6	52.5							
5		52.9						52.3				
6	53.3											49.9
7						52.4	52.5		51.6	51.1		
8	53.3		52.7	52.6			52.5					49.8
9		52.9	52.7		52.5				51.6			
10					52.5	52.4		52.2				

Daily elevation, in feet, of Elsinore Lake at Elsinore, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11										50.9		
12	53.2			52.6			52.5	52.1				49.8
13		52.9							51.5			
14							52.4				50.3	
15			52.6			52.4						49.6
16	53.2				52.5				51.4		50.3	
17	53.2	52.9	52.6			52.4		52.0				
18					52.5			52.0		50.7		
19		52.9		52.6			52.4				50.1	
20	53.1											49.5
21				52.5			52.4		51.4			
22	53.0		52.6			52.4				50.5		
23					52.4			52.0	51.3		50.1	
24		52.8										49.5
25			52.6	52.5	52.4	52.4					50.0	
26	52.9	52.8		52.5			52.4	51.9		50.4		
27									51.2			
28				52.5		52.4	52.3					
29	52.9		52.6		52.4							
30		52.8						51.9		50.3	50.0	49.4
31			52.6			52.4						

NOTE.—Add 1,200 feet to obtain elevation above sea level.

SAN ANTONIO CREEK NEAR CLAREMONT, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 36, T. 2 N., R. 8 W., at highway bridge half a mile above Southern California Edison Co.'s power house (Sierra plant), 4 miles above mouth of canyon, and 8 miles northeast of Claremont, Los Angeles County.

DRAINAGE AREA.—16.9 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 11, 1901 to September 30, 1924.

GAGE.—Water-stage recorder, in concrete well and house, on right bank at north end of highway bridge.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Coarse gravel and small boulders; shifts during high stages. One channel except at extreme floods when left bank is overflowed. A concrete control was built 30 feet below gage in 1919.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.94 feet 2 p. m. March 26 (discharge, 11 second-feet); minimum stage, 1.35 feet August 18 (discharge, 0.2 second-foot).

1917–1924: Maximum stage, from water-stage recorder, 8.20 feet at 4 p. m. December 19, 1921 (discharge, 1,020 second-feet); minimum discharge, 0.1 second-foot for periods during August and September, 1919.

DIVERSIONS.—The Southern California Edison Co. diverts water for power development above the station. (See p. 70.)

REGULATION.—None except as indicated above.

ACCURACY.—Stage-discharge relation changed slightly during the year. Rating curves fairly well defined. Water-stage recorder gave good gage-height record, except October 27 to December 12, December 16, and June 19 to 23. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge interpolated for periods of no gage-height record. Records good.

Discharge measurements of San Antonio Creek near Claremont, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 13.....	1.56	0.65	Apr. 2.....	1.64	1.7	June 24.....	1.42	0.5
Jan. 31.....	1.54	.55	Apr. 22.....	1.58	.8	July 8.....	1.40	.12
Feb. 15.....	1.54	.8	May 24.....	1.48	.7	July 17.....	1.38	.29
Mar. 12.....	1.50	.48	June 4.....	1.45	.35	Sept. 26.....	1.40	.18

Daily discharge, in second-feet, of San Antonio Creek near Claremont, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	0.7	0.9	0.9	0.9	0.8	0.8	1.1	1.0	0.4	0.4	0.3	0.3
2.....	.7	.9	.9	.9	.8	.8	1.7	1.0	.4	.3	.3	.3
3.....	.7	.9	.9	.9	.8	1.0	1.5	.9	.4	.3	.3	.3
4.....	.8	.9	.9	.8	.8	.9	1.5	.9	.4	.3	.3	.3
5.....	.8	.9	.9	.8	.8	.8	1.5	.9	.4	.3	.3	.3
6.....	.9	.9	.9	.8	.8	.8	2.4	.9	.4	.3	.3	.2
7.....	.8	.9	.9	.8	.8	.7	6.5	.8	.4	.3	.3	.2
8.....	.8	.9	.9	.8	.8	.7	5.5	.8	.4	.3	.3	.2
9.....	.9	.9	.9	.8	.8	.6	4.2	.8	.4	.3	.2	.2
10.....	.9	.9	.9	.8	.8	.6	3.6	.8	.4	.3	.2	.2
11.....	.8	.9	.9	.8	.8	.6	3.0	.8	.4	.3	.2	.2
12.....	.8	.9	.9	.8	.8	.6	2.6	.9	.4	.3	.2	.2
13.....	1.1	.9	.9	.8	.8	.6	2.0	.9	.4	.3	.2	.2
14.....	.8	.9	.9	.8	.8	.6	1.9	.9	.4	.3	.2	.2
15.....	.8	.9	.9	.8	.8	.6	1.9	.8	.4	.3	.2	.2
16.....	.8	.9	.8	.8	.8	.6	1.5	.8	.4	.3	.2	.2
17.....	.8	.9	.8	.8	.8	.6	1.3	.7	.4	.3	.2	.2
18.....	.7	.9	.8	.8	.8	.6	1.1	.6	.4	.3	.2	.2
19.....	.7	.9	.8	.8	.8	.6	1.1	.6	.4	.3	.2	.3
20.....	.7	.9	.8	.8	.8	.8	1.0	.6	.4	.3	.3	.3
21.....	.7	.9	.8	.8	.8	.8	1.0	.6	.4	.3	.3	.3
22.....	.8	.9	.8	.8	.8	.8	1.0	.6	.4	.3	.3	.3
23.....	.8	.9	.8	.8	.8	1.0	1.1	.5	.4	.3	.3	.3
24.....	.9	.9	.8	.8	.8	1.5	1.3	.5	.4	.3	.3	.3
25.....	.9	.9	.8	.8	.8	1.0	1.3	.5	.3	.3	.3	.3
26.....	.9	.9	.8	.8	.8	4.5	1.1	.5	.3	.2	.3	.3
27.....	.9	.9	.8	.9	.8	5.5	1.1	.5	.4	.2	.3	.3
28.....	.9	.9	.8	.8	.8	2.8	1.0	.5	.4	.2	.3	.3
29.....	.9	.9	.8	.8	.8	1.9	1.0	.5	.4	.2	.3	.3
30.....	.9	.9	.9	.8	.....	1.1	1.0	.5	.4	.2	.3	.3
31.....	.9	.....	.9	.8	.....	1.0	.....	.5	.....	.3	.3	.....

Monthly discharge of San Antonio Creek near Claremont, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.1	0.7	0.82	50.4
November.....	.9	.9	.90	53.6
December.....	.9	.8	.85	52.2
January.....	.9	.8	.81	49.8
February.....	.8	.8	.80	46.0
March.....	5.5	.6	1.18	72.6
April.....	6.5	1.0	1.93	115
May.....	1.0	.5	.71	43.7
June.....	.4	.3	.39	23.2
July.....	.4	.2	.29	17.8
August.....	.3	.2	.26	16.0
September.....	.3	.2	.26	15.5
The year.....	6.5	.2	.77	566

Combined daily discharge, in second-feet, of San Antonio Creek and Southern California Edison Co.'s canal near Claremont, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	11.0	11.8	10.1	9.7	8.9	8.5	10.1	17.4	13.7	9.8	7.5	6.7
2.....	10.6	11.3	10.3	9.7	8.9	10.0	10.8	17.8	13.4	9.7	7.6	6.7
3.....	10.4	10.5	10.1	9.4	8.9	9.3	10.3	17.6	13.4	9.7	7.6	6.8
4.....	10.6	10.1	9.9	9.2	9.0	9.1	10.5	17.7	12.8	9.8	7.4	6.8
5.....	10.5	10.1	9.9	9.2	8.9	8.8	10.3	17.9	13.1	9.3	7.5	6.8
6.....	10.5	10.1	10.1	9.2	9.0	8.5	12.4	18.2	12.9	8.9	7.4	6.6
7.....	10.7	9.9	10.0	9.2	8.9	8.3	17.5	18.2	13.0	8.9	7.3	6.8
8.....	11.4	10.1	10.1	9.2	8.9	8.1	17.5	18.6	12.5	8.5	7.3	6.3
9.....	11.1	10.0	10.0	9.2	9.0	8.2	16.0	18.3	12.7	8.5	7.0	6.4
10.....	10.8	10.3	10.0	9.2	9.2	8.2	14.4	18.7	12.6	8.3	7.1	6.3
11.....	10.6	9.9	10.0	9.1	8.9	8.1	14.4	18.7	12.2	8.2	7.1	6.2
12.....	10.8	10.3	9.7	9.0	9.0	8.1	13.6	19.0	12.0	8.3	7.0	6.2
13.....	9.4	10.1	9.8	9.1	9.0	7.6	13.0	18.8	11.7	8.3	6.8	6.1
14.....	10.4	10.2	9.7	9.1	9.0	7.8	13.2	18.7	11.8	8.3	6.9	6.1
15.....	10.6	10.5	9.9	9.0	8.8	8.1	13.2	18.1	11.5	8.2	7.0	6.1
16.....	10.4	10.1	9.6	9.2	8.8	8.1	12.8	17.9	11.4	8.3	6.9	6.2
17.....	10.1	9.8	9.6	9.0	8.8	8.2	12.6	17.3	11.2	8.1	7.0	6.2
18.....	10.3	10.3	9.5	9.0	8.8	8.2	12.4	17.0	11.3	8.1	7.0	6.2
19.....	10.3	10.2	9.9	9.1	8.7	8.2	12.9	16.8	11.2	8.1	6.9	6.3
20.....	10.0	9.9	9.5	9.1	8.9	8.6	12.7	19.5	10.9	8.2	7.1	6.5
21.....	10.4	10.0	9.7	9.1	8.8	8.8	13.0	16.4	10.4	8.1	7.1	6.2
22.....	10.2	10.0	9.5	9.0	8.8	8.8	12.9	16.2	10.6	8.1	7.0	6.4
23.....	10.4	10.0	9.6	9.0	8.8	10.9	14.3	16.1	10.6	8.1	6.8	6.3
24.....	10.3	10.4	9.5	9.0	8.7	9.8	14.9	16.0	10.6	7.9	6.9	6.7
25.....	10.0	9.9	9.5	9.0	8.7	8.9	15.7	16.0	10.1	7.7	6.8	6.8
26.....	10.4	10.2	9.6	9.0	8.6	16.5	15.9	15.7	10.1	7.6	6.9	6.7
27.....	10.2	10.0	9.6	9.3	8.6	16.0	16.8	15.1	10.0	7.6	6.9	6.7
28.....	10.4	10.0	9.7	9.0	8.6	12.6	17.0	14.7	10.1	7.6	6.6	6.6
29.....	10.0	10.4	9.4	9.0	8.6	11.5	17.4	14.4	10.0	7.5	6.7	6.3
30.....	10.3	10.2	9.5	8.9	8.9	10.4	17.6	14.3	9.9	7.3	6.7	6.3
31.....	10.1	-----	9.6	9.0	-----	10.2	-----	13.8	-----	7.5	6.9	-----

Combined monthly discharge of San Antonio Creek and Southern California Edison Co.'s canal near Claremont, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	11.4	10.0	10.4	640
November.....	11.8	9.8	10.2	607
December.....	10.3	9.4	9.77	601
January.....	9.7	8.9	9.14	562
February.....	9.2	8.6	8.84	508
March.....	16.5	7.6	9.43	580
April.....	17.6	10.1	13.9	827
May.....	19.0	13.8	17.0	1,050
June.....	13.7	9.9	11.6	690
July.....	9.8	7.3	8.34	513
August.....	7.6	6.6	7.05	433
September.....	6.8	6.1	6.43	383
The year.....	19.0	6.1	10.2	7,390

SOUTHERN CALIFORNIA EDISON CO.'S CANAL NEAR CLAREMONT, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 1, T. 1 N., R. 8 W., at weir in tailrace of Sierra power house, on San Antonio Creek, $1\frac{1}{2}$ miles below intake and 8 miles northeast of Claremont, Los Angeles County.

RECORDS AVAILABLE.—January 1, 1917, to September 30, 1924.

GAGE.—Hook gage which indicates head on weir; read by Earl C. Beesley and L. C. Selby, operators at power house.

DISCHARGE.—Computed from head on 10-foot rectangular weir.

ACCURACY.—Gage is read at 8 a. m. and 4 p. m. Discharge computed from weir table by observer. Records good.

COOPERATION.—Discharge record furnished by Southern California Edison Co.

Canal diverts water from San Antonio Creek in SE. $\frac{1}{4}$ sec. 25, T. 2 N., R. 8 W., 1 mile above gaging station on San Antonio Creek near Claremont. The water is used for development of power at Sierra power house, in NW. $\frac{1}{4}$ sec. 1, T. 1 N., R. 8 W., and then returned directly to creek.

Daily discharge, in second-feet, of Southern California Edison Co.'s canal near Claremont, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	10.3	10.9	9.2	8.8	8.1	7.7	9.0	16.4	13.3	9.4	7.2	6.4
2.....	9.9	10.4	9.4	8.8	8.1	9.2	8.6	16.8	13.0	9.4	7.3	6.4
3.....	9.7	9.6	9.2	8.5	8.1	8.3	8.8	16.7	13.0	9.4	7.2	6.5
4.....	9.8	9.2	9.0	8.4	8.2	8.2	9.0	16.8	12.4	9.5	7.1	6.5
5.....	9.7	9.2	9.0	8.4	8.1	8.0	8.8	17.0	12.7	9.0	7.2	6.5
6.....	9.6	9.2	9.2	8.4	8.2	7.7	10	17.3	12.5	8.6	7.1	6.4
7.....	9.9	9.0	9.1	8.4	8.1	7.6	11.2	17.4	12.6	8.6	7.0	6.1
8.....	10.6	9.2	9.2	8.4	8.1	7.4	11.8	17.8	12.1	8.2	7.0	6.1
9.....	10.2	9.1	9.1	8.4	8.2	7.6	11.8	17.5	12.3	8.2	6.8	6.2
10.....	9.9	9.4	9.1	8.4	8.4	7.6	10.8	17.9	12.2	8.0	6.9	6.1
11.....	9.8	9.0	9.1	8.3	8.1	7.5	11.4	17.9	11.8	7.9	6.9	6.0
12.....	10.0	9.4	8.8	8.2	8.2	7.5	11	18.1	11.6	8.0	6.8	6.0
13.....	8.3	9.2	8.9	8.3	8.2	7.0	11.0	17.9	11.3	8.0	6.6	5.9
14.....	9.6	9.3	8.8	8.3	8.2	7.2	11.3	17.8	11.4	8.0	6.7	5.9
15.....	9.8	9.6	9.0	8.2	8.0	7.5	11.3	17.3	11.1	7.9	6.8	5.9
16.....	9.6	9.2	8.8	8.4	8.0	7.5	11.3	17.1	11.0	8.0	6.7	6.0
17.....	9.3	8.9	8.8	8.2	8.0	7.6	11.3	16.6	10.8	7.8	6.8	6.0
18.....	9.6	9.4	8.7	8.2	8.0	7.6	11.3	16.4	10.9	7.8	6.8	6.0
19.....	9.6	9.3	9.1	8.3	7.9	7.6	11.8	16.2	10.8	7.8	6.7	6.0
20.....	9.3	9.0	8.7	8.3	8.1	7.8	11.7	15.9	10.5	7.9	6.8	6.2
21.....	9.7	9.1	8.9	8.3	8.0	8.0	12.0	15.8	10.0	7.8	6.8	5.9
22.....	9.4	9.1	8.7	8.2	8.0	8.0	11.9	15.6	10.2	7.8	6.7	6.1
23.....	9.6	9.1	8.8	8.2	8.0	9.0	13.2	15.6	10.2	7.8	6.5	6.0
24.....	9.4	9.5	8.7	8.2	7.9	8.3	13.6	15.5	10.2	7.6	6.6	6.4
25.....	9.1	9.0	8.7	8.2	7.9	7.9	14.4	15.5	9.8	7.4	6.5	6.5
26.....	9.5	9.3	8.8	8.2	7.8	11.8	14.8	15.2	9.8	7.4	6.6	6.4
27.....	9.3	9.1	8.8	8.4	7.8	10.5	15.7	14.6	9.6	7.4	6.6	6.4
28.....	9.5	9.1	8.9	8.2	7.8	9.8	16.0	14.2	9.7	7.4	6.3	6.3
29.....	9.1	9.5	8.6	8.2	7.8	9.6	16.4	13.9	9.6	7.3	6.4	6.0
30.....	9.4	9.3	8.6	8.1	-----	8.3	16.6	13.8	9.5	7.1	6.4	6.0
31.....	9.2	-----	8.7	8.2	-----	9.2	-----	13.3	-----	7.2	6.6	-----

Monthly discharge of Southern California Edison Co.'s canal near Claremont, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	10.6	9.1	9.60	590
November.....	10.9	8.9	9.32	555
December.....	9.4	8.6	8.92	548
January.....	8.8	8.1	8.32	512
February.....	8.4	7.8	8.04	462
March.....	11.8	7.0	8.24	507
April.....	16.6	8.6	11.9	708
May.....	18.1	13.3	16.3	1,000
June.....	13.3	9.5	11.2	666
July.....	9.5	7.1	8.05	495
August.....	7.3	6.3	6.79	418
September.....	6.5	5.9	6.17	367
The year.....	18.1	5.9	9.41	6,830

SANTIAGO CREEK NEAR VILLA-PARK, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 13, T. 4 S., R. 9 W., at mouth of canyon, $1\frac{3}{4}$ miles northeast of Villa Park, Orange County, and five-eighths mile below diversion dam of Serrano and Carpenter water companies.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 30, 1920, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable half a mile above gage or by wading.

CHANNEL AND CONTROL.—Sand, gravel, and boulders; shifts at high stages.

EXTREMES OF DISCHARGE.—Maximum stage during the year, from water-stage recorder, 2.25 feet at 3 a. m. December 27 (discharge, 20 second-feet); no flow for several months.

1920–1924: Maximum stage, from water-stage recorder, 5.72 feet at 5 p. m. February 9, 1922 (discharge, about 1,140 second-feet); no flow several months each year.

DIVERSIONS.—Serrano and Carpenter water companies divert at the dam above the gage by a common canal. See record of canal, page 73.

REGULATION.—Entire flow diverted at times by the Serrano & Carpenter Canal.

ACCURACY.—Stage-discharge relation not permanent. Rating curve fairly well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

The following discharge measurements were made:

March 28, 1924: Gage height, 1.62 feet; discharge, 1.7 second-feet.

April 1, 1924: Gage height, 1.54 feet; discharge, 1.4 second-feet.

Daily discharge, in second-feet, of Santiago Creek near Villa Park, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Mar.	Apr.	Day	Dec.	Jan.	Mar.	Apr.
1		3.2		1.3	16				
2		1.1		1.3	17				
3		.6		.5	18				
4				.2	19				
5				.2	20				
6					21				
7					22				
8					23				
9					24				
10					25				
11					26	0.2		1.1	
12					27	4.9		1.8	
13					28	1.7		1.8	
14					29	.9		1.6	
15					30	.8		1.4	
					31	1.1		1.4	

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Santiago Creek near Villa Park, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December	4.9	0	0.31	19.1
January	3.2	0	.16	9.8
March	1.8	0	.29	17.8
April	1.3	0	.12	7.1
The year			.07	53.8

NOTE.—No flow except during months given.

Combined monthly discharge of Santiago Creek and Serrano & Carpenter Canal near Villa Park, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	3.1	2.6	2.78	171
November.....	2.6	2.0	2.38	142
December.....	5.5	1.4	2.03	125
January.....	4.5	1.5	1.66	102
February.....	1.6	1.5	1.51	86.9
March.....	2.6	1.4	1.64	101
April.....	2.5	1.3	1.68	100
May.....	1.4	1.2	1.31	80.6
June.....	3.6	1.3	2.31	137
July.....	4.1	3.3	3.74	230
August.....	3.3	1.9	2.58	159
September.....	2.6	1.5	2.00	119
The year.....	5.5	1.2	2.14	1,550

NOTE.—Combined daily discharge not prepared. For daily flow add flow of creek and flow of Serrano & Carpenter Canal, page 74.

SERRANO & CARPENTER CANAL NEAR VILLA PARK, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 13, T. 4 S., R. 9 W., at division box, half a mile above mouth of Santiago Creek canyon and $2\frac{1}{4}$ miles northeast of Villa Park, Orange County.

RECORDS AVAILABLE.—August 11, 1920, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and wooden shelter in division box above the weirs.

DISCHARGE MEASUREMENTS.—Made from footbridge in tunnel 1,000 feet above gage.

CHANNEL AND CONTROL.—Control formed by two weirs with 6-inch flashboards. Weirs are 1.6 feet long. Control is changed by removing one or both boards and by completely blocking one weir.

EXTREMES OF DISCHARGE.—1920-1924: Maximum mean daily discharge recorded, 16.8 second-feet May 20, 1922. No water is diverted at times.

ACCURACY.—Stage-discharge relation permanent for normal conditions of the weir. Rating curve well defined. Recorder stopped October 29-30, December 19, and June 24-29. Charts not changed on time and no record October 9-14, November 4-12, 20-23, December 2-3, 12-13, January 5, 6, and 13-21. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge for days of no record was interpolated. Records good.

Canal diverts from Santiago Creek at a submerged dam at Point of Rocks. At the division box the water is divided between the John T. Carpenter and Serrano water companies and is carried through concrete pipe lines to orchard lands on the north and south sides of Santiago Creek. During periods of shortage both companies augment their supplies by pumping.

Discharge measurements of Serrano & Carpenter Canal near Villa Park, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 23	0.34	2.5	June 6.....	0.21	1.3	Aug. 19.....	0.30	2.4
Dec. 21 .....	.27	2.1	June 21.....	.39	2.4	Sept. 2.....	.31	2.5
Jan. 23 .....	.24	2.0	July 26.....	.44	3.7	Sept. 12.....	.32	2.5
Feb. 15 .....	.24	1.3	Aug. 5.....	.42	3.5	Do.....	.32	2.5
Do.....	.24	1.3	Aug. 19.....	.30	2.5	Sept. 23.....	.28	2.2
May 26.....	.23	1.7						

Daily discharge, in second-feet, of Serrano & Carpenter Canal near Villa Park, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	2.6	2.0	1.3	1.5	1.6	-----	1.4	1.4	3.3	3.3	2.6
2	3.1	2.6	2.0	1.4	1.5	1.8	1.2	1.4	1.4	3.3	3.3	2.3
3	3.1	2.6	2.0	1.5	1.5	1.9	1.8	1.4	1.4	3.4	3.3	2.3
4	3.1	2.6	2.0	1.5	1.5	1.7	1.7	1.4	1.5	3.4	3.3	2.3
5	3.1	2.6	2.0	1.5	1.5	1.6	1.6	1.4	1.5	3.6	3.2	2.3
6	3.1	2.6	2.0	1.5	1.5	1.6	1.8	1.4	1.3	3.6	3.2	2.3
7	3.1	2.6	2.0	1.5	1.5	1.6	1.9	1.4	1.5	3.9	2.9	2.3
8	3.1	2.6	2.0	1.5	1.5	1.5	1.9	1.3	1.6	3.9	2.7	2.3
9	3.1	2.5	2.0	1.5	1.5	1.5	1.8	1.3	1.5	4.0	2.6	2.3
10	3.0	2.5	2.0	1.5	1.5	1.5	1.8	1.2	1.7	4.0	2.6	2.1
11	2.9	2.5	2.0	1.5	1.5	1.5	1.7	1.2	1.7	4.0	2.7	2.2
12	2.8	2.5	2.0	1.5	1.5	1.5	1.6	1.2	1.7	4.0	2.2	2.1
13	2.7	2.5	2.0	1.5	1.5	1.5	1.5	1.2	1.9	4.0	2.2	2.1
14	2.6	2.5	2.0	1.5	1.5	1.5	1.6	1.2	2.1	3.7	2.5	2.0
15	2.6	2.5	2.0	1.5	1.5	1.5	1.6	1.2	2.3	3.9	2.2	2.0
16	2.6	2.5	2.0	1.5	1.5	1.5	1.6	1.2	2.3	4.0	2.0	1.9
17	2.6	2.5	1.9	1.5	1.5	1.5	1.6	1.2	2.5	4.1	1.9	1.8
18	2.6	2.5	1.9	1.5	1.5	2.6	1.6	1.2	2.6	4.1	1.9	1.9
19	2.6	2.3	1.9	1.5	1.5	1.8	1.5	1.2	2.7	4.1	1.9	1.9
20	2.6	2.3	1.9	1.5	1.5	1.6	1.5	1.2	2.6	4.1	2.1	1.9
21	2.6	2.2	1.8	1.5	1.5	1.6	1.5	1.3	2.7	4.0	2.2	1.8
22	2.6	2.2	1.8	1.5	1.5	1.5	1.5	1.3	2.9	4.0	2.5	1.8
23	2.6	2.1	1.8	1.5	1.5	1.6	1.8	1.3	3.1	3.9	2.6	1.9
24	2.6	2.1	1.8	1.5	1.5	1.6	1.7	1.4	3.1	3.7	2.6	1.9
25	2.6	2.1	1.8	1.5	1.5	1.5	1.6	1.4	3.2	3.6	2.6	1.8
26	2.6	2.1	1.8	1.5	1.5	1.2	1.5	1.4	3.2	3.6	2.6	1.7
27	2.6	2.1	.6	1.5	1.5	-----	1.5	1.4	3.3	3.4	2.6	1.7
28	2.6	2.1	.1	1.6	1.6	-----	1.5	1.4	3.4	3.4	2.6	1.6
29	2.6	2.0	.5	1.6	1.6	-----	1.5	1.4	3.5	3.4	2.6	1.5
30	2.6	2.0	.8	1.6	-----	-----	1.5	1.4	3.6	3.3	2.6	1.5
31	2.6	-----	1.0	1.6	-----	-----	-----	1.4	-----	3.3	2.6	-----

NOTE.—No flow Mar. 27 to Apr. 1.

Monthly discharge of Serrano & Carpenter Canal near Villa Park, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	3.1	2.6	2.78	171
November	2.6	2.0	2.38	142
December	2.0	.1	1.72	106
January	1.6	1.3	1.50	92.2
February	1.6	1.5	1.51	86.9
March	2.6	0	1.35	83.0
April	1.9	0	1.56	92.8
May	1.4	1.2	1.31	80.6
June	3.6	1.3	2.31	137
July	4.1	3.3	3.74	230
August	3.3	1.9	2.58	159
September	2.6	1.5	2.00	119
The year	4.1	0	2.07	1,500

SAN GABRIEL RIVER BASIN

SAN GABRIEL RIVER NEAR AZUSA, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 23, T. 1 N., R. 10 W., near road crossing at mouth of canyon, half a mile above Southern California Edison Co.'s power house and 2 miles north of Azusa, Los Angeles County.

DRAINAGE AREA.—214 square miles (revised).

RECORDS AVAILABLE.—1894 to September 30, 1924.

GAGE.—Water-stage recorder on right bank at the cable, 1,000 feet above ford at mouth of canyon and 500 feet above the tunnel diversion; installed November 18, 1922. On account of frequent changes in channel it has been necessary to install numerous staff gages and three recorder wells in vicinity of the ford. These have been at independent datums.

DISCHARGE MEASUREMENTS.—Made from cable 1,000 feet above ford or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; shift during high water.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.70 feet at 10 p. m. March 26 (discharge, 510 second-feet); no flow October 1 to March 25 and May 1 to September 30.

1894-1924: Maximum stage recorded, 12 feet January 18, 1916 (discharge, 40,000 second-feet); stream dry for several months each year.

DIVERSIONS.—The power canal of the Southern California Edison Co. heads about 5 miles above the station. (For daily discharge of this canal see p. 77.)

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed from that of last year. Rating curve fairly well defined. Water-stage recorder record good. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of San Gabriel River near Azusa, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 27.....	3.18	288	Apr. 2.....	2.10	34	Apr. 17.....	2.00	25
Do.....	2.99	228	Apr. 4.....	1.78	9.7	Apr. 18.....	1.88	17
Do.....	2.91	225	Apr. 5.....	1.83	9.4	Do.....	1.87	13
Mar. 28.....	2.59	112	Apr. 7.....	2.38	74	Apr. 22.....	1.72	6.3
Do.....	2.46	78	Apr. 9.....	2.22	49	Do.....	1.70	5.4
Mar. 29.....	2.28	50	Apr. 11.....	2.36	65	Apr. 24.....	2.08	30
Do.....	2.22	39	Apr. 14.....	2.28	47	Apr. 28.....	1.68	4.2
Mar. 31.....	1.91	15	Apr. 15.....	2.22	45			
Apr. 1.....	1.74	13	Do.....	2.22	54			

Daily discharge, in second-feet, of San Gabriel River near Azusa, Calif., for the year ending September 30, 1924

Day	Mar.	Apr.	Day	Mar.	Apr.	Day	Mar.	Apr.
1.....		11	11.....		61	21.....		7.5
2.....		27	12.....		60	22.....		5.5
3.....		14	13.....		52	23.....		14
4.....		7.5	14.....		52	24.....		27
5.....		9	15.....		43	25.....		14
6.....		12	16.....		41	26.....	99	8.5
7.....		55	17.....		21	27.....	253	6
8.....		48	18.....		14	28.....	98	4.5
9.....		43	19.....		10	29.....	51	2.6
10.....		54	20.....		8	30.....	30	.4
						31.....	17	

NOTE.—No flow Oct. 1 to Mar. 25 and May 1 to Sept. 30.

Monthly discharge of San Gabriel River near Azusa, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March.....	253	0.0	17.7	1,090
April.....	61	.4	24.4	1,450
The year.....	253	.0	3.50	2,540

NOTE.—No flow during months for which no discharge is given.

Combined daily discharge, in second-feet, of San Gabriel River and San Gabriel Canal near Azusa, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	26	48	36	39	36	27	82	78	37	21	13	12
2.....	26	40	35	37	35	46	99	79	36	20	13	12
3.....	26	35	35	35	34	63	91	79	84	20	13	12
4.....	26	31	35	35	34	58	88	78	34	20	13	12
5.....	26	30	32	36	33	54	91	76	32	20	13	13
6.....	26	30	34	36	33	45	93	74	32	19	13	12
7.....	29	30	34	36	32	43	137	72	34	17	12	12
8.....	39	31	34	35	33	40	130	68	34	18	11	12
9.....	34	31	34	35	33	39	124	68	34	17	11	12
10.....	30	33	32	35	34	37	135	68	33	18	11	12
11.....	29	37	32	35	33	36	142	66	31	16	11	13
12.....	29	35	33	34	32	34	141	64	29	16	11	12
13.....	26	35	33	35	32	33	133	63	28	15	13	12
14.....	26	33	34	35	30	32	133	61	27	14	11	12
15.....	26	33	35	34	30	32	124	58	27	15	11	12
16.....	28	30	35	35	30	34	122	58	26	14	11	12
17.....	27	32	35	35	32	34	102	56	26	14	11	13
18.....	27	31	34	35	31	40	95	55	26	15	11	12
19.....	26	32	36	35	31	37	91	53	27	16	13	13
20.....	26	32	36	35	31	38	89	51	25	17	14	16
21.....	26	32	36	34	30	46	88	50	25	17	14	14
22.....	26	32	35	34	29	41	86	50	24	17	15	13
23.....	28	33	34	33	29	56	94	51	24	16	14	13
24.....	27	32	33	33	29	83	108	50	23	15	13	13
25.....	28	31	33	33	28	75	95	48	23	15	13	13
26.....	28	32	34	33	28	166	90	49	22	14	13	13
27.....	28	31	38	33	28	332	85	47	22	14	12	13
28.....	28	31	38	43	28	169	84	45	21	14	12	12
29.....	28	32	37	38	28	122	82	42	21	14	12	12
30.....	27	32	36	37	-----	103	78	41	21	13	12	11
31.....	30	-----	37	35	-----	89	-----	39	-----	13	12	-----

Combined monthly discharge of San Gabriel River and San Gabriel Canal near Azusa, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October.....	39	26	27.8	0.130	0.15	1,710
November.....	48	30	32.9	.154	.17	1,960
December.....	38	32	34.7	.162	.19	2,130
January.....	43	33	35.3	.165	.19	2,170
February.....	36	28	31.2	.146	.16	1,790
March.....	332	27	67.2	.314	.36	4,130
April.....	142	78	104	.486	.54	6,190
May.....	79	39	59.3	.277	.32	3,650
June.....	37	21	27.9	.130	.14	1,660
July.....	21	13	16.3	.076	.09	1,000
August.....	15	11	12.3	.058	.07	756
September.....	15	11	12.5	.058	.06	744
The year.....	332	11	38.5	.180	2.44	27,900

SOUTHERN CALIFORNIA EDISON CO.'S CANAL NEAR AZUSA, CALIF.

LOCATION.—At Southern California Edison Co.'s power house, 5 miles southwest of intake on San Gabriel River and $1\frac{1}{2}$ miles north of Azusa, Los Angeles County.

RECORDS AVAILABLE.—1896 to September 30, 1924.

GAGE.—Hook gage in division box in tailrace of power plant; read by employee of power company.

CHANNEL AND CONTROL.—Control formed by two weirs with end contractions. A movable steel plate forms the left end of one weir and right end of the other weir. Total length of weir crest is 44 feet $9\frac{1}{4}$ inches. A supplementary plate $1\frac{1}{2}$ feet long is placed on crest of Duarte weir to shorten it when necessary to divide the water.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 83 second-feet March 24.

1896-1924: Maximum mean daily discharge recorded, 97 second-feet November 27, 1906; canal usually dry for a few days each year.

ACCURACY.—Gage read to hundredths twice daily. Daily discharge ascertained by applying mean gage height to weir table. Records good.

Diversion dam for canal is on San Gabriel River in SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 31, T. 2 N., R. 9 W., 5 miles above gaging station on San Gabriel River at the mouth of the canyon near Azusa. The water is used for development of power at a point about $1\frac{1}{2}$ miles north of Azusa and after leaving the power plant is divided and used for irrigation—part is discharged into Azusa-Covina Canal and the remainder into Duarte Canal. During the rainy season part of the water from the power plant is wasted back into San Gabriel River below the gaging station.

Daily discharge, in second-feet, of Southern California Edison Co.'s canal near Azusa, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	48	36	39	36	27	71	78	37	21	13	12
2	26	40	35	37	35	46	72	79	36	20	13	12
3	26	35	35	35	34	63	77	79	34	20	13	12
4	26	31	35	35	34	58	80	78	34	20	13	12
5	26	30	32	36	33	54	82	76	32	20	13	12
6	26	30	34	36	33	45	81	74	32	19	13	12
7	29	30	34	36	32	43	82	72	34	18	12	12
8	39	31	34	35	33	40	82	68	34	18	11	12
9	34	31	34	35	33	39	81	68	34	17	11	12
10	30	33	32	35	34	37	81	68	33	18	11	12
11	29	37	32	35	33	36	81	66	31	16	11	13
12	29	35	33	34	32	34	81	64	29	16	11	12
13	26	35	33	35	32	33	81	63	28	15	13	12
14	26	33	34	35	30	32	81	61	27	14	11	12
15	26	33	35	34	30	32	81	58	27	15	11	12
16	28	30	35	35	30	34	81	58	26	14	11	12
17	27	32	35	35	32	34	81	56	26	14	11	13
18	27	31	34	35	31	40	81	55	26	15	11	12
19	26	32	36	35	31	37	81	53	27	16	13	13
20	26	32	36	35	31	38	81	51	25	17	14	15
21	26	32	36	34	30	46	81	50	25	17	14	14
22	26	32	35	34	29	41	81	50	24	17	15	13
23	28	33	34	33	29	66	80	51	24	16	14	13
24	27	32	33	33	29	83	81	50	23	15	13	13
25	28	31	33	33	28	75	81	48	23	15	13	13
26	28	32	34	33	28	67	81	49	22	14	13	13
27	28	31	38	33	28	79	79	47	22	14	12	13
28	28	31	38	43	28	71	79	45	21	14	12	12
29	28	32	37	38	28	71	79	42	21	14	12	12
30	27	32	36	37	28	73	78	41	21	13	12	11
31	30		37	35		72		39		13	12	

Monthly discharge of Southern California Edison Co.'s canal near Azusa, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	39	26	27.8	1,710
November.....	48	30	32.9	1,960
December.....	38	32	34.7	2,130
January.....	43	33	35.3	2,170
February.....	36	28	31.2	1,790
March.....	83	27	49.5	3,040
April.....	82	71	80.0	4,760
May.....	79	39	59.3	3,650
June.....	37	21	27.9	1,660
July.....	21	13	16.3	1,000
August.....	15	11	12.3	756
September.....	15	11	12.5	744
The year.....	83	11	35.0	25,400

ROGERS CREEK NEAR AZUSA, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 23, T. 1 N., R. 10 W., half a mile above mouth of creek and $2\frac{1}{4}$ miles north of Azusa, Los Angeles County.

DRAINAGE AREA.—6.4 square miles (measured on topographic map).

RECORDS AVAILABLE.—October 1, 1917, to September 30, 1924. (Discharge measurements only, May 8, 1916, to June 11, 1917.)

GAGE.—Water-stage recorder on left bank at mouth of canyon.

DISCHARGE MEASUREMENTS.—Made by wading or from cable about 150 feet below gage.

CHANNEL AND CONTROL.—Boulders, gravel, and solid rock; fairly permanent. A new control was built during the summer of 1920, about 30 feet above the natural control. The pool above this control filled with silt and control was raised during fall of 1923.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.15 feet at 3 p. m. March 26 (discharge, 28 second-feet); stream dry during summer.

1917–1924: Maximum stage recorded, 6.70 feet at 2 p. m. February 9, 1922 (discharge, 576 second-feet); stream dry several months each year.

DIVERSIONS.—Two small diversions above the station diverted the entire flow January 2–26, January 30 to March 1, March 12–17 and May 8–25 and part of the water remainder of time from January 1 to May 26.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed from that of previous years when artificial control was raised during fall of 1923. Rating curve well defined below 10 second-feet and extended above. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table except March 23 and 26 for which hourly discharge was averaged. Records good.

Discharge measurements of Rogers Creek near Azusa, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Feb. 9.....	0.77	0	Mar. 27.....	2.68	8.3	Apr. 7.....	2.30	1.4
Mar. 5.....	2.21	.5	Do.....	2.60	5.8	Apr. 15.....	2.16	.7
Mar. 11.....	1.93	.1	Apr. 2.....	2.32	1.9	Apr. 22.....	2.04	.2
Mar. 24.....	2.51	5.2	Apr. 4.....	2.32	1.6			

Daily discharge, in second-feet, of Rogers Creek near Azusa, Calif., for the year ending September 30, 1924

Day	Jan.	Mar.	Apr.	May	Day	Jan.	Mar.	Apr.	May
1.....	0.1		1.2	0.3	16.....			0.5	
2.....		0.4	2.2	.3	17.....			.4	
3.....		3.5	1.4	.2	18.....		0.2	.4	
4.....		2.4	1.6	.2	19.....		.2	.4	
5.....		1.2	1.3	.2	20.....		.2	.3	
6.....		.5	1.3	.2	21.....		.5	.3	
7.....		.4	1.6	.1	22.....		.4	.3	
8.....		.3	1.2		23.....		4.3	.5	
9.....		.2	1.0		24.....		5	.6	
10.....		.2	.9		25.....		2.0	.4	
11.....		.1	.8		26.....		12	.3	
12.....			.8		27.....	0.1	8	.3	
13.....			.7		28.....	.6	4.0	.3	
14.....			.7		29.....	.2	2.6	.3	
15.....			.6		30.....		1.9	.3	
					31.....		1.4		

NOTE.—No flow except on days for which discharge is given.

Monthly discharge of Rogers Creek near Azusa, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
January.....	0.6	0	0.03	1.8
March.....	12	0	1.67	103
April.....	2.2	.3	.76	45.2
May.....	.3	0	.05	3.1
The year.....	12	0	.21	153

NOTE.—No flow during months for which no discharge is given.

FISH CREEK NEAR DUARTE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 15, T. 1 N., R. 10 W., three-fourths of a mile above mouth of canyon and 4 miles northeast of Duarte, Los Angeles County.

DRAINAGE AREA.—6.5 square miles (measured on topographic map).

RECORDS AVAILABLE.—July 23 to September 30, 1916, and July 28, 1917, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank.

DISCHARGE MEASUREMENTS.—Made from cable near gage or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; appear permanent. Banks are high and not subject to overflow. In 1918 a concrete control was built at an outcrop of bedrock a short distance below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.95 feet at 2 p. m. March 26 (discharge, 58 second-feet); no flow June 15 to September 30.

1916-1924: Maximum stage, from water-stage recorder, 4.90 feet at 1 p. m. February 9, 1922 (discharge, 505 second-feet); no flow during periods of 1919, 1920, 1921, and 1924.

DIVERSIONS.—None above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve fairly well defined. Water-stage recorder gave excellent gage-height record, except December 19-21. Daily discharge ascertained by applying mean daily gage height to rating table; discharge interpolated December 19-21. Records good.

Discharge measurements of Fish Creek near Duarte, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 19.....	1.78	0.39	Mar. 27.....	2.34	12.0	May 16.....	1.74	0.17
Feb. 28.....	1.76	.27	Apr. 4.....	2.06	3.2	May 19.....	1.70	.1
Mar. 8.....	1.86	.68	Apr. 15.....	1.92	1.2	June 4.....	1.66	.05
Mar. 21.....	1.90	.90	Apr. 25.....	1.88	.95	June 23.....	1.56	.02

Daily discharge, in second-feet, of Fish Creek near Duarte, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	0.1	0.3	0.4	0.8	0.4	0.3	1.9	0.6	0.2
2.....	.1	.3	.3	.5	.4	1.9	2.4	.6	.1
3.....	.1	.3	.3	.5	.4	2.1	1.8	.6	.1
4.....	.1	.3	.3	.4	.4	2.8	2.6	.6	.1
5.....	.1	.2	.3	.4	.4	1.9	1.9	.6	.1
6.....	.1	.2	.3	.4	.4	.9	1.8	.5	.1
7.....	.1	.2	.3	.4	.4	.8	2.4	.4	.1
8.....	.3	.2	.3	.4	.4	.6	1.9	.4	.1
9.....	.3	.2	.3	.4	.5	.6	1.8	.3	.1
10.....	.2	.3	.3	.4	.6	.5	1.7	.3	.1
11.....	.2	.3	.3	.4	.5	.5	1.5	.3	.1
12.....	.2	.3	.3	.4	.4	.4	1.4	.3	.1
13.....	.2	.3	.4	.4	.4	.4	1.2	.4	.1
14.....	.1	.3	.4	.4	.4	.4	1.1	.3	.1
15.....	.1	.3	.4	.4	.4	.4	.9	.3	-----
16.....	.1	.3	.4	.4	.4	.4	.8	.3	-----
17.....	.1	.2	.4	.4	.4	.4	.7	.2	-----
18.....	.1	.2	.4	.4	.4	.5	.6	.2	-----
19.....	.1	.2	.4	.4	.4	.5	.6	.2	-----
20.....	.1	.2	.4	.4	.4	.6	.5	.2	-----
21.....	.1	.2	.4	.4	.4	.8	.5	.2	-----
22.....	.1	.2	.4	.4	.4	.6	.4	.2	-----
23.....	.2	.2	.4	.4	.4	4.0	.8	.3	-----
24.....	.2	.2	.4	.4	.4	8.5	.8	.4	-----
25.....	.2	.2	.4	.4	.3	3.0	.7	.3	-----
26.....	.2	.2	.4	.4	.3	14	.6	.3	-----
27.....	.2	.2	.6	.6	.3	14	.6	.4	-----
28.....	.2	.2	.4	1.5	.3	6	.6	.3	-----
29.....	.2	.2	.4	.7	.3	3.5	.6	.3	-----
30.....	.2	.2	.4	.6	-----	2.6	.6	.2	-----
31.....	.2	-----	.4	.5	-----	1.8	-----	.2	-----

NOTE.—No flow June 15 to Sept. 30.

Monthly discharge of Fish Creek near Duarte, Calif., for the year ending September 30, 1924

[Drainage area, 6.5 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mille	Inches	Acre-feet
October.....	0.3	0.1	0.15	0.023	0.03	9.2
November.....	.3	.2	.24	.037	.04	14.3
December.....	.6	.3	.37	.057	.07	22.8
January.....	1.5	.4	.48	.074	.09	29.5
February.....	.6	.3	.40	.062	.07	23.0
March.....	14	.3	2.44	.375	.43	150
April.....	2.6	.4	1.19	.183	.20	70.8
May.....	.6	.2	.35	.054	.06	21.5
June.....	.2	0	.05	.0077	.009	3.0
The year.....	14	0	.47	.072	1.00	344

NOTE.—No flow during the months of July, August, and September.

SAWPIT CREEK NEAR MONROVIA, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 13, T. 1 N., R. 11 W., at highway bridge just below junction of two main branches, 2 miles north of Monrovia, Los Angeles County.

DRAINAGE AREA.—5.3 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 8, 1916, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter, on left bank at east end of highway bridge.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed consists of coarse gravel and boulders; apparently permanent. Channel is straight for 25 feet above gage and curved below; banks are high. An artificial control of concrete and boulders was built across channel just below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.75 feet at 10 p. m. March 26 (discharge, 4.6 second-feet); stream dry at gage for several months.

1916-1924: Maximum stage recorded, 2.65 feet March 10, 1918 (discharge, 256 second-feet); stream dry several months each year.

DIVERSIONS.—Part of the water supply for Monrovia is obtained from the two branches of Sawpit Creek above gage. See record for Monrovia pipe line (p. 82).

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly from that of last year. Rating curve fairly well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—City of Monrovia furnished observer for water-stage recorder.

Discharge measurements of Sawpit Creek near Monrovia, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 27-----	1.45	1.7	Mar. 29-----	1.18	0.12	Apr. 2-----	1.00	0.02
Mar. 27-----	1.33	1.0						

Daily discharge, in second-feet, of Sawpit Creek near Monrovia, Calif., for the year ending September 30, 1924

Day	Mar.	Apr.	Day	Mar.	Apr.	Day	Mar.	Apr.
1-----		0.1	11-----			21-----		
2-----		.4	12-----			22-----		
3-----		.0	13-----			23-----		
4-----		.1	14-----			24-----		
5-----			15-----			25-----		
6-----			16-----			26-----	1.0	
7-----			17-----			27-----	1.2	
8-----			18-----			28-----	.2	
9-----			19-----			29-----	.2	
10-----			20-----			30-----	.1	
						31-----		

NOTE.—No flow except Mar. 26 to Apr. 4.

Monthly discharge of Sawpit Creek near Monrovia, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March.....	1.2	0	0.09	5.5
April.....	.4	0	.02	1.2
The year.....	1.2	0	.001	6.7

NOTE.—No flow except during March and April.

Combined monthly discharge of Sawpit Creek and Monrovia pipe line near Monrovia Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.3	1.1	1.12	68.9
November.....	1.1	1.1	1.10	65.5
December.....	1.1	1.1	1.10	67.6
January.....	1.1	1.1	1.10	67.6
February.....	1.1	.9	1.09	62.7
March.....	2.7	1.1	1.42	87.3
April.....	2.4	1.3	1.69	101
May.....	1.3	1.1	1.23	75.6
June.....	1.1	.8	.95	56.5
July.....	.8	.8	.80	49.2
August.....	.8	.8	.80	49.2
September.....	.8	.4	.64	33.1
The year.....	2.7	.4	1.09	789

MONROVIA PIPE LINE NEAR MONROVIA, CALIF.

LOCATION.—Near southeast corner sec. 14, T. 1 N., R. 11 W., 300 feet above settling reservoir at mouth of Sawpit Canyon and $1\frac{1}{2}$ miles north of Monrovia, Los Angeles County.

RECORDS AVAILABLE.—May 18, 1916, to September 30, 1924.

GAGE.—Vertical staff in weir box; read by J. L. Dingman, canyon guard.

DISCHARGE.—Determined by two rectangular weirs, with end contractions; left weir, 2.25 feet long; right weir, 2.26 feet long. Crest of left weir is at zero gage height; crest of right weir is 0.02 foot lower at one end. Rating table has been checked by current-meter measurements made at mouth of intake pipe in weir box.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 2.1 second-feet March 28; minimum mean daily discharge, 0.4 second-foot September 18 and 25-30.

1916-1924: Maximum mean daily discharge recorded, 6.1 second-feet May 9, 1922; minimum mean daily discharge recorded, that of September 18 and 25-30, 1924.

ACCURACY.—Stage-discharge relation permanent. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

COOPERATION.—Gage-height record furnished by city of Monrovia.

The Monrovia pipe line furnishes part of the water supply of Monrovia. It obtains its water from two branches of Sawpit Creek. Most of this water is collected by tunnels driven into the side of the canyon.

Daily discharge, in second-feet, of Monrovia pipe line near Monrovia, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.3	1.1	0.8	0.8	0.8
2.....	1.1	1.1	1.1	1.1	1.1	1.3	2.0	1.3	1.1	.8	.8	.8
3.....	1.1	1.1	1.1	1.1	1.1	1.3	1.7	1.3	1.1	.8	.8	.8
4.....	1.1	1.1	1.1	1.1	1.1	1.3	2.0	1.3	1.1	.8	.8	.8
5.....	1.1	1.1	1.1	1.1	1.1	1.3	1.5	1.3	.9	.8	.8	.8
6.....	1.1	1.1	1.1	1.1	1.1	1.3	1.7	1.3	1.1	.8	.8	.8
7.....	1.1	1.1	1.1	1.1	1.0	1.3	2.1	1.3	1.1	.8	.8	.8
8.....	1.3	1.1	1.1	1.1	.9	1.3	2.0	1.3	1.1	.8	.8	.8
9.....	1.3	1.1	1.1	1.1	1.1	1.3	1.9	1.3	1.1	.8	.8	.8
10.....	1.2	1.1	1.1	1.1	1.1	1.2	1.9	1.3	1.1	.8	.8	.8
11.....	1.2	1.1	1.1	1.1	1.1	1.2	1.9	1.2	1.1	.8	.8	.8
12.....	1.1	1.1	1.1	1.1	1.1	1.1	1.9	1.2	1.1	.8	.8	.8
13.....	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.2	1.0	.8	.8	.8
14.....	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.2	.9	.8	.8	.6
15.....	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.2	.9	.8	.8	.5
16.....	1.1	1.1	1.1	1.1	1.1	1.3	1.6	1.2	.9	.8	.8	.5
17.....	1.1	1.1	1.1	1.1	1.1	1.3	1.5	1.2	.9	.8	.8	.5
18.....	1.1	1.1	1.1	1.1	1.1	1.3	1.5	1.2	.9	.8	.8	.4
19.....	1.1	1.1	1.1	1.1	1.1	1.3	1.5	1.2	.9	.8	.8	.8
20.....	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.2	.8	.8	.8	.8
21.....	1.1	1.1	1.1	1.1	1.1	1.3	1.4	1.2	.8	.8	.8	.6
22.....	1.1	1.1	1.1	1.1	1.1	1.3	2.0	1.2	.8	.8	.8	.6
23.....	1.1	1.1	1.1	1.1	1.1	1.3	1.7	1.2	.9	.8	.8	.6
24.....	1.1	1.1	1.1	1.1	1.1	1.3	1.7	1.2	.9	.8	.8	.6
25.....	1.1	1.1	1.1	1.1	1.1	1.2	1.5	1.2	.8	.8	.8	.4
26.....	1.1	1.1	1.1	1.1	1.1	1.4	1.5	1.2	.8	.8	.8	.4
27.....	1.1	1.1	1.1	1.1	1.1	1.5	1.5	1.2	.8	.8	.8	.4
28.....	1.1	1.1	1.1	1.1	1.1	2.1	1.5	1.2	.8	.8	.8	.4
29.....	1.1	1.1	1.1	1.1	1.1	1.9	1.3	1.2	.8	.8	.8	.4
30.....	1.1	1.1	1.1	1.1	1.1	1.6	1.3	1.2	.8	.8	.8	.4
31.....	1.2	---	1.1	1.1	---	1.7	---	1.1	---	.8	---	---

Monthly discharge of Monrovia pipe line near Monrovia, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.3	1.1	1.12	68.9
November.....	1.1	1.1	1.10	65.5
December.....	1.1	1.1	1.10	67.6
January.....	1.1	1.1	1.10	67.6
February.....	1.1	.9	1.09	62.7
March.....	2.1	1.1	1.34	82.4
April.....	2.1	1.3	1.67	90.4
May.....	1.3	1.1	1.23	75.6
June.....	1.1	.8	.95	56.5
July.....	.8	.8	.80	49.2
August.....	.8	.8	.80	49.2
September.....	.8	.4	.64	38.1
The year.....	2.1	.4	1.06	783

SAN DIMAS CREEK NEAR SAN DIMAS, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec 25, T. 1 N., R. 9 W., at mouth of San Dimas Canyon, 3 miles northeast of San Dimas, Los Angeles County.

DRAINAGE AREA.—18.3 square miles (measured on topographic map).

RECORDS AVAILABLE.—December 3, 1916, to September 30, 1924. (Discharge measurements only, April 14 to September 4, 1916.)

GAGE.—Water-stage recorder, in concrete well and house, on left bank.

DISCHARGE MEASUREMENTS.—Made from cable about 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of sand, gravel, and boulders; shifting.

Control is low, concrete dam built across channel just below gage. During 1921 a wooden dam about 2½ feet high was built on the control. There is a notch in it in which are placed one or more planks to raise water so it can be diverted through a 12-inch pipe. This dam is removed at times. Gravel fills in above dam affecting stage-discharge relation. Left bank is steep and not subject to overflow; right bank is brushy and is overflowed during high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.20 feet at 3.30 p. m. July 12 (discharge, 10 second-feet, released from reservoir); practically no flow August 17 to September 30.

1916-1924: Maximum stage, from water-stage recorder, 5.95 feet at 2 p. m. February 9, 1922 (discharge, about 1,140 second-feet); stream dry for short periods during 1916, 1919, 1921, 1923, and 1924.

DIVERSIONS.—The San Dimas Water Co. diverts water for irrigation through a pipe line at the dam.

REGULATION.—Complete regulation at Los Angeles County flood control district's dam about half a mile upstream.

ACCURACY.—Stage-discharge relation depends on presence of temporary wooden diversion dam on top of concrete control and a plank in the control notch. Channel above dam also shifts causing changes in stage-discharge relation. Rating curves for each condition fairly well defined. Water-stage recorder record good, except October 31 to November 2 and January 31 to February 19. Daily discharge ascertained by applying mean daily gage height to rating table, except July 8 to August 16, for which it was estimated. Records fair.

Discharge measurements of San Dimas Creek near San Dimas, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 30.....	3.65	0.55	Mar. 24.....	4.18	0.95	June 9.....	4.42	2.4
Dec. 22.....	4.30	1.5	Mar. 27.....	4.32	1.4	June 16.....	4.35	1.3
Jan. 12.....	4.30	2.1	Apr. 11.....	4.22	1.1	June 25.....	4.43	2.7
Jan. 30.....	4.39	2.0	Apr. 23.....	4.27	1.3	July 1.....	4.75	5.0
Feb. 20.....	4.26	1.3	Apr. 28.....	4.22	1.3	July 8.....	4.13	.2
Feb. 26.....	4.25	1.6	May 9.....	4.47	3.1	July 22.....	4.05	.2
Feb. 28.....	4.22	1.1	May 23.....	4.48	2.8	Sept. 5.....	3.50	.05
Mar. 11.....	4.30	1.5	May 24.....	4.47	2.6			
Mar. 14.....	4.27	1.4	June 4.....	4.40	1.8			

Daily discharge, in second-feet, of San Dimas Creek near San Dimas, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1.....	0.4	1.1	1.7	2.4	2.0	1.2	0.8	1.4	1.8	4.6	0.1
2.....	.4	1.2	1.6	2.1	1.9	1.1	1.0	1.4	1.8	5	.1
3.....	.4	1.4	1.5	2.1	1.9	.8	.8	1.4	1.8	5	.1
4.....	.6	1.3	1.5	2.0	1.9	.7	1.2	1.4	1.8	4.6	.1
5.....	.5	1.2	1.4	2.0	1.8	1.0	1.2	1.4	1.9	3.5	.1
6.....	.6	1.2	1.4	2.0	1.8	1.6	1.3	1.4	2.0	2.0	.1
7.....	.7	1.2	1.4	2.0	1.7	2.0	1.3	1.8	2.1	1.0	.1
8.....	.9	1.2	1.6	2.0	1.7	2.3	1.2	2.7	2.4	.2	.1
9.....	.8	1.4	1.5	2.0	1.7	2.3	1.2	3.1	2.4	.2	.1
10.....	.8	1.9	1.4	2.1	1.6	2.3	1.2	3.1	2.3	.3	.1
11.....	.6	2.4	1.3	2.1	1.6	1.8	1.1	3.1	2.1	.2	.1
12.....	.6	1.8	1.4	2.1	1.6	1.5	1.0	2.8	2.0	.8	.1
13.....	.4	1.6	1.4	2.2	1.5	1.5	1.0	2.6	1.9	.2	.1
14.....	.4	1.5	1.4	2.1	1.5	1.4	1.0	2.5	1.7	.2	.1
15.....	.4	1.4	1.4	2.1	1.4	1.7	1.0	2.5	1.4	.2	.1

Daily discharge, in second-feet, of San Dimas Creek near San Dimas, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
16.....	0.5	1.2	1.4	2.0	1.4	1.8	1.0	2.6	1.3	0.2	0.1
17.....	.6	1.3	1.4	2.0	1.4	2.2	1.0	3.5	1.4	.2	-----
18.....	.5	1.5	1.4	2.0	1.3	2.4	.9	3.6	1.5	.2	-----
19.....	.4	1.8	1.4	1.9	1.3	2.3	.9	2.9	1.6	.2	-----
20.....	.4	1.8	1.6	1.8	1.3	2.2	.9	2.9	1.6	.2	-----
21.....	.4	1.6	1.5	1.8	1.4	2.0	.9	2.8	1.8	.2	-----
22.....	.5	1.4	1.5	1.7	1.4	1.7	.9	2.8	2.1	.2	-----
23.....	.6	1.4	1.5	1.7	1.4	1.7	1.2	2.8	2.3	.2	-----
24.....	.6	1.4	1.4	1.7	1.4	1.0	1.1	2.6	2.7	.2	-----
25.....	.6	1.5	1.4	1.7	1.5	.8	1.2	2.8	2.8	.2	-----
26.....	.6	1.5	1.6	1.6	1.6	1.6	1.2	3.1	2.9	.1	-----
27.....	.6	1.5	1.9	1.5	1.3	1.6	1.2	3.1	3.2	.1	-----
28.....	.6	1.5	1.8	1.0	1.2	1.0	1.3	2.6	3.2	.1	-----
29.....	.7	1.4	1.8	1.7	1.2	.8	1.3	2.0	3.1	.1	-----
30.....	.8	1.3	1.8	2.0	-----	.8	1.3	1.9	3.3	.1	-----
31.....	.9	-----	2.0	2.0	-----	.8	-----	1.8	-----	.1	-----

NOTE.—No flow Aug. 17 to Sept. 30.

Monthly discharge of San Dimas Creek near San Dimas, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.9	0.4	0.57	35.0
November.....	2.4	1.1	1.46	86.9
December.....	2.0	1.3	1.53	94.1
January.....	2.4	1.0	1.92	118
February.....	2.0	1.2	1.54	83.6
March.....	2.4	.7	1.55	95.3
April.....	1.3	.8	1.09	64.9
May.....	3.6	1.4	2.40	151
June.....	3.3	1.3	2.14	127
July.....	5.0	.1	.59	60.9
August.....	.1	0	.05	3.1
The year.....	5.0	0	1.27	925

NOTE.—No flow during September.

DALTON CREEK NEAR GLENDORA, CALIF.

LOCATION.—Center of sec. 21, T. 1 N., R. 9 W., at the Glendora Irrigation Co.'s dam one-fourth mile above mouth and $2\frac{1}{2}$ miles northeast of Glendora, Los Angeles County.

DRAINAGE AREA.—7.5 square miles.

RECORDS AVAILABLE.—December 1, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Control is the rubble masonry dam. Crest of dam slopes from wings to center being 5 feet lower at the center. Pool above dam has been filled with silt and control is not entirely effective.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.34 feet at 2 a. m. April 24 (discharge, 12 second-feet); no flow for several months.

1919-1924: Maximum stage, from water-stage recorder, 4.03 feet at 12.45 a. m. March 2, 1920 (discharge, 525 second-feet); no flow for several months during each year.

DIVERSIONS.—The Glendora Irrigation Co. diverts water half a mile and $1\frac{1}{2}$ miles above the gage through a 10-inch pipe line. A 12-inch pipe line diverts water at the control. No record of amount diverted was kept for this year.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve fairly well defined. Good record from water-stage recorder. Daily discharge ascertained by applying mean daily gage height to rating table or by averaging hourly discharge. Records good.

The following discharge measurements were made:

March 27, 1924: Gage height, 1.08 feet; discharge, 1.7 second-feet.

April 4, 1924: Gage height, 0.95 foot; discharge, 0.3 second-foot.

April 7, 1924: Gage height, 0.96 foot; discharge, 0.3 second-foot.

Daily discharge, in second-feet, of Dalton Creek near Glendora, Calif., for the year ending September 30, 1924

Day	Mar.	Apr.	Day	Mar.	Apr.	Day	Mar.	Apr.
1			11			21		
2		0.1	12			22		
3	0.1		13			23	0.1	2.4
4	.1	.2	14			24	.1	6
5	.1		15			25		.1
6		.1	16			26	1.7	
7		.3	17			27	2.1	
8		.3	18			28	.3	
9		.2	19			29	.2	
10		.1	20			30		
						31		

NOTE.—No flow except on days for which discharge is given.

Monthly discharge of Dalton Creek near Glendora, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March	2.1	0	0.15	9.2
April	6	0	.33	19.6
The period	6	0	.04	28.8

NOTE.—No flow during months for which discharge is not given.

LOS ANGELES RIVER BASIN

PACOIMA CREEK NEAR SAN FERNANDO, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 24, T. 3 N., R. 15 W., 600 feet above the mouth of canyon, and 4 miles northeast of San Fernando, Los Angeles County.

DRAINAGE AREA.—27.9 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 31, 1916, to September 30, 1924 (not complete).

GAGE.—Water-stage recorder in concrete well and house on left bank, installed December 2, 1916.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of sand, gravel, and boulders; not permanent. Left bank is steep rock cliff; right bank is gently sloping and covered with brush and trees. Control is a low boulder and concrete dam built across channel about 7 feet below gage well.

EXTREMES OF DISCHARGE.—Maximum stage during the year, from water-stage recorder, 2.07 feet at 10 p. m. March 26 (discharge, 29 second-feet); stream dry October 1-6, 12-14, 19-21, and June 4 to September 30.

1916-1924: Maximum stage recorded, 6 feet December 19, 1921 (discharge, 1,810 second-feet); usually no flow for several months each year.

DIVERSIONS.—None above station. Water is diverted just below control.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Standard rating curve fairly well defined. Water-stage recorder record good except February 27 to March 2. Daily discharge ascertained by shifting-control method; estimated for periods of no gage-height record. Records good.

Discharge measurements of Pacoima Creek near San Fernando, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 4.....	1.52	0.25	Mar. 25.....	1.78	6.1	Apr. 21.....	1.64	2.1
Jan. 10.....	1.50	.32	Mar. 27.....	1.96	19	Apr. 23.....	1.64	1.7
Mar. 3.....	1.60	1.2	Apr. 1.....	1.76	3.6	May 8.....	1.52	.7
Mar. 11.....	1.44	.26	Apr. 7.....	1.81	5.1	May 15.....	1.48	.42
Mar. 18.....	1.54	.65	Apr. 14.....	1.72	3.4	May 20.....	1.46	.31

Daily discharge, in second-feet, of Pacoima Creek near San Fernando, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....		0.6	0.2	0.8	0.5	0.5	3.5	1.3	0.1
2.....		.6	.3	.6	.5	2.0	4.8	1.3	.1
3.....		.4	.3	.5	.5	1.5	4.8	1.3	.1
4.....		.3	.3	.4	.5	1.0	4.8	1.3	
5.....		.3	.2	.4	.5	.9	3.3	1.3	
6.....		.3	.2	.4	.5	.8	2.8	1.0	
7.....	0.9	.3	.2	.4	.4	.7	4.8	.8	
8.....	.8	.3	.2	.4	.4	.6	4.8	.6	
9.....	.4	.3	.3	.3	.5	.6	4.8	.6	
10.....	.3	.2	.3	.3	.5	.5	4.8	.6	
11.....	.2	.2	.3	.2	.5	.3	4.8	.6	
12.....		.2	.3	.3	.5	.3	4.8	.5	
13.....		.2	.3	.3	.5	.2	4.4	.5	
14.....		.2	.4	.4	.5	.2	4.4	.5	
15.....	.2	.2	.5	.4	.5	.2	3.5	.4	
16.....	.1	.2	.6	.5	.5	.2	2.8	.3	
17.....	.1	.2	.5	.5	.5	.3	2.3	.2	
18.....	.1	.2	.5	.5	.5	.6	2.5	.2	
19.....		.2	.6	.5	.5	.4	2.3	.2	
20.....		.2	.6	.5	.5	.3	2.2	.3	
21.....		.2	.5	.5	.5	.3	2.0	.3	
22.....	.2	.1	.5	.4	.5	.7	1.9	.3	
23.....	.2	.1	.4	.4	.5	3.3	3.5	.4	
24.....	.2	.2	.4	.4	.5	9	3.3	.4	
25.....	.3	.2	.4	.3	.5	5.5	2.8	.4	
26.....	.3	.2	.5	.3	.5	11	2.3	.5	
27.....	.2	.2	.5	.4	.5	21	1.9	.5	
28.....	.2	.1	.5	.8	.5	15	1.8	.3	
29.....	.3	.2	.5	.7	.5	10	1.6	.2	
30.....	.3	.2	.5	.6		7	1.4	.2	
31.....	.4		.5	.6		5.5		.1	

NOTE.—No flow on days for which no record is given.

Monthly discharge of Pacoima Creek near San Fernando, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.9	0	0.18	11.1
November.....	.6	.1	.24	14.3
December.....	.6	.2	.40	24.6
January.....	.8	.2	.45	27.7
February.....	.5	.4	.49	28.2
March.....	21	.2	3.24	199
April.....	4.8	1.4	3.32	198
May.....	1.3	.1	.56	34.4
June.....	.1	0	.01	.6
The year.....	21	0	.74	538.

NOTE.—No flow during months of July, August, and September.

TUJUNGA CREEK NEAR SUNLAND, CALIF.

LOCATION.—Near center of sec. 32, T. 3 N., R. 13 W. (unsurveyed), at a partly constructed and abandoned dam, about 2 miles above mouth of canyon, and 4 miles northeast of Sunland, Los Angeles County.

DRAINAGE AREA.—106 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 28, 1916, to September 30, 1924. (Discharge measurements only, April 1 to August 27, 1916.)

GAGE.—Water-stage recorder on right bank above dam.

DISCHARGE MEASUREMENTS.—Made from cable about 1,000 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel and boulders. Control is concrete dam, which has a notch in center about 20 feet long and 1 foot deep. Stage-discharge relation affected by deposits of sand and gravel above the dam.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.24 feet at 11 p. m. March 26 (discharge, 87 second-feet); minimum discharge, 0.1 second-foot for several days in August and September.

1916-1924: Maximum stage recorded, 6.20 feet at 5 p. m. December 19, 1921 (discharge, 8,600 second-feet); minimum discharge estimated at 0.1 second-foot, September 20-23, 1919, and several days in August and September, 1924.

DIVERSIONS.—Two or three ranches divert part of the low-water flow for irrigation above the station. There are two small diversions between gage and and mouth of canyon.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Two well-defined rating curves used November 1 to May 13 and May 27 to July 2. Water-stage recorder record good November 1 to May 13, May 27 to July 2, July 9 to August 13, August 19-24, September 3-6 and 22-30; uncertain remainder of year on account of water being below intake. Daily discharge ascertained by applying mean daily gage height to rating table except for October, May 14-26, and July 3 to September 30 for which it was estimated, or interpolated, between measurements. Records good.

Discharge measurements of Tujunga Creek near Sunland, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 15.....		2.6	Mar. 28.....	0.74	27	June 20.....	0.42	0.65
Oct. 29.....	0.36	2.9	Apr. 1.....	.57	14	June 27.....	.40	.6
Dec. 2.....	.40	2.6	Apr. 7.....	.64	13	July 2.....	.40	.46
Dec. 24.....	.40	5.5	Apr. 14.....	.64	11	July 9.....	.78	.25
Jan. 10.....	.44	6.2	Apr. 21.....	.48	8.9	July 14.....	.52	.33
Jan. 21.....	.44	6.9	Apr. 28.....	.50	9.7	July 23.....	.52	.25
Jan. 28.....	.51	9.4	May 5.....	.38	5.5	Aug. 1.....	.48	.25
Feb. 19.....	.42	6.0	May 15.....	.36	4.6	Aug. 9.....	.48	.14
Feb. 27.....	.42	5.6	May 20.....	.32	3.6	Aug. 19.....	.50	.26
Mar. 4.....	.45	11	May 27.....	.92	4.1	Aug. 22.....	.42	.23
Mar. 11.....	.45	7.2	June 3.....	.68	1.6	Sept. 3.....	.42	.20
Mar. 18.....	.46	7.6	June 10.....	.64	1.4	Sept. 22.....	.45	.18
Mar. 24.....	.70	23	June 17.....	.48	.75			

Daily discharge, in second-feet, of Tujunga Creek near Sunland Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		8	6	8.5	8	5.5	13	8	1.9	0.6	0.2	0.2
2.....		6	6	8	8	11	17	7.5	1.8	.5	.2	.2
3.....		6	5.5	8	7.5	19	14	7	1.7	.5	.2	.2
4.....		5.5	5.5	7.5	7.5	13	17	6.5	1.6	.4	.2	.2
5.....		5.5	6	7.5	7	11	16	6	1.4	.4	.2	.2
6.....		5.5	6	7	7	9	14	6	1.3	.3	.1	.2
7.....		5.5	6	7	7	8.5	19	5.5	1.2	.3	.1	.2
8.....		5.5	6	7	7	8	18	5	1.2	.2	.1	.2
9.....		6	6	7	7.5	7.5	16	5	1.2	.2	.1	.2
10.....		6	5.5	7	8	7	14	5.5	1.2	.2	.1	.2
11.....		6	5.5	7	7.5	7	13	5.5	1.2	.2	.1	.2
12.....		6	5.5	7	7	7	12	5	1.2	.2	.1	.2
13.....		6	6	7	7	7	11	4.8	1.1	.3	.2	.1
14.....		6	6	7	7	7	11	4.7	1.0	.3	.2	.1
15.....	2.6	6	6	7	7	6.5	12	4.6	1.0	.3	.2	.1
16.....		5.5	6	7	6.5	6.5	11	4.4	1.0	.3	.2	.1
17.....		5.5	6	7	6.5	7	9.5	4.2	.9	.3	.3	.1
18.....		5.5	6	7	6.5	7.5	9	4.0	.8	.3	.3	.1
19.....		5.5	6	7	6	7	8.5	3.8	.7	.2	.3	.1
20.....		5.5	6	7	6.5	7	8.5	3.6	.6	.2	.3	.1
21.....		5.5	6	7	6.5	7.5	8	3.6	.6	.2	.2	.1
22.....		5.5	6	7	6.5	7	7.5	3.6	.6	.2	.2	.1
23.....		5.5	6	7	6	15	11	3.7	.6	.2	.2	.1
24.....		5.5	5.5	7	6	23	13	3.7	.6	.2	.2	.1
25.....		5.5	6	7	6	21	11	3.7	.5	.2	.2	.1
26.....		5.5	6	7	6	43	9.5	3.8	.6	.2	.2	.1
27.....	2.5	5.5	6.5	8	6	55	9	3.8	.7	.2	.2	.1
28.....	2.5	5.5	6.5	9.5	6	29	9	3.6	.6	.2	.2	.1
29.....	2.9	5.5	6.5	9	6	21	9	3.4	.6	.2	.2	.1
30.....	3.0	5.5	6.5	8.5	-----	17	8.5	2.9	.6	.2	.2	.1
31.....	5	-----	7	8.5	-----	15	-----	2.4	-----	.2	.2	.1

NOTE.—No record Oct. 1-26.

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Monthly discharge of Tujunga Creek near Sunland, Calif., for the year ending September 30, 1924

[Drainage area, 106 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October.....			* 3.0	0.028	0.03	184
November.....	8	5.5	5.73	.054	.06	341
December.....	7	5.5	6.00	.057	.07	369
January.....	9.5	7	7.42	.070	.08	456
February.....	8	6	6.79	.064	.07	391
March.....	55	5.5	13.6	.128	.15	836
April.....	19	7.5	12.0	.113	.13	714
May.....	8	2.4	4.67	.044	.05	287
June.....	1.9	.5	1.00	.0094	.01	59.5
July.....	.6	.2	.27	.0025	.003	16.6
August.....	.3	.1	.19	.0018	.002	11.7
September.....	.2	.1	.14	.0013	.001	8.3
The year.....	55	.1	5.06	.048	.66	3,670

* Estimated.

HAINES CREEK NEAR TUJUNGA, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 18, T. 2 N., R. 13 W., 800 feet above mouth of canyon and $1\frac{1}{2}$ miles northeast of Tujunga, Los Angeles County.

DRAINAGE AREA.—1.2 square miles.

RECORDS AVAILABLE.—February 7, 1917, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house, on right bank.

DISCHARGE MEASUREMENTS.—Made by wading near gage, or by volumetric method when discharge is very small. A gaging bridge, for use during high water, is located just above gage.

CHANNEL AND CONTROL.—Bed consists of boulders and gravel overlying solid rock, permanent. Banks are high and fairly clean. A concrete dam having a maximum height of about 5 feet above bedrock, was built across the channel at downstream face of gage well. A 12-foot concrete wing wall was constructed at left end of dam. Crest of dam has a trapezoidal notch 6 inches wide on bottom and 1 foot deep, which makes control more sensitive for low stages. Zero flow, gage height 0.23 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 0.47 foot at 3.30 a. m. March 2 (discharge, 0.21 second-foot); minimum stage, 0.25 foot June 28 to July 6 (discharge, 0.01 second-foot).

1917-1924: Maximum stage recorded, 1.74 feet January 2, 1922 (discharge, 15 second-foot); stream dry July 18 to August 1, 1921.

DIVERSIONS.—About a mile above the station a tunnel has been driven into the stream bed and a 4-inch pipe carries the water past the gage. This water is used for domestic supply at Tujunga. A similar tunnel, a short distance below the station, obtains a small supply during the greater part of the year.

REGULATION.—A large number of small check dams, constructed of brush and boulders, have been built across the stream channel in the upper part of the drainage basin.

ACCURACY.—Stage-discharge relation changed October 7. Rating curves fairly well defined. Operation of water-stage recorder satisfactory, except October 4-14 and 18-27. Daily discharge ascertained by applying mean daily gage height to rating table, except for above dates for which it was estimated by comparison with records of near-by streams. Records good.

Discharge measurements of Haines Creek near Tujunga, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Jan. 24.....	<i>Feet</i> 0.32	<i>Sec.-ft.</i> 0.04	May 22.....	<i>Feet</i> 0.32	<i>Sec.-ft.</i> 0.02	Aug. 1.....	<i>Feet</i> 0.26	<i>Sec.-ft.</i> 0.005
Feb. 21.....	.32	.04	June 20.....	.26	.01	Aug. 9.....	.26	.005
Mar. 25.....	.32	.05	July 9.....	.26	.007	Aug. 22.....	.26	.005
May 7.....	.32	.03	July 28.....	.26	.005			

Daily discharge, in second-feet, of Haines Creek near Tujunga, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	0.02	0.03	0.03	0.04	0.06	0.04	0.05	0.05	0.02	0.01	0.01	0.01
2.....	.02	.03	.03	.04	.06	.06	.04	.05	.02	.01	.01	.02
3.....	.02	.02	.03	.04	.06	.05	.04	.05	.02	.01	.01	.02
4.....	.02	.02	.02	.04	.05	.05	.06	.04	.02	.01	.01	.02
5.....	.02	.02	.02	.04	.05	.05	.05	.04	.02	.01	.01	.01
6.....	.02	.02	.02	.04	.04	.05	.05	.04	.03	.01	.01	.01
7.....	.05	.02	.03	.04	.04	.05	.05	.04	.03	.01	.01	.02
8.....	.04	.02	.03	.04	.04	.05	.05	.04	.03	.01	.01	.02
9.....	.03	.02	.03	.04	.04	.04	.04	.04	.03	.01	.01	.02
10.....	.03	.02	.03	.04	.04	.04	.04	.04	.03	.01	.01	.02
11.....	.03	.02	.03	.04	.04	.04	.04	.04	.03	.01	.01	.02
12.....	.02	.01	.03	.04	.04	.04	.04	.04	.03	.01	.01	.02
13.....	.02	.01	.04	.03	.04	.04	.04	.05	.03	.02	.01	.02
14.....	.02	.01	.04	.03	.04	.04	.04	.05	.03	.02	.01	.02
15.....	.02	.01	.03	.03	.04	.04	.04	.04	.03	.02	.01	.02
16.....	.02	.02	.03	.03	.04	.04	.04	.04	.03	.02	.01	.02
17.....	.01	.02	.03	.03	.04	.04	.05	.04	.02	.02	.01	.02
18.....	.01	.02	.03	.03	.04	.04	.05	.04	.02	.02	.01	.02
19.....	.01	.02	.04	.03	.04	.04	.05	.04	.02	.02	.01	.02
20.....	.01	.02	.04	.03	.04	.04	.04	.03	.02	.02	.01	.03
21.....	.01	.02	.04	.04	.04	.04	.04	.03	.02	.02	.01	.03
22.....	.02	.02	.04	.04	.04	.04	.04	.03	.02	.01	.01	.03
23.....	.02	.02	.04	.04	.04	.05	.06	.03	.01	.01	.01	.03
24.....	.02	.02	.04	.04	.04	.04	.05	.03	.01	.01	.01	.03
25.....	.02	.02	.04	.04	.04	.04	.04	.03	.01	.01	.01	.03
26.....	.02	.03	.04	.05	.04	.06	.04	.03	.01	.01	.01	.02
27.....	.02	.03	.04	.06	.04	.06	.04	.03	.01	.01	.01	.02
28.....	.02	.03	.04	.06	.04	.05	.05	.03	.01	.01	.01	.02
29.....	.02	.03	.04	.06	.04	.05	.05	.03	.01	.01	.01	.02
30.....	.02	.03	.04	.06		.05	.05	.03	.01	.01	.01	.02
31.....	.03		.04	.06		.05		.03		.01		

Monthly discharge of Haines Creek near Tujunga, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.05	0.01	0.021	1.29
November.....	.03	.01	.021	1.25
December.....	.04	.02	.034	2.09
January.....	.06	.03	.041	2.52
February.....	.06	.04	.043	2.47
March.....	.06	.04	.045	2.77
April.....	.06	.04	.045	2.68
May.....	.05	.03	.038	2.34
June.....	.03	.01	.021	1.25
July.....	.02	.01	.013	.80
August.....	.01	.01	.010	.61
September.....	.03	.01	.021	1.25
The year.....	.06	.01	.029	21.3

ARROYO SECO NEAR PASADENA, CALIF.

LOCATION.—Near south line of sec. 30, T. 2 N., R. 12 W. (unsurveyed), just below trail crossing at forest ranger's station, in Angeles National Forest, $1\frac{1}{2}$ miles above mouth of Millard Canyon, 3 miles above Devil's Gate Dam, and $5\frac{1}{2}$ miles northwest of Pasadena, Los Angeles County.

DRAINAGE AREA.—16.4 square miles (measured on topographic map).

RECORDS AVAILABLE.—December 1, 1910, to September 30, 1924.

GAGE.—Water-stage recorder on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 150 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of solid rock, gravel, and boulders. A concrete dam, extending to bedrock, was built across channel 15 feet below gage well. There is a notch in the crest 2 feet wide and 1 foot deep. In July, 1919, a concrete intake box was built from gage house down to control.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.35 feet at 4 p. m. March 26 (discharge, 81 second-feet); minimum stage, 0.71 foot at 8 p. m. August 19 (discharge, 0.1 second-foot).

1910-1924: Maximum stage recorded, 12.5 feet February 20, 1914 (discharge, from extension of rating curve, about 5,630 second-feet); minimum discharge, 0.04 second-foot August 20-23, 1920.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined for range of stage. Water-stage recorder record excellent except November 8-11, 20-22, December 1-4, March 30, April 20-23, May 8, May 31 to June 4, and September 9-15. Daily discharge ascertained by applying mean daily gage height to rating table, except March 25 and 26 and April 4 for which hourly discharge was averaged; discharge estimated for periods of no gage-height record. Records good.

Discharge measurements of Arroyo Seco near Pasadena, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Dec. 20.....	0.99	0.73	Mar. 25.....	1.46	3.7	May 12.....	1.08	1.9
Feb. 1.....	1.08	1.5	Mar. 26.....	2.30	70	May 23.....	1.00	1.3
Feb. 8.....	1.02	1.2	Mar. 27.....	1.96	21	Do.....	.98	.65
Mar. 3.....	1.70	6.1	Apr. 3.....	1.43	3.6	June 5.....	.88	.2
Do.....	1.71	5.8	Apr. 9.....	1.60	4.9	June 20.....	.82	.14
Mar. 5.....	1.40	3.9	Apr. 15.....	1.39	4.1	June 26.....	.78	.08
Mar. 8.....	1.14	1.8	Apr. 24.....	1.34	2.7			
Mar. 24.....	1.89	14	Apr. 30.....	1.18	2.0			

Daily discharge, in second-feet, of Arroyo Seco near Pasadena, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	0.3	0.5	0.7	1.0	1.1	0.9	3.6	1.8	0.8	0.2	0.2	0.2
2.....	.3	.5	.7	1.0	1.1	2.2	5.5	1.7	.7	.2	.1	.2
3.....	.3	.4	.7	1.0	1.0	5	3.8	1.6	.6	.2	.1	.2
4.....	.3	.3	.7	1.0	1.0	4.5	11	1.6	.5	.2	.1	.2
5.....	.3	.3	.7	1.0	1.0	3.5	9	1.6	.4	.2	.1	.2
6.....	.3	.3	.7	1.0	1.0	2.2	5.5	1.6	.5	.2	.1	.2
7.....	.3	.4	.7	1.0	1.0	1.9	8.5	1.5	.5	.2	.1	.2
8.....	.7	.4	.7	1.0	1.0	1.7	6	1.4	.5	.2	.1	.2
9.....	.4	.6	.7	1.0	1.0	1.6	4.9	1.3	.5	.2	.1	.2
10.....	.4	.5	.6	1.0	1.0	1.4	4.4	1.2	.4	.2	.1	.2

Daily discharge, in second-feet, of Arroyo Seco near Pasadena, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....	0.4	0.6	0.7	1.0	1.0	1.3	4.0	1.3	0.4	0.2	0.1	0.2
12.....	.3	.6	.7	1.0	1.0	1.2	3.7	1.3	.4	.2	.1	.1
13.....	.3	.6	.8	1.0	1.0	1.1	3.4	1.3	.4	.2	.1	.1
14.....	.3	.6	.8	.9	1.0	1.1	3.3	1.3	.4	.2	.1	.1
15.....	.3	.6	.8	.9	1.0	1.1	3.2	1.3	.4	.2	.1	.1
16.....	.4	.6	.8	.9	1.0	1.0	2.7	1.1	.3	.2	.1	.1
17.....	.4	.6	.8	.9	1.0	1.1	2.4	1.0	.3	.2	.1	.1
18.....	.3	.6	.8	.9	.9	1.3	2.3	1.0	.3	.2	.1	.1
19.....	.3	.6	.9	.9	.9	1.1	2.1	1.0	.3	.2	.1	.1
20.....	.3	.6	.9	.8	.8	1.2	2.1	.9	.2	.2	.1	.2
21.....	.3	.6	.9	.8	.8	1.3	2.0	.9	.2	.2	.1	.1
22.....	.3	.6	.8	.8	.7	1.2	4.4	.9	.2	.2	.1	.1
23.....	.4	.6	.8	.8	.7	3.6	3.5	.9	.2	.2	.1	.1
24.....	.4	.6	.8	.8	.8	11	2.9	.9	.2	.2	.2	.1
25.....	.4	.6	.8	.8	.8	5	2.6	.9	.2	.2	.2	.2
26.....	.4	.6	.8	.8	.8	31	2.2	.9	.2	.2	.2	.2
27.....	.4	.6	.8	1.3	.9	25	2.1	1.0	.2	.2	.2	.2
28.....	.4	.6	.8	1.8	.9	10	2.1	.9	.2	.2	.2	.2
29.....	.4	.7	.8	1.3	.9	7	2.1	.9	.2	.2	.2	.2
30.....	.4	.7	1.0	1.3	-----	5.5	1.9	.9	.2	.2	.2	.2
31.....	.4	-----	1.1	1.3	-----	3.6	-----	.9	-----	.2	.2	-----

Monthly discharge of Arroyo Seco near Pasadena, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.7	0.3	0.36	22.1
November.....	.7	.3	.54	32.1
December.....	1.1	.6	.78	48.0
January.....	1.8	.8	1.00	61.5
February.....	1.1	.7	.93	53.5
March.....	31	.9	4.54	279
April.....	11	1.9	3.91	233
May.....	1.8	.9	1.19	73.2
June.....	.8	.2	.36	21.4
July.....	.2	.2	.20	12.3
August.....	.2	.1	.13	8.0
September.....	.2	.1	.16	9.5
The year.....	31	.1	1.18	854

SANTA ANITA CREEK NEAR SIERRA MADRE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 10, T. 1 N., R. 11 W., at the head of Hermits Falls, 4 miles northeast of Sierra Madre, Los Angeles County.

DRAINAGE AREA.—10.5 square miles (measured on topographic map).

RECORDS AVAILABLE.—July 31, 1916, to September 30 1924.

GAGE.—Water-stage recorder on right bank of pool at head of Hermits Falls.

DISCHARGE MEASUREMENTS.—Made from cable 300 feet below gage or by wading.

CHANNEL AND CONTROL.—Channel at gage is pool in bedrock; bed is rough and steep above and below pool. Banks are high, clean, and not subject to overflow. Control is bedrock, the same for all stages, and is permanent. Zero flow, gage height 0.41 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.05 feet at 2 p. m. March 26 (discharge, 40 second-feet); minimum stage, 0.57 foot September 29–30 (discharge, 0.1 second-foot).

1916–1924: Maximum stage recorded, 7.30 feet at 2 p. m. February 9, 1922 (discharge, 781 second-feet); minimum stage, 0.57 foot September 12 and 13, 1919, and September 29–30, 1924 (discharge, 0.1 second-foot).

DIVERSIONS.—None above.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record excellent except October 23–27 and August 27 to September 18. Daily discharge ascertained by applying mean daily gage height to rating table, except March 23 and 26, for which hourly discharge was averaged. Records good.

Discharge measurements of Santa Anita Creek at Sierra Madre, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 2.....	0.76	0.59	Mar. 10.....	0.90	1.7	June 12.....	0.78	0.49
Oct. 28.....	.78	.60	Mar. 28.....	1.20	6.3	June 21.....	.70	.31
Nov. 28.....	.82	.80	Apr. 19.....	.96	1.6	July 7.....	.65	.12
Dec. 20.....	.84	1.1	May 1.....	.92	1.7	July 26.....	.64	.13
Jan. 23.....	.84	.96	May 12.....	.90	1.6	Aug. 7.....	.60	.03
Feb. 25.....	.84	.96	May 21.....	.84	.85			

Daily discharge, in second-feet, of Santa Anita Creek near Santa Anita, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	0.4	1.3	1.0	1.6	1.2	0.7	2.8	1.5	0.8	0.2	0.1	0.1
2.....	.4	1.0	.9	1.2	1.1	2.3	3.0	1.5	.7	.1	.1	.1
3.....	.4	.9	.9	1.1	1.1	3.2	2.4	1.5	.7	.1	.1	.1
4.....	.4	.7	.9	1.0	1.1	3.2	4.2	1.5	.7	.1	.1	.1
5.....	.5	.7	.8	1.1	1.1	3.2	3.5	1.5	.7	.1	.1	.1
6.....	.5	.7	.8	1.1	1.1	2.1	3.2	1.4	.8	.1	.1	.1
7.....	.9	.7	.9	1.0	1.1	1.7	3.8	1.2	.9	.1	.1	.1
8.....	1.0	.7	.8	1.0	1.1	1.5	3.4	1.1	.9	.1	.1	.1
9.....	.7	.9	.7	1.0	1.1	1.4	3.1	1.1	.8	.1	.1	.1
10.....	.6	1.0	.7	1.0	1.2	1.3	3.0	1.2	.7	.1	.1	.1
11.....	.5	1.0	.8	1.0	1.2	1.3	2.8	1.2	.6	.1	.1	.1
12.....	.4	1.0	.9	1.0	1.1	1.2	2.7	1.2	.5	.1	.1	.1
13.....	.3	.9	.9	1.0	1.0	1.2	2.5	1.2	.4	.1	.1	.1
14.....	.3	.8	.8	1.0	1.0	1.2	2.4	1.2	.4	.1	.1	.1
15.....	.4	.7	.8	.9	1.0	1.2	2.3	1.1	.4	.1	.1	.1
16.....	.5	.7	.8	.9	1.0	1.2	2.2	.9	.3	.1	.1	.1
17.....	.4	.8	.8	.9	1.1	1.2	2.1	.9	.3	.1	.1	.1
18.....	.4	.9	.8	.9	1.1	1.2	2.1	.9	.4	.1	.1	.1
19.....	.3	.9	.9	.9	1.0	1.2	1.9	.9	.4	.1	.1	.1
20.....	.3	.9	.9	.9	1.0	1.2	1.7	.9	.3	.1	.1	.1
21.....	.4	.9	.9	.9	1.0	1.4	1.7	1.0	.2	.1	.1	.1
22.....	.4	.9	.9	.9	1.0	1.2	1.7	1.1	.2	.1	.1	.1
23.....	.4	.9	.8	.9	1.0	6	2.5	1.2	.2	.1	.1	.1
24.....	.4	.8	.8	.9	1.0	4.0	2.3	1.2	.2	.1	.1	.1
25.....	.4	.8	.8	.9	.9	3.2	2.1	1.2	.2	.1	.1	.1
26.....	.5	.8	.8	.9	.8	16	2.0	1.2	.2	.1	.1	.1
27.....	.5	.8	1.1	1.2	.8	11	1.7	1.3	.2	.1	.1	.1
28.....	.5	.8	1.1	2.2	.8	6	1.7	1.1	.2	.1	.1	.1
29.....	.6	.7	1.0	1.4	.7	4.2	1.6	1.0	.2	.1	.1	.1
30.....	.6	.8	1.0	1.2	-----	3.4	1.6	1.0	.2	.1	.1	.1
31.....	1.0	-----	1.1	1.2	-----	3.0	-----	1.0	-----	.1	.1	-----

Monthly discharge of Santa Anita Creek near Sierra Madre, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.0	0.3	0.49	30.1
November.....	1.3	.7	.85	50.6
December.....	1.1	.7	.87	53.5
January.....	2.2	.9	1.07	65.8
February.....	1.2	.7	1.02	58.7
March.....	16	.7	2.97	183
April.....	4.2	1.6	2.47	147
May.....	1.5	.9	1.17	71.9
June.....	.9	.2	.46	27.4
July.....	.2	.1	.10	6.1
August.....	.1	.1	.10	6.1
September.....	.1	.1	.10	6.0
The year.....	16	.1	.97	706

LITTLE SANTA ANITA CREEK NEAR SIERRA MADRE, CALIF.

LOCATION.—Near center of W. $\frac{1}{2}$ sec. 9, T. 1 N., R. 11 W., 2 miles northeast of Sierra Madre, Los Angeles County.

DRAINAGE AREA.—1.9 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 15, 1916, to September 30, 1924.

GAGE.—Water-stage recorder on left bank about 150 feet below Scherer's cabin.

DISCHARGE MEASUREMENTS.—Made from wooden bridge near gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel and boulders; one channel at all stages; straight for 75 feet above control. Right bank is rock cliff; left bank is stone wall 5 feet high which is probably above maximum stage. Control is small concrete dam, with triangular notch at left end just below gage. Control is not permanent for high stages on account of varying amounts of gravel deposited in pool just above dam. Zero flow, gage height 0.70 foot; top of dam, gage height 1.50 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.62 feet at 2 p. m. March 26 (discharge, 3.0 second-feet); stream practically dry July 1 to September 30.

1916-1924: Maximum stage recorded, 2.55 feet at 8 p. m. March 13, 1921 (discharge, 98 second-feet); stream dry during part of each day September 16 and 17, 1919, and practically dry July 1 to September 30, 1924.

DIVERSIONS.—None above.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 25 second-feet and extended above. Water-stage recorder record good except for a few short periods when the clock stopped and July 1 to September 30 when control was blocked by a dam to form a swimming pool. Daily discharge ascertained by applying mean daily gage height to rating table except June 19-30 for which it was estimated at 0.1 second-foot. Practically no flow July 1 to September 30 as evaporation equaled inflow into pool. Records good.

Discharge measurements of Little Santa Anita Creek near Sierra Madre, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 17.....	0.98	0.07	Mar. 24.....	1.26	0.6	Apr. 30.....	1.10	0.27
Feb. 19.....	.97	.07	Apr. 3.....	1.17	.4	May 9.....	1.06	.22
Mar. 3.....	1.12	.28	Apr. 10.....	1.20	.55	May 19.....	.98	.08
Mar. 5.....	1.16	.35	Apr. 17.....	1.14	.34	June 23.....	.92	.06
Mar. 22.....	1.06	.20	Apr. 24.....	1.12	.31	July 15.....	.96	.016

Daily discharge, in second-feet, of Little Santa Anita Creek near Sierra Madre, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	0.1	0.2	0.2	0.2	0.2	0.1	0.4	0.2	0.1
2.....	.1	.1	.1	.2	.1	.3	.4	.2	.1
3.....	.1	.1	.1	.2	.1	.3	.4	.2	.1
4.....	.1	.1	.1	.2	.1	.3	.7	.2	.1
5.....	.1	.1	.1	.2	.1	.3	.5	.2	.1
6.....	.1	.1	.1	.2	.1	.2	.5	.2	.1
7.....	.2	.1	.1	.2	.1	.2	.6	.2	.1
8.....	.1	.1	.1	.2	.1	.2	.5	.2	.1
9.....	.1	.1	.1	.2	.1	.2	.5	.2	.1
10.....	.1	.1	.1	.1	.1	.2	.4	.2	.1
11.....	.1	.1	.1	.1	.1	.2	.4	.2	.1
12.....	.1	.1	.1	.1	.1	.2	.4	.2	.1
13.....	.1	.1	.2	.1	.1	.1	.3	.2	.1
14.....	.1	.1	.2	.1	.1	.1	.3	.2	.1
15.....	.1	.1	.1	.1	.1	.2	.3	.1	.1
16.....	.1	.1	.1	.1	.1	.2	.3	.1	.1
17.....	.1	.1	.1	.1	.1	.2	.3	.1	.1
18.....	.1	.1	.1	.1	.1	.2	.2	.1	.1
19.....	.1	.1	.1	.1	.1	.2	.2	.1	.1
20.....	.1	.1	.2	.1	.1	.2	.2	.1	.1
21.....	.1	.1	.2	.1	.1	.2	.2	.1	.1
22.....	.1	.1	.1	.1	.1	.2	.2	.1	.1
23.....	.1	.1	.1	.1	.1	.6	.3	.1	.1
24.....	.1	.1	.1	.1	.1	.7	.2	.1	.1
25.....	.1	.1	.1	.1	.1	.5	.2	.1	.1
26.....	.1	.1	.1	.1	.1	1.0	.2	.2	.1
27.....	.1	.1	.2	.4	.1	.9	.2	.2	.1
28.....	.1	.1	.1	.2	.1	.4	.2	.1	.1
29.....	.1	.1	.1	.2	.1	.4	.2	.1	.1
30.....	.1	.1	.1	.2	.....	.4	.2	.1	.1
31.....	.2	.....	.2	.2	.....	.4	.....	.1	.....

NOTE.—No flow July 1 to Sept. 30.

Monthly discharge of Little Santa Anita Creek near Sierra Madre, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.2	0.1	0.11	6.8
November.....	.2	.1	.10	6.0
December.....	.2	.1	.12	7.4
January.....	.4	.1	.15	9.2
February.....	.2	.1	.10	5.8
March.....	1.0	.1	.32	19.7
April.....	.7	.2	.33	19.6
May.....	.2	.1	.15	9.2
June.....	.1	.1	.10	6.0
The year.....	1.0	0	.12	89.7

NOTE.—Stream practically dry July 1 to Sept. 30.

EATON CREEK NEAR PASADENA, CALIF.

LOCATION.—Near line between secs. 2 and 11, T. 1 N., R. 12 W., at mouth of canyon just above Mount Wilson toll bridge and 4 miles northeast of Pasadena, Los Angeles County.

DRAINAGE AREA.—6.5 square miles (measured on topographic map).

RECORDS AVAILABLE.—March 1, 1918, to September 30, 1924.

GAGE.—Water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Gravel and boulders, fairly permanent; concrete control.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.80 feet on March 26 (discharge, 37 second-feet); no flow for several months.

1918-1924: Maximum stage recorded, 4.60 feet at 2 p. m. December 19, 1921 (discharge, 1,120 second-feet); no flow for periods each year.

DIVERSIONS.—City of Pasadena diverts water above station.

REGULATION.—None.

ACCURACY.—Water-stage recorder did not operate satisfactorily. Daily discharge estimated from scattered staff gage readings and comparison with records for Santa Anita Creek and Arroyo Seco.

COOPERATION.—Record of diversion from Eaton Creek furnished by city of Pasadena.

Discharge measurements of Eaton Creek near Pasadena, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 24-----	0.98	1.4	Mar. 29-----	1.00	1.3	Apr. 7-----	0.99	1.3
Mar. 26-----	.90	.8	Apr. 2-----	.96	1.2			

Daily discharge, in second-feet, of Eaton Creek near Pasadena, Calif., for the year ending September 30, 1924

Day	Mar.	Apr.	Day	Mar.	Apr.	Day	Mar.	Apr.
1-----		0.6	11-----		0.3	21-----		
2-----		1.2	12-----			22-----		
3-----		.4	13-----			23-----	3	
4-----		.9	14-----			24-----	1.5	
5-----		1.2	15-----			25-----	.7	
6-----		.9	16-----			26-----	13	
7-----		1.5	17-----			27-----	13	
8-----		1.2	18-----			28-----	4	
9-----		.9	19-----			29-----	1.6	
10-----		.5	20-----			30-----	1.1	
						31-----	.6	

NOTE.—No flow Oct. 1 to Mar. 22 and Apr. 12 to Sept. 30.

Monthly discharge of Eaton Creek near Pasadena, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March-----	13	0	1.24	76.2
April-----	1.5	0	.32	19.0
The period-----	13	0	.13	95.2

NOTE.—No flow during months for which no discharge is given.

Monthly diversion by city of Pasadena from Eaton Creek, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.58	0.42	0.45	27.7
November.....	.70	.36	.58	34.5
December.....	.71	.55	.66	40.6
January.....	1.05	.40	.75	46.1
February.....	.88	.64	.75	43.1
March.....	3.64	.68	1.74	107
April.....	3.75	1.13	2.42	144
May.....	1.43	.61	.86	52.9
June.....	.61	.23	.40	23.8
July.....	.25	.15	.20	12.3
August.....	.13	.11	.12	7.4
September.....	.14	.10	.12	7.1
The year.....	3.75	.10	.75	546

SANTA CLARA RIVER BASIN

SESPE CREEK NEAR SESPE, CALIF.

LOCATION.—In Santa Barbara National Forest, three-fourths of a mile below mouth of West Fork of Sespe Creek, $4\frac{1}{2}$ miles above intake of Fillmore Canal, and $6\frac{1}{2}$ miles northwest of Sespe, Ventura County.

DRAINAGE AREA.—216 square miles (measured by Ralph Bennett, consulting engineer).

RECORDS AVAILABLE.—October 1, 1915, to September 30, 1924 (not complete).

GAGE.—Water-stage recorder on right bank. Prior to February 15, 1924, staff gage located at same site.

DISCHARGE MEASUREMENTS.—Made from cable above gage or by wading.

CHANNEL AND CONTROL.—Gravel and large boulders; shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 6.12 feet at noon March 26 (discharge, 270 second-feet); minimum stage, 4.05 feet July 30 to August 1 (discharge, 0.8 second-foot).

1915-1924: Maximum discharge recorded, 18,600 second-feet on January 17, 1916; minimum stage recorded, that of July 30 to August 1, 1924.

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined. Staff gage read to hundreds twice daily to February 15. Recorder record from February 16 to September 30 excellent. Daily discharge ascertained by applying mean daily gage height to rating table except May 16 to September 30 for which shifting-control method was used. Records good.

COOPERATION.—Gage-height record and results of some discharge measurements furnished by Ventura Power Co.

Discharge measurements of Sespe River near Sespe, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 9.....	1.15	3.6	Dec. 28.....	1.37	7.0	Mar. 14.....	4.40	7.7
Nov. 16.....	1.14	3.5	Jan. 7.....	1.37	8.2	May 15.....	4.30	6.0
Nov. 22.....	1.15	4.0	Jan. 28.....	1.50	11	July 2.....	4.08	1.3
Nov. 30.....	1.22	5.4	Feb. 11.....	1.45	8.5	Sept. 24.....	4.12	1.1
Dec. 12.....	1.30	6.2						

Daily discharge, in second-feet, of Sespe Creek near Sespe, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.2	4.8	5.0	8	10	7.5	26	9	2.7	1.3	0.8	1.0
2.....	3.2	4.0	5.0	8	9.5	12	28	9	2.5	1.2	.9	1.0
3.....	3.0	3.5	4.8	7.5	9	17	28	8.5	2.5	1.2	1.0	1.0
4.....	3.0	3.5	5	7.5	9	18	26	8	2.5	1.2	1.1	1.0
5.....	3.2	3.7	5.5	7.5	8.5	16	25	7.5	2.3	1.2	1.1	1.0
6.....	3.0	3.5	5.5	7.5	8.5	12	20	7	2.3	1.3	1.1	1.0
7.....	3.4	3.4	6	7.5	8	10	23	7	2.3	1.4	1.0	1.0
8.....	3.4	3.6	6	7.5	8.5	9.5	28	7	2.3	1.3	1.0	1.1
9.....	3.5	3.6	6.5	7.5	9	9	31	6.5	2.3	1.3	1.0	1.0
10.....	3.2	3.8	6	7.5	8.5	8.5	33	6.5	2.3	1.3	1.0	1.0
11.....	3.2	3.7	6	7.5	8.5	8	28	6.5	2.1	1.3	1.1	1.0
12.....	3.4	3.5	6	7.5	8.5	8	25	6	2.0	1.3	1.1	.9
13.....	3.6	3.5	6.5	7.5	8.5	8	21	6	2.0	1.3	1.1	.9
14.....	3.5	3.4	7	8	8.5	8	17	6	2.0	1.2	1.1	.9
15.....	3.5	3.7	7.5	8	8.5	8	16	6	2.1	1.2	1.1	.9
16.....	3.2	3.4	7	7.5	8	8	14	6	2.1	1.3	1.1	.9
17.....	3.2	3.5	7	8	8	8	13	5.5	2.0	1.3	1.1	.9
18.....	3.0	3.6	7.5	8	8	8.5	12	5.5	2.0	1.4	1.2	1.0
19.....	3.0	3.6	7	8	8	8.5	11	4.4	1.9	1.4	1.1	1.1
20.....	3.2	3.7	7	8	7.5	8.5	10	4.0	1.8	1.4	1.2	1.3
21.....	3.0	3.7	7	7.5	7.5	8.5	10	4.0	1.8	1.5	1.2	1.2
22.....	3.0	3.5	7	7.5	7.5	8	10	4.0	1.8	1.5	1.2	1.2
23.....	3.0	3.6	7	7.5	7.5	10	14	3.9	1.8	1.5	1.2	1.2
24.....	3.2	3.5	7	8	7	10	14	3.8	1.8	1.3	1.1	1.2
25.....	3.2	3.5	7	8	7	10	13	3.8	1.7	1.3	1.0	1.1
26.....	3.0	3.4	7	8	7	9.4	12	3.8	1.6	1.1	1.0	1.0
27.....	3.0	3.4	7.5	11	7	120	11	3.7	1.5	1.0	1.0	1.0
28.....	3.0	3.7	7.5	11	7	62	10	3.7	1.5	1.0	1.0	.9
29.....	3.0	3.8	7.5	12	7	36	10	3.5	1.3	.9	1.0	.9
30.....	3.2	4.4	7.5	12	-----	27	10	3.2	1.2	.8	1.0	.9
31.....	5.5	-----	7.5	11	-----	23	-----	3.1	-----	.8	.9	-----

Monthly discharge of Sespe Creek near Sespe, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	5.5	3.0	3.26	200
November.....	4.8	3.4	3.64	217
December.....	7.5	4.8	6.56	403
January.....	12	7.5	8.31	511
February.....	10	7	8.10	466
March.....	120	7.5	19.7	1,210
April.....	33	10	18.3	1,090
May.....	9	3.1	5.56	342
June.....	2.7	1.2	2.00	119
July.....	1.5	.8	1.24	76.2
August.....	1.2	.8	1.02	65.2
September.....	1.3	.9	1.02	60.7
The year.....	120	.8	6.55	4,760

VENTURA RIVER BASIN

VENTURA RIVER NEAR OJAI, CALIF.

LOCATION.—In N. $\frac{1}{2}$ SW. $\frac{1}{4}$ sec. 28, T. 5 N., R. 23 W., just below junction of Matilija and North Fork of Matilija Creeks, 4 miles northwest of Ojai, Santa Barbara County.

DRAINAGE AREA.—19.9 square miles.

RECORDS AVAILABLE.—October 23, 1911, to October 31, 1914, and February 8, 1922, to July 19, 1924, when the station was discontinued.

GAGE.—Vertical staff with enameled facing, in two sections on right bank about 400 feet below junction of creeks. A temporary staff gage at this location was used February 8 to March 3, 1922. Gage read by C. A. Soper.

DISCHARGE MEASUREMENTS.—Made from cable about 50 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; shift during high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during the year, 1.30 feet at 5 p. m. March 26 (discharge, 58 second-feet); minimum discharge recorded 0.4 second-foot September 24.

1911-1914; 1922-1924: Maximum stage probably about 15 feet February 20 or 21, 1914 (discharge unknown); minimum discharge recorded, that of September 24, 1924.

DIVERSIONS.—Sheldon flume and Soper ranch ditch divert above the station during the irrigation season.

ACCURACY.—Stage-discharge relation not permanent. Rating curves fairly well defined. Staff gage read to hundredths twice daily. Daily discharge ascertained by shifting-control method. Discharge interpolated June 19 to July 19. Records fair.

Discharge measurements of Ventura River near Ojai, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 9.....	0.28	2.5	Jan. 15.....	0.48	4.6	Apr. 27.....	0.50	7.0
Oct. 23.....	.26	3.5	Feb. 3.....	.50	7.1	May 15.....	.25	3.0
Nov. 3.....	.30	3.1	Feb. 11.....	.46	5.1	May 27.....	.30	4.0
Nov. 10.....	.28	4.1	Feb. 27.....	.42	5.4	June 16.....	.16	3.
Nov. 16.....	.26	2.8	Mar. 14.....	.42	5.3	July 2.....	1.04	1.0
Nov. 30.....	.34	3.8	Apr. 10.....	.52	8.6	Sept. 24.....	.94	.4
Jan. 7.....	.48	4.7						

Daily discharge, in second-feet, of Ventura River near Ojai, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	2.9	3.7	3.8	5	7	5.5	31	6.5	3.7	0.9
2.....	3	3.2	3.8	5	7	15	29	6	3.5	.9
3.....	3	3.2	3.7	5	7	15	28	5.5	3.4	.9
4.....	2.9	3.4	3.7	5	7	14	28	5.5	3.2	.9
5.....	2.9	3.5	3.7	5	7	13	25	5	2.9	.9
6.....	2.8	3.5	3.7	5	6.5	12	24	4.9	2.9	.9
7.....	2.8	3.7	3.5	5	6	11	21	4.5	2.8	.9
8.....	2.6	3.8	3.8	5	6	10	20	4.5	2.6	.7
9.....	2.6	4.0	3.8	5	5.5	10	18	4.2	2.6	.7
10.....	2.6	4.2	3.8	5	5.5	10	17	4.0	2.6	.7
11.....	2.8	4.4	3.7	4.9	5	10	16	4.0	2.8	.7
12.....	2.9	4.2	4.0	4.7	5	9	15	3.8	2.8	.7
13.....	2.9	4.0	4.0	4.7	5.5	9	14	3.8	2.9	.7
14.....	2.9	3.8	4.0	4.7	5.5	9	13	3.5	2.9	.7
15.....	2.9	3.7	3.8	4.7	5	8.5	12	3.5	2.9	.7
16.....	2.9	3.5	4.2	4.7	5	8.5	11	3.2	2.8	.7
17.....	3	3.5	4.2	4.9	5	8	11	3.2	2.8	.7
18.....	3	3.7	4.2	4.9	5	8	10	3.2	2.8	.7
19.....	3.2	3.8	4.4	5	5.5	8	10	3.5	2.7	.7
20.....	3.4	3.8	4.4	5	5.5	8	9	3.5	2.5	-----
21.....	3.4	3.7	4.4	5	5	7.5	9	3.5	2.4	-----
22.....	3.5	3.7	4.7	5	5	7.5	9	4.0	2.2	-----
23.....	3.5	3.7	4.5	5.5	5	7	8.5	4.0	2.1	-----
24.....	3.4	3.7	4.5	5.5	5	7	8	4.0	1.9	-----
25.....	3.4	4.0	4.5	5.5	5.5	6.5	7.5	4.0	1.8	-----
26.....	3.2	3.8	4.7	5.5	5.5	28	7.5	4.0	1.6	-----
27.....	3.3	3.8	4.7	8	5.5	45	7	4.0	1.5	-----
28.....	3.0	3.8	4.7	7	5.5	41	6.5	3.7	1.3	-----
29.....	3.7	3.8	4.7	7	5.5	39	6.5	3.8	1.2	-----
30.....	4.2	3.8	5	6.5	-----	37	6.5	3.7	1.0	-----
31.....	3.7	-----	4.9	7	-----	35	-----	3.5	-----	-----

Monthly discharge of Ventura River near Ojai, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	4.2	2.6	3.10	191
November.....	4.4	3.2	3.75	223
December.....	5	3.5	4.18	257
January.....	8	4.7	5.35	329
February.....	7	5	5.66	326
March.....	45	5.5	14.9	916
April.....	31	6.5	14.6	869
May.....	6.5	3.2	4.13	254
June.....	3.7	1.0	2.60	149
July 1-19.....	.9	.7	.77	29
The period.....				3,540

SALINAS RIVER BASIN

ARROYO SECO NEAR SOLEDAD, CALIF.

LOCATION.—In sec. 21, T. 19 S., R. 6 E., at Pettitt ranch, 15 miles south of Soledad, Monterey County.

DRAINAGE AREA.—215 square miles.

RECORDS AVAILABLE.—January 1, 1901, to September 30, 1924.

GAGE.—Staff in two sections on right bank; lower section fastened to an alder tree 400 feet above cable, upper section fastened to sycamore tree near pump house and windmill. Gage read by Mrs. Una G. Pettitt Evans.

DISCHARGE MEASUREMENTS.—Made from cable 400 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and solid rock; shifts.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.70 feet at 4 p. m. January 27 (discharge, 1,900 second-feet); no flow June 24 to September 30.

1901-1924: Maximum discharge, about 22,000 second-feet at 4.30 p. m.

February 21, 1917; stream dry during periods in 1902, 1903, 1904, 1906, 1913, 1914, 1919, 1921, and 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly at low water January 27. Rating curves fairly well defined. Staff gage read to hundredths once daily, except January 27 when it was read twice. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

The following discharge measurements were made:

November 20, 1923: Gage height, 2.32 feet; discharge, 8.2 second-feet.

November 20, 1923: Gage height, 2.32 feet; discharge, 7.7 second-feet.

March 8, 1924: Gage height, 2.50 feet; discharge, 24 second-feet.

Daily discharge, in second-feet, of Arroyo Seco near Soledad, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	6	6	8	18	44	19	150	20	2.2
2.....	5	6	8	18	42	20	145	19	2.2
3.....	4	6.5	8	18	39	33	140	17	1.6
4.....	4	6.5	9.5	18	37	39	140	15	1.6
5.....	5	6.5	9.5	16	34	34	135	14	1.6
6.....	6.5	6.5	9.5	16	32	32	126	14	1.0
7.....	7	6.5	9.5	16	28	26	116	13	1.0
8.....	6.5	6.5	11	16	26	24	112	13	1.0
9.....	6.5	7	12	16	32	22	108	11	.8
10.....	6.5	7	12	16	30	22	108	11	.8

Daily discharge, in second-feet, of Arroyo Seco near Soledad, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
11.....	6.5	11	12	16	30	20	103	10	0.8
12.....	6	9.5	12	15	28	29	96	10	.8
13.....	6	9.5	12	15	28	20	72	9	.6
14.....	6	9.5	12	15	26	19	68	9	.6
15.....	6	8	12	15	24	19	65	8	.6
16.....	5	8	12	15	24	19	62	8	.6
17.....	5	8	12	15	22	19	59	7	.4
18.....	4.6	8	12	15	22	19	53	6	.4
19.....	4.6	8	12	15	22	19	47	6	.4
20.....	4.6	8	12	15	20	19	44	5	.2
21.....	4.6	8	13	15	20	19	42	5	.2
22.....	4.6	8	13	15	20	20	39	5	.2
23.....	4.6	8	13	16	19	24	37	4.0	.2
24.....	4.6	8	13	16	19	28	34	4.0	
25.....	4.6	8	13	16	19	540	30	3.4	
26.....	4.6	8	13	25	19	540	28	3.4	
27.....	4.6	8	13	880	19	165	24	2.8	
28.....	5	8	13	255	19	160	24	2.8	
29.....	5	8	13	190	19	160	22	2.2	
30.....	6	8	15	47		160	20	2.2	
31.....	6		16	44		150		2.2	

NOTE.—No flow June 24 to Sept. 30.

Monthly discharge of Arroyo Seco near Soledad Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	7	4	5.34	328
November.....	11	6	7.75	461
December.....	16	8	11.8	726
January.....	880	15	59.3	3,650
February.....	44	19	26.3	1,510
March.....	540	19	79.0	4,860
April.....	150	20	75.0	4,460
May.....	20	2.2	8.45	520
June.....	2.2	0	.66	39.3
The year.....	880	0	22.8	16,600

NOTE.—No flow during months of July, August, and September.

COYOTE RIVER BASIN

COYOTE RIVER NEAR MADRONE, CALIF.

LOCATION.—In northwest corner of San José grant, above highway bridge at mouth of canyon, one-fourth mile below mouth of Las Animas Creek, and $2\frac{3}{4}$ miles northeast of Madrone, Santa Clara County.

DRAINAGE AREA.—193 square miles (reported by Duryea, Haehl, and Gilman).

RECORDS AVAILABLE.—October, 1902, to September 30, 1912; December 8, 1916, to September 30, 1924.

GAGE.—Inclined staff in three sections on left bank about 1,000 feet above highway bridge; read by Lee Dixon.

DISCHARGE MEASUREMENTS.—Made from cable 800 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel, boulders, and solid rock. Banks high, one channel at all stages. Control, boulders and solid rock; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.62 feet at 4.30 p. m. January 27 (discharge, 8 second-feet); stream practically dry July 16 to September 15.

1902-1912; 1917-1924: Maximum discharge, 25,000 second-feet, probably occurred March 7, 1911; no flow during several short periods from 1902-1911; from August 8 to November 15, 1920, and from July 16 to September 15, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve well defined. Staff gage read to quarter-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except July 1 to September 30, for which it was estimated from statements of local residents. Records good.

The following discharge measurements were made:

November 19, 1923: Gage height, 2.07 feet; discharge, 0.7 second-foot.

March 6, 1924: Gage height, 2.15 feet; discharge, 1.2 second-foot.

March 6, 1924: Gage height, 2.15 feet; discharge, 1.7 second-foot.

Daily discharge, in second-feet, of Coyote River near Madrone, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Sept.
1.....	1.0	1.0	0.8	1.7	1.7	1.3	3.0	2.5	1.1	0.7	-----
2.....	1.0	1.0	.8	1.7	1.7	2.0	3.7	2.3	1.1	.7	-----
3.....	1.0	1.0	.8	1.7	1.7	2.0	3.4	2.2	1.1	.6	-----
4.....	1.0	1.0	.8	1.6	1.6	1.7	3.2	2.2	1.0	.6	-----
5.....	1.0	1.0	.8	1.5	1.5	1.6	3.0	2.2	1.0	.5	-----
6.....	1.2	1.0	.8	1.5	1.5	1.5	3.0	2.2	1.0	.5	-----
7.....	1.3	1.0	.8	1.5	1.5	1.5	3.0	2.2	1.0	.4	-----
8.....	1.3	1.0	.8	1.5	1.5	1.4	3.4	2.0	.9	.4	-----
9.....	1.3	1.0	1.0	1.5	1.5	1.3	3.7	2.0	.9	.3	-----
10.....	1.2	1.0	1.2	1.5	1.5	1.3	3.7	2.0	.9	.3	-----
11.....	1.2	1.0	1.2	1.5	1.5	1.3	4.0	2.0	.9	.2	-----
12.....	1.1	1.0	1.2	1.5	1.5	1.3	4.0	1.9	.9	.2	-----
13.....	1.0	1.0	1.2	1.5	1.5	1.3	4.0	1.8	.8	.1	-----
14.....	1.0	1.0	1.7	1.5	1.5	1.3	3.9	1.8	.8	.1	-----
15.....	1.0	1.0	1.5	1.5	1.5	1.3	3.7	1.7	.8	.1	-----
16.....	1.0	1.0	1.5	1.5	1.5	1.2	3.7	1.7	.8	-----	0.1
17.....	1.0	1.0	1.5	1.5	1.5	1.3	3.5	1.7	.8	-----	.1
18.....	1.0	1.0	1.5	1.5	1.5	1.5	3.4	1.6	.8	-----	.2
19.....	.9	1.0	1.5	1.5	1.5	1.5	3.4	1.5	.8	-----	.2
20.....	.8	1.0	1.5	1.5	1.5	1.5	3.2	1.5	.8	-----	.3
21.....	.8	1.0	1.5	1.4	1.5	1.5	3.0	1.5	.8	-----	.3
22.....	.8	.8	1.4	1.3	1.5	1.5	3.0	1.5	.8	-----	.4
23.....	.8	.8	1.3	1.3	1.5	1.5	3.0	1.5	.8	-----	.4
24.....	.8	.8	1.3	1.3	1.5	2.2	3.0	1.5	.8	-----	.5
25.....	.8	.8	1.3	1.3	1.5	3.0	3.0	1.5	.8	-----	.5
26.....	.8	.8	1.3	4.3	1.4	3.7	3.0	1.4	.8	-----	.6
27.....	.8	.8	1.3	5.7	1.3	2.7	3.0	1.3	.8	-----	.6
28.....	.8	.8	1.3	3.4	1.3	2.3	3.0	1.3	.8	-----	.7
29.....	.8	.8	1.4	2.2	1.3	2.2	2.7	1.3	.8	-----	.7
30.....	.8	.8	1.5	1.9	-----	1.9	2.6	1.2	.8	-----	.8
31.....	1.0	-----	1.5	1.8	-----	1.7	-----	1.2	-----	-----	-----

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Coyote River near Madrone, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.3	0.8	0.98	60.3
November.....	1.0	.8	.94	55.9
December.....	1.7	.8	1.23	75.6
January.....	5.7	1.3	1.83	113
February.....	1.7	1.3	1.50	86.3
March.....	3.7	1.2	1.72	106
April.....	4.0	2.6	3.31	197
May.....	2.5	1.2	1.75	108
June.....	1.1	.8	.87	51.8
July.....			.18	11.1
September.....			.21	12.5
The year.....	5.7	0.0	1.21	878

• Estimated.

NOTE.—No flow during August.

COYOTE RIVER NEAR EDENVALE, CALIF.

LOCATION.—At east boundary Santa Teresa grant at "The Narrows," $1\frac{1}{2}$ miles northwest of Edenvale, Santa Clara County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1916, to September 30, 1924.

GAGE.—Inclined staff in two sections fastened to solid rock on left bank; read by Mrs. J. H. Swickard.

DISCHARGE MEASUREMENTS.—Made from cable 1,000 feet above gage or by wading.

CHANNEL AND CONTROL.—Fine packed gravel overlying solid rock; practically permanent. Channel is clean and straight for several hundred feet above and below gage. Banks not subject to overflow.

EXTREMES OF DISCHARGE.—1916-1924: Maximum stage recorded, 12.8 feet at 9.30 p. m. February 10, 1922 (discharge, 10,000 second-feet); no flow during most of each year.

DIVERSIONS.—Water is pumped from wells along the river above station for irrigation.

REGULATION.—None.

No flow during year ending September 30, 1924.

ALAMEDA CREEK BASIN

ALAMEDA CREEK NEAR SUNOL, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 7, T. 5 S., R. 2 E., 1 mile above junction with Calaveras Creek and $7\frac{1}{2}$ miles southeast of Sunol, Alameda County.

DRAINAGE AREA.—33.1 square miles (measured by Spring Valley Water Co.). RECORDS AVAILABLE.—May 22, 1911, to September 30, 1924.

GAGE.—Water-stage recorder on right bank. Previous to fall of 1914 station was located just above junction with Calaveras Creek.

DISCHARGE MEASUREMENTS.—Made from suspension gaging bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel is fine gravel; not permanent. A concrete control was built across the channel in 1915, a short distance below gage. At former location just above Calaveras Creek, a concrete weir was control.

EXTREMES OF DISCHARGE.—1911-1924: Maximum mean daily discharge, 1,660 second-feet February 21, 1917; stream dry during a part of most years.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

Daily discharge, in second-feet, of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.	
1911						1911						
1.		4.4	2.9	2.6	2.5	16.		3.4	2.9	2.6	0.5	
2.		4.4	2.9	2.6	.5	17.		3.2	2.9	2.6	.5	
3.		4.4	2.9	2.6	.5	18.		3.2	2.9	2.5	.5	
4.		4.4	2.9	2.6	.5	19.		3.2	2.9	2.5	.5	
5.		4.2	2.9	2.6	.5	20.		3.2	2.9	2.5	.5	
6.		4.2	2.9	2.6	.5	21.		3.2	2.9	2.5	.5	
7.		4.2	2.9	2.6	.5	22.	5	3.0	2.9	2.5	.5	
8.		3.8	2.9	2.6	.5	23.	5	3.0	2.9	2.5	.5	
9.		3.8	2.9	2.6	.5	24.	5	3.0	2.9	2.5	.5	
10.		3.4	2.9	2.6	.5	25.	5	3.0	2.9	2.5	.5	
11.		3.4	2.9	2.6	.5	26.	5	3.0	2.9	2.5	.5	
12.		3.4	2.9	2.6	.5	27.	5	3.0	2.9	2.5	.5	
13.		3.4	2.9	2.6	.5	28.	5	3.0	2.9	2.5	.5	
14.		3.4	2.9	2.6	.5	29.	5	3.0	2.9	2.5	.5	
15.		3.4	2.9	2.6	.5	30.	5	3.0	2.9	2.5	.5	
						31.	5		2.6	2.5		
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1911-12												
1.	0.4	0.2	0.6	1.3	7	3.0	7	7	3.3	2.6	1.5	0.6
2.	.4	.2	.6	1.5	7	3.0	6	7	3.3	2.6	1.5	.6
3.	.4	.2	.6	2.9	7	2.8	6	6	3.3	2.6	1.5	.6
4.	.4	.2	.6	2.9	6.5	2.8	5.5	6	3.3	2.6	1.5	.6
5.	.4	.2	.6	3.3	6	3.0	5.5	6	3.0	2.2	1.5	.6
6.	.4	.2	.6	3.3	3.1	6	5.5	6	3.0	2.2	1.5	.6
7.	.4	.2	.6	3.3	5	28	5.5	5.5	3.0	2.2	1.5	.6
8.	.4	.2	.6	3.3	4.4	13	5.5	5.5	3.0	2.2	1.5	.6
9.	.4	.2	.6	3.3	4.4	8.5	5.5	3.1	3.0	2.2	1.5	.6
10.	.4	.4	.6	5.5	4.4	7	7	3.1	3.0	2.2	1.5	.6
11.	.4	.4	.6	5.5	4.4	7	16	3.1	3.0	2.2	1.5	.6
12.	.4	.4	.6	9	4.4	160	31	3.1	3.0	2.2	1.5	.6
13.	.4	.4	.6	6	4.4	130	13	3.1	3.0	2.2	1.5	.6
14.	.2	.4	.6	5.5	4.4	100	10	3.1	3.0	2.2	1.5	.6
15.	.2	.4	.6	5.5	4.1	336	8.5	3.1	3.0	2.2	1.5	.6
16.	.2	.6	.6	5.5	4.1	130	8	3.1	3.0	2.2	1.5	.6
17.	.2	.6	.6	4.7	3.7	64	7.5	4.4	3.0	2.0	1.5	.6
18.	.2	.6	.6	4.7	3.7	19	7	4.1	2.8	2.0	1.5	.6
19.	.2	.6	.6	4.7	3.3	19	7	4.1	2.8	2.0	1.3	.6
20.	.2	.6	.6	4.7	3.3	19	6.5	3.1	2.8	2.0	1.3	.4
21.	.2	.6	.6	4.7	3.3	15	6.5	4.4	2.8	2.0	1.1	.4
22.	.2	.6	.6	4.1	3.3	13	6	4.1	2.8	2.0	1.1	.4
23.	.2	.6	.6	4.1	3.3	11	6	4.1	2.8	1.8	.9	.4
24.	.2	.6	.6	3.3	3.3	9.5	6	3.7	2.8	1.8	.9	.4
25.	.2	.6	.6	3.3	3.3	8.5	6	3.7	2.8	1.8	.6	.4
26.	.2	.6	.9	257	3.3	8	6	4.1	2.6	1.8	.6	.4
27.	.2	.6	.9	106	3.3	7.5	6	4.1	2.6	1.8	.6	.4
28.	.2	.6	1.1	33	1.5	7.5	6	4.1	2.6	1.8	.6	.4
29.	.2	.6	1.3	17	1.5	7.5	6	3.7	2.6	1.8	.6	.4
30.	.2	.6	1.3	9		7.5	7.5	3.3	2.6	1.5	.6	.4
31.	.2		1.3	9		7		3.3		1.5	.6	

Daily discharge, in second-feet, of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1912-13													
1	0.4	0.4	0.4	0.4	6.5	2.8	10	2.8	1.5	0.9	0.2	0.1	
2	.4	.4	.4	.4	6	2.8	8.5	2.8	1.5	.9	.2	.1	
3	.4	.4	.4	.4	6	2.8	7	2.8	1.5	.9	.2	.1	
4	.4	.4	.4	.4	6	2.8	6.5	2.8	1.5	.7	.2	.1	
5	.4	.4	.4	.4	4.4	2.8	7.5	2.2	1.5	.7	.2	.1	
6	.4	.4	.4	.4	4.4	2.8	7	2.2	1.5	.5	.2	.1	
7	.4	.4	.4	.4	3.7	2.6	7	2.2	1.5	.5	.2	.1	
8	.4	.4	.4	.4	3.7	2.6	7	2.0	1.5	.5	.2	.1	
9	.4	.4	.4	.4	3.7	2.6	6.5	2.0	1.5	.4	.2	.1	
10	.4	.4	.4	.4	3.7	2.6	6	2.0	1.5	.4	.2	.1	
11	.4	.4	.4	.4	3.7	2.6	6	1.8	1.5	.2	.2	.1	
12	.4	.4	.4	.4	3.3	2.2	5.5	1.8	1.5	.2	.2	.1	
13	.4	.4	.4	.4	3.3	2.2	4.8	1.8	1.5	.2	.2	.1	
14	.4	.4	.4	.4	3.3	2.2	4.4	1.8	1.3	.2	.2	.1	
15	.4	.4	.4	.5	3.3	2.2	4.4	1.8	1.3	.2	.2	.1	
16	.4	.4	.6	358	3.3	2.2	4.1	1.8	1.3	.2	.2	.1	
17	.4	.4	.6	112	3.3	2.2	4.1	1.8	1.3	.2	.2	.1	
18	.4	.4	.6	405	3.3	2.6	3.7	1.8	1.3	.2	.2	.1	
19	.4	.4	.6	136	3.0	2.6	3.7	1.8	1.3	.2	.1	.1	
20	.4	.4	.6	55	3.0	2.6	3.3	1.8	1.3	.2	.1	.1	
21	.4	.4	.6	48	3.0	2.8	3.3	1.8	1.3	.2	.1	.1	
22	.4	.4	.6	22	3.0	9.5	3.3	1.8	1.3	.2	.1	.1	
23	.4	.4	.6	20	3.0	20	3.3	1.8	1.3	.2	.1	.1	
24	.4	.4	.6	15	3.0	33	3.3	1.8	1.3	.2	.1	.1	
25	.4	.4	.6	13	3.0	31	3.0	1.8	1.3	.2	.1	.1	
26	.4	.4	.6	11	3.0	22	3.0	1.8	1.3	.2	.1	.1	
27	.4	.4	.4	9.5	3.0	17	3.0	1.5	1.3	.2	.1	.1	
28	.4	.4	.4	9	3.0	15	2.8	1.5	1.3	.2	.1	-----	
29	.4	.4	.4	8.5	-----	14	2.8	1.5	1.3	.2	.1	-----	
30	.4	.4	.4	8	-----	13	2.8	1.5	1.3	.2	.1	-----	
31	.4	-----	.4	7	-----	12	-----	1.5	-----	.2	.1	-----	
Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1913-14													
1	0.1	0.1	277	100	31	3.0	16	0.1	-----	297	54	7	3.0
2	.1	.1	317	92	29	3.0	17	.1	-----	474	54	6	2.1
3	.1	.1	124	92	27	3.0	18	.1	-----	316	54	5	2.1
4	.1	.1	67	84	27	5	19	.1	-----	160	206	5	2.4
5	.1	.1	62	84	24	11	20	.1	-----	136	297	5	2.4
6	.1	.1	60	76	20	10	21	.1	-----	112	336	5	2.4
7	.1	.1	60	68	17	9	22	.1	336	109	222	4.0	2.4
8	.1	.1	96	60	15	9	23	.1	100	980	136	4.0	2.4
9	.1	.1	60	60	12	11	24	.1	100	238	124	4.0	2.4
10	.1	.1	54	60	12	11	25	.1	92	238	124	3.0	2.4
11	.1	.1	48	60	10	7	26	.1	68	238	124	3.0	2.4
12	.1	.1	43	57	13	5	27	.1	43	238	112	3.0	2.4
13	.1	.1	222	54	13	4.0	28	.1	27	238	131	3.0	2.4
14	.1	.1	191	54	13	3.0	29	.1	60	238	-----	5	2.4
15	.1	-----	160	54	8	3.0	30	.1	60	238	-----	9	2.4
							31	-----	849	238	-----	7	-----

Daily discharge, in second-feet, of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1914-15									
1.....	0.3	2.0	296	97	30	14	19	3.9	1.1
2.....	.3	2.0	1,030	80	24	13	17	3.7	1.1
3.....	.3	2.2	689	69	22	12	14	3.7	1.1
4.....	.4	25	325	56	20	82	13	3.7	1.1
5.....	.4	11	190	50	19	153	13	3.6	1.1
6.....	.4	65	116	48	18	72	13	3.6	1.1
7.....	.4	45	101	42	23	47	11	3.6	1.1
8.....	.4	125	733	36	29	37	10	3.4	1.1
9.....	.4	58	586	35	20	34	10	3.4	1.1
10.....	.4	32	449	32	18	54	9	3.2	1.1
11.....	.7	103	224	29	17	177	8.5	3.1	1.1
12.....	7	148	147	28	17	150	8.5	3.1	1.1
13.....	7	70	103	26	16	107	9	2.9	1.1
14.....	4.4	234	82	24	16	92	8	2.9	1.1
15.....	2.9	95	69	24	15	58	7.5	2.9	1.1
16.....	2.0	55	69	21	17	43	7	2.8	1.1
17.....	10	32	142	18	17	184	7	2.6	1.1
18.....	62	22	102	17	17	258	7	2.6	1.1
19.....	53	16	81	17	15	148	6.5	2.5	1.1
20.....	27	13	188	16	14	102	6.5	2.3	.9
21.....	20	11	119	15	21	74	6.5	1.5	.9
22.....	11	8.5	261	15	17	57	6.5	1.4	.9
23.....	8.5	6.5	174	13	15	50	6.5	1.4	.9
24.....	7	6	203	13	16	42	6	1.4	.9
25.....	4.2	21	146	13	15	37	6	1.4	.9
26.....	3.8	11	114	13	14	32	5.5	1.2	.9
27.....	5.5	7.5	90	15	13	29	6.5	1.2	.9
28.....	8.5	83	130	50	12	27	5.5	1.2	.9
29.....	3.4	370	-----	23	12	26	4.8	1.2	.9
30.....	3.2	512	-----	17	15	21	4.6	1.2	.9
31.....	2.0	627	-----	58	-----	17	-----	1.2	.9

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1915-16										
1.....	-----	1.5	128	190	15	5.5	2.5	1.5	0.5	0.3
2.....	-----	130	130	114	14	5	2.5	1.5	.5	.3
3.....	-----	1,240	214	73	13	4.8	2.3	1.5	.5	.3
4.....	59	453	882	60	13	4.6	2.2	1.4	.5	.3
5.....	16	196	548	119	13	4.5	2.0	1.4	.5	.3
6.....	6	76	345	73	12	4.3	2.0	1.2	.5	.3
7.....	5	31	235	57	12	4.3	1.9	1.2	.5	.3
8.....	2.9	132	173	48	12	4.3	1.9	1.2	.5	.3
9.....	2.9	322	132	42	15	4.2	1.7	1.2	.5	.3
10.....	3.1	506	101	32	15	4.2	1.5	1.1	.5	.3
11.....	2.9	198	84	32	15	4.2	1.5	1.1	.5	.2
12.....	3.1	116	80	28	12	4.0	1.4	.9	.3	.2
13.....	19	135	67	25	9	4.0	1.4	.9	.3	.2
14.....	161	480	58	23	9	3.7	1.2	.9	.3	.2
15.....	41	325	43	17	9	3.6	1.2	.9	.3	.2
16.....	10	161	36	17	9	3.2	1.1	.9	.3	.2
17.....	4.8	676	32	17	8	3.1	1.1	.9	.3	.2
18.....	4.6	361	29	17	7.5	2.8	.9	.8	.3	.2
19.....	3.7	190	36	17	6.5	2.6	.9	.8	.3	.2
20.....	2.6	102	29	15	6.5	2.5	.8	.8	.3	.2
21.....	5	67	23	15	6	2.5	.8	.8	.3	.2
22.....	4.0	93	22	15	6	2.6	.6	.8	.3	.2
23.....	4.0	188	20	17	5.5	2.8	.6	.8	.3	.2
24.....	3.1	568	20	15	5.5	2.8	.6	.8	.3	.2
25.....	-----	560	19	15	5.5	2.9	.6	.6	.3	.2
26.....	-----	339	19	14	5.5	2.9	.6	.6	.3	.2
27.....	-----	735	29	14	5.5	2.9	.6	.6	.3	.2
28.....	-----	430	29	12	5.5	2.8	.6	.6	.3	.2
29.....	-----	320	40	12	5.5	2.8	.5	.6	.3	.2
30.....	-----	221	-----	12	5.5	2.6	.5	.6	.3	-----
31.....	-----	150	-----	12	-----	2.6	-----	.5	.3	-----

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1916-17							
1		30	5	77	15	8	5.5
2		292	4.6	71	15	8	5.5
3		222	4.3	60	15	8	5.5
4		98	4.0	42	14	8	5.5
5		62	3.7	42	13	8	5
6		47	3.4	36	13	8	5
7		33	3.1	34	13	8	5
8		23	2.9	27	13	8	5
9		21	2.9	50	13	8	5
10		17	2.9	50	13	7	5
11		12	2.9	50	13	7	4.5
12		11	2.9	50	13	7	4.5
13		10	2.9	42	13	7	4.5
14		9.5	2.9	50	13	7	4
15		9	2.9	50	13	7	3.6
16		7.5	2.9	42	12	6.5	3.6
17		7	2.9	35	11	6.5	3.1
18		6.5	2.9	33	10	6.5	3.1
19		6.5	2.9	31	9.5	6.5	2.9
20		6	222	29	9.5	6.5	2.9
21	0.9	6	1,660	26	9	6.5	2.9
22	1.1	5.5	693	24	9	6	2.9
23	187	5.5	210	20	9	6	2.6
24	718	5	552	19	9	6	2.6
25	115	5	742	17	9	6	2.6
26	53	5	294	17	9	6	2.6
27	30	5	165	16	9	6	2.6
28	50	5	96	16	9	6	2.6
29	42	5		15	8	6	2.5
30	19	5		15	8	5.5	2.5
31	31	5		15		5.5	

Day	Feb.	Mar.	Apr.	May	June	Sept.	Day	Feb.	Mar.	Apr.	May	June	Sept.
1917-18							1917-18						
1.		8	10	2.2	0.9		16		26	4.2	1.4	0.6	19
2.		8	9.5	2.2	.9		17	20	20	3.7	1.4	.6	12
3.		7.5	9	2.0	.9		18	10	25	3.6	1.2	.6	14
4.		6	8.5	1.9	.8		19	6	184	3.4	1.2	.6	8
5.		5.5	8	1.9	.8		20	7.5	85	3.2	1.2	.6	7
6.		4.6	7.5	1.9	.8		21	104	40	3.1	1.2	.6	3.6
7.		3.9	7	1.7	.8		22	35	23	3.1	1.1	.6	2.9
8.		2.9	7	1.7	.8		23	30	20	2.9	1.1	.6	1.1
9.		2.9	4.5	1.7	.8		24	64	17	2.8	1.1	.6	1.1
10.		2.9	6	1.5	.6		25	19	16	2.6	1.1	.6	1.1
11.		59	5.5	1.5	.6		26	8	15	2.6	1.1	.6	1.1
12.		422	5.5	1.5	.6		27	6	14	2.5	1.1	.6	1.1
13.		157	5	1.4	.6		28	8	13	2.5	.9	.6	1.1
14.		56	4.6	1.4	.6	26	29		13	2.2	.9	.6	1.1
15.		30	4.3	1.4	.6	22	30		12	2.2	.9	.6	1.1
							31		11		.9		1.1

Daily discharge, in second-feet, of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1918-19									
1	0.8		2.0	2.9	2.8	85	17	7.5	1.2
2	.8		2.0	2.9	2.9	126	16	7.5	1.2
3	.8		2.0	2.5	2.9	129	15	7	1.2
4	.8		2.0	2.5	2.9	83	15	7	1.2
5	.8		2.0	2.2	3.4	62	14	6.5	1.2
6	.5		2.0	2.2	4.0	173	14	6.5	1.2
7	.5		2.0	2.2	5.5	150	13	6	1.2
8	.5		4.0	2.2	7	93	12	6	1.2
9	.5		37	2.0	133	70	12	5.5	1.2
10	.5		1.5	2.0	1,540	53	12	5.5	1.1
11	.3		1.5	2.0	982	60	12	5	1.1
12	.2		1.5	2.0	257	40	11	4.5	1.1
13			2.0	2.0	125	374	11	3.9	1.1
14			2.9	1.5	95	358	11	3.2	1.1
15			2.9	1.5	81	244	11	2.5	1.1
16			2.9	1.5	64	227	10	2.0	1.1
17			2.9	1.5	68	162	10	1.5	1.1
18			2.9	1.5	58	130	10	1.5	1.1
19			2.9	2.0	46	115	9.5	1.4	1.1
20			2.9	39	46	83	9.5	1.4	1.1
21			32	32	43	62	9.5	1.2	1.1
22			21	22	48	55	9.5	1.2	1.1
23		42	9	13	62	50	9	1.2	1.1
24		77	6	8.5	53	35	9	1.2	.9
25		24	5.5	6.5	46	32	9	1.2	.9
26		5.5	4.5	6	701	30	8.5	1.2	.9
27		3.6	4.0	5.5	245	28	8.5	1.2	.9
28		3.1	3.4	4.6	125	26	8.5	1.2	.8
29		2.9	2.9	4.0		24	8	1.2	.8
30		2.0	2.9	3.4		22	8	1.2	.8
31			2.9	2.8		20		1.2	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1919-20							
1		0.9	0.8	4.8	22	5	0.8
2		.9	.8	31	17	4.0	.8
3		.9	.8	27	15	3.6	.8
4		.9	.8	12	13	3.6	.8
5		.9	.8	5.5	12	3.6	.6
6		.9	.8	4.0	11	3.6	.6
7		.9	.8	1.5	8.5	2.8	.5
8		.9	.8	2.5	7	2.8	
9		.9	.8	13	8	2.8	
10		.9	.8	7	15	2.8	
11	76	.9	.8	4.6	11	2.8	
12	23	.8	.8	4.2	9	2.8	
13	7.5	.8	.8	3.7	9	2.5	
14	2.9	.8	.8	3.2	9	2.2	
15	2.0	.8	.8	2.9	266	1.7	
16	2.0	.8	.8	133	262	1.2	
17	1.5	.8	.8	62	90	1.2	
18	1.2	.8	.8	30	55	1.2	
19	.9	.8	.8	17	38	1.2	
20	.9	.8	.8	13	29	.9	
21	.9	.8	.8	30	22	.9	
22	.9	.8	.8	405	19	.8	
23	.9	.8	.8	183	13	.8	
24	.9	.8	.8	77	12	.8	
25	.9	.8	.9	80	9	.8	
26	.9	.8	.9	155	7.5	.8	
27	.9	.8	.9	63	7.5	.8	
28	.9	.8	.9	36	7	.8	
29	.9	.8	.9	25	7	.8	
30	.9	.8		22	6	.8	
31	.9	.8		22		.8	

Daily discharge, in second-feet, of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1920-21								
1		11	11	88	26	8	4.6	2.3
2		135	10	58	24	7.5	4.6	2.3
3		37	8.5	46	22	7.5	4.5	2.2
4		17	7.6	35	18	7	4.5	2.0
5		12	7.5	158	15	7	4.5	1.9
6		9	7.5	74	13	6.5	4.3	1.9
7		15	7.6	53	13	6.5	4.3	1.7
8		85	7.5	41	12	6	4.2	1.7
9		44	7	32	11	6	4.2	1.5
10		56	6	26	10	6	4.0	1.5
11		81	5	22	10	5.5	4.0	1.4
12		84	4	17	9	5.5	3.9	1.4
13		22	4	14	21	5.5	3.9	1.2
14		15	4	36	15	5.5	3.7	1.2
15		11	4	40	13	5.5	3.7	1.1
16		6	4	39	12	5.5	3.6	1.1
17		3.1	274	55	10	5.5	3.6	.9
18		2.0	553	48	10	5.5	3.4	.9
19		90	475	41	10	5.5	3.4	.8
20		36	225	38	10	5.5	3.2	.8
21		17	110	165	11	5.5	3.2	.6
22		19	91	84	12	5	3.1	.6
23		15	122	39	62	5	3.1	.5
24		13	617	26	49	5	2.9	.5
25		12	129	22	43	5	2.9	.3
26		12	68	26	37	11	2.8	.3
27		11	43	26	34	11	2.8	.2
28		11	30	83	30	10	2.6	.2
29		11	13	72	9.5	4.8	2.6	.2
30		11	20	498	9	4.6	2.5	
31		20	161		8.5		2.5	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1921-22							
1		52	8	79	84	13	4.6
2		59	8	79	78	13	4.2
3		38	8	75	65	13	4.3
4		33	7	82	53	12	4.2
5		31	7	79	43	12	4.0
6		130	6	79	38	12	3.7
7		109	6	75	37	12	3.6
8		45	12	68	37	11	3.4
9		30	679	57	36	11	3.2
10		17	1,600	72	36	11	2.9
11		13	586	92	35	11	2.8
12		12	248	128	35	10	2.6
13		12	168	154	34	9.5	2.5
14		11	120	147	32	9	2.2
15		10	100	128	31	8.5	2.0
16		9.5	92	258	30	8	1.9
17		8.5	92	184	29	8	1.7
18		8	142	140	27	7.5	1.4
19		7.5	552	110	26	7.5	1.2
20		7	414	94	24	7	1.1
21		6.5	290	82	23	6.5	.9
22		20	6	192	78	21	.8
23		18	6	135	60	19	.6
24		164	5.5	119	53	18	.6
25		266	5.5	92	48	17	.5
26		211	5.5	92	45	15	.5
27		292	6	120	42	14	.3
28		80	6	92	38	13	.5
29		39	7		38	13	.5
30		45	7.5		34	13	.5
31		30	8		91	5	

Daily discharge, in second-feet, of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1922-23							
1.....			78	59	13	7	7
2.....			52	46	12	16	7
3.....			42	38	12	20	6.5
4.....			35	35	11	13	6.5
5.....			28	35	11	52	6.5
6.....		31	23	32	10	86	6
7.....		30	19	30	10	73	6
8.....		39	16	28	9.5	62	6
9.....	52	31	15	25	9.5	46	6
10.....	23	178	14	24	9.5	39	5.5
11.....	15	71	13	23	9	34	5.5
12.....	4.0	666	12	233	8.5	32	5.5
13.....	2.9	501	11	140	8.5	31	5.5
14.....	2.0	276	10	84	8.5	29	5.5
15.....	2.0	97	9.5	71	8	29	5.5
16.....	2.0	53	8	61	8	28	5.5
17.....	2.0	133	9.5	53	8	27	5
18.....	2.0	51	12	46	8	26	5
19.....	2.0	35	11	42	8	24	4.8
20.....	2.0	25	9.5	38	7.5	23	4.8
21.....	1.9	20	9	31	7.5	22	4.6
22.....	1.9	18	18	25	7.5	22	-----
23.....	1.7	14	221	20	7.5	19	-----
24.....	1.7	11	248	19	7.5	17	-----
25.....	1.5	11	157	17	7.5	15	-----
26.....	1.2	11	86	15	7.5	14	-----
27.....	.9	11	62	15	7	12	-----
28.....	.5	229	73	14	7	11	-----
29.....		92	86		7	9.5	-----
30.....		62	78		7	7.5	-----
31.....		135	68		7		-----

Day	Mar.	Apr.	Day	Mar.	Apr.	Day	Mar.	Apr.
1923-24			1923-24			1923-24		
1.....		0.5	11.....		0.5	21.....		
2.....		.5	12.....		.5	22.....		
3.....		.5	13.....			23.....		
4.....		.5	14.....			24.....		
5.....		.5	15.....			25.....	0.2	
6.....		.5	16.....			26.....	.5	
7.....		.5	17.....			27.....		
8.....		.5	18.....			28.....		
9.....		.5	19.....			29.....		
10.....		.5	20.....			30.....		
						31.....	.5	

NOTE.—No flow on days for which no discharge is given except Sept. 28 to Oct. 14 and Dec. 15-21, 1913, for which discharge was less than 0.05 second-foot, and for the following periods for which discharge was estimated only for the purpose of completing the monthly computations: May 1 to June 30, 1914, and Sept. 1 to Dec. 3, 1915. Discharge estimated Apr. 23-30, 1914, and Mar. 25-26 and 31, and Apr. 1-12, 1924. Discharge interpolated Jan. 7-9, 11-15, 19, 20, and Feb. 9, 10, 1923.

Monthly discharge of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
May 22-31.....	5	5	4.96	98.4
June.....	4.4	3.0	3.47	206
July.....	2.9	2.6	2.86	176
August.....	2.6	2.5	2.57	158
September.....	2.5	.5	.61	36.3
The period.....				675
1911-12				
October.....	.4	.2	.29	17.8
November.....	.6	.2	.42	25.0
December.....	1.3	.6	.70	43.0
January.....	257	1.3	17.3	1,060
February.....	7	1.5	4.17	240
March.....	336	2.8	37.5	2,310
April.....	31	5.5	7.90	470
May.....	7	3.1	4.24	261
June.....	3.3	2.6	2.94	175
July.....	2.6	1.5	2.10	129
August.....	1.5	.6	1.27	78.1
September.....	.6	.4	.48	28.6
The year.....	336	.2	6.67	4,840
1912-13				
October.....	.4	.4	.35	21.5
November.....	.4	.4	.36	21.4
December.....	.6	.4	.43	26.4
January.....	405	.4	40.2	2,470
February.....	6.5	3.0	3.76	209
March.....	33	2.2	7.82	481
April.....	10	2.8	4.93	293
May.....	2.8	1.5	1.95	120
June.....	1.5	1.3	1.43	85.1
July.....	.9	.2	.37	22.8
August.....	.2	.1	.20	12.8
September.....	.1	0	.12	7.1
The year.....	405	0	5.21	3,770
1913-14				
November.....	.1	.1	.13	7.7
December.....	849		* 56.0	3,440
January.....	980	43	204	12,500
February.....	336	54	108	6,000
March.....	31	3.0	11.3	695
April.....	11	2.1	4.42	263
May.....			* 2.50	154
June.....			* 1.55	92.2
The year.....	980	0	32.1	23,200
1914-15				
December.....	62	.3	8.31	511
January.....	627	2.0	90.9	5,590
February.....	1,030	69	248	13,800
March.....	97	13	32.7	2,010
April.....	30	12	17.8	1,080
May.....	258	12	72.5	4,460
June.....	19	4.6	8.72	519
July.....	3.9	1.2	2.52	155
August.....	1.1	.9	1.02	62.7
September.....			* .93	55.3
The year.....	1,030	0	39.0	28,200

* Estimated.

Monthly discharge of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1915-16				
October.....			0.77	47.3
November.....			0.73	43.4
December.....	161	0	11.7	719
January.....	1,240	1.5	307	18,900
February.....	882	19	124	7,130
March.....	190	12	37.9	2,330
April.....	15	5.5	9.25	560
May.....	5.5	2.5	3.54	218
June.....	2.5	.5	1.27	75.6
July.....	1.5	.5	.96	59.0
August.....	.5	.3	.36	22.1
September.....	.3	0	.20	11.9
The year.....	1,240	0	41.4	30,100
1916-17				
December.....	718	0	40.2	2,470
January.....	292	5	31.8	1,960
February.....	1,660	2.9	168	9,330
March.....	77	15	35.5	2,180
April.....	15	8	11.3	672
May.....	8	5.5	6.85	421
June.....	5.5	2.5	3.82	227
The year.....	1,660	0	23.8	17,300
1917-18				
February.....	104	0	11.4	633
March.....	422	2.9	42.3	2,600
April.....	10	2.2	4.97	296
May.....	2.2	.9	1.41	86.7
June.....	.9	.6	.68	40.5
September.....	26	0	4.10	244
The year.....	422	0	5.39	3,900
1918-19				
October.....	.8	0	.22	13.5
November.....	77	0	5.32	317
December.....	37	1.5	5.70	350
January.....	39	1.5	6.00	369
February.....	1,540	2.8	173	9,610
March.....	374	20	103	6,330
April.....	17	8	11.1	660
May.....	7.5	1.2	3.40	209
June.....	1.2	.8	1.08	64.3
The year.....	1,540	0	24.8	17,900
1919-20				
December.....	76	0	4.14	255
January.....	.9	.8	.83	51.0
February.....	.9	.8	.80	46.0
March.....	405	1.5	47.6	2,630
April.....	292	6	34.8	2,070
May.....	5	.8	1.97	121
June.....	.8	0	.16	9.5
The year.....	405	0	7.55	5,480
1920-21				
November.....	19	0	3.79	226
December.....	617	2.0	62.7	3,860
January.....	553	4.0	88.7	5,450
February.....	165	14	52.3	2,900
March.....	26	8.5	13.0	799
April.....	8	4.6	5.76	343
May.....	4.6	2.5	3.59	221
June.....	2.3	0	1.10	65.5
The year.....	617	0	19.2	13,900

• Estimated.

Monthly discharge of Alameda Creek near Sunol, Calif., for the years ending September 30, 1911-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921-22				
December.....	292	0	37.6	2,310
January.....	130	5.5	23.0	1,410
February.....	1,600	6	214	11,900
March.....	253	34	89.9	5,530
April.....	84	13	32.5	1,930
May.....	13	5	8.72	536
June.....	4.6	.3	2.09	124
The year.....	1,600	0	32.8	23,700
1922-23				
November.....	52	0	4.06	242
December.....	666	0	93.4	5,740
January.....	248	8	49.4	3,040
February.....	233	14	46.3	2,570
March.....	13	7	8.73	537
April.....	86	7	28.2	1,680
May.....	7	0	3.87	238
The year.....	666	0	19.4	14,000
1923-24				
March.....	.5	0	.04	2.5
April.....	.5	0	.19	11.3
The year.....	.5	0	.02	13.8

NOTE.—No flow during months for which no discharge is given except October, 1913, when there was a small discharge but less than 0.05 second-foot.

ALAMEDA CREEK AT SUNOL, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 7, T. 4 S., R. 1 E., at Sunol Dam, 1 mile below junction with Arroyo de la Laguna and 1 mile west of Sunol, Alameda County.

DRAINAGE AREA.—620 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—October 4, 1900, to September 30, 1924.

GAGE.—Water-stage recorder on upstream face of dam on left bank.

DISCHARGE MEASUREMENTS.—Made from suspension footbridge about 400 feet above dam.

CHANNEL AND CONTROL.—The concrete dam acts as a control for the station. Bed above and below dam consists of gravel and boulders; shifts during high water.

EXTREMES OF DISCHARGE.—1901-1924: Maximum mean daily discharge, 14,700 second-feet March 7, 1911; no flow for part of nearly every year.

DIVERSIONS.—See Spring Valley Water Co.'s aqueduct near Sunol, page 183.

REGULATION.—Spring Valley Water Co. has a large earth-fill dam under construction on Calaveras Creek. Water was released from Calaveras reservoir after periods of natural flow.

ACCURACY.—Sunol Dam has been rated in accordance with a cooperative agreement between the Spring Valley Water Co. and the city of San Francisco. Current-meter measurements have been obtained by both parties and a rating curve developed which has been accepted by both.

COOPERATION.—Records showing millions of gallons per day furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer. Daily discharge converted into second-feet and monthly discharge computed by United States Geological Survey.

Daily discharge, in second-feet, of Alameda Creek at Sunol, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Day	Oct.	Nov.	Dec.	Jan.	Feb.
1-----	23	7.5	12	0.9	0.6	16-----	13	11	0.3	0.6	0.3
2-----	23	6.5	12	.9	.6	17-----	13	12	.3	.6	.2
3-----	23	6.5	12	1.5	.6	18-----	8	12	.3	.6	.2
4-----	23	7.5	12	1.5	.6	19-----	7.5	12	.3	.6	.2
5-----	23	8	12	1.5	.6	20-----	7.5	12	.3	.6	.2
6-----	23	7.5	12	1.5	.6	21-----	8	12	.6	.6	.2
7-----	23	8	12	1.5	.3	22-----	8	12	.6	.5	.2
8-----	23	8	12	1.5	.3	23-----	7.5	12	.6	.5	.2
9-----	23	7.5	12	1.5	.3	24-----	7.5	12	.6	.5	.2
10-----	23	7.5	12	.6	.3	25-----	7.5	13	.6	.5	.2
11-----	20	6.5	7.5	.6	.3	26-----	7.5	13	.9	.5	-----
12-----	15	7.5	6.5	.6	.5	27-----	7.5	12	.9	.5	-----
13-----	15	8	6.5	.6	.5	28-----	7.5	12	.9	.5	-----
14-----	14	9.5	6.5	.6	.5	29-----	7.5	12	.9	.5	-----
15-----	13	9.5	6.5	.6	.5	30-----	7.5	12	.9	.5	-----
						31-----	7.5	-----	.9	.5	-----

NOTE.—No flow Feb. 26 to Sept. 30.

Monthly discharge of Alameda Creek at Sunol, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October-----	23	7.5	14.2	873
November-----	13	6.5	9.88	588
December-----	12	.3	5.27	324
January-----	1.5	.5	.79	46.6
February-----	.6	0	.32	18.4
The year-----	23	0	2.55	1,850

NOTE.—No flow during months for which no discharge is given.

ALAMEDA CREEK AT NILES DAM, CALIF.

LOCATION.—At Niles Dam near north boundary Ex Mission San Jose grant, about one-fourth mile below Stonybrook Canyon, and one-third mile southwest of Farwell, Alameda County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 1, 1891, to September 30, 1900.

GAGE.—Painted on upstream face of brick intake tower on right bank at dam.

At low stages the depth of water flowing over dam was measured on dam near right end.

DISCHARGE.—Computed from formula developed by experiments on a model of Niles Dam, scale 1:19, by Prof. J. N. Le Conte.

CHANNEL AND CONTROL.—Niles Dam, built of concrete, is the control.

EXTREMES OF DISCHARGE.—1891–1900: Maximum mean daily discharge, 12,200 second-feet December 3, 1892; stream dry during a part of time in most years.

DIVERSIONS.—See Alameda Creek at Sunol and Spring Valley Water Co.'s aqueduct near Sunol.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

The following records supersede those published in Water-Supply Paper 81, pages 34–39.

Daily discharge, in second-feet, of Alameda Creek at Niles Dam, Calif., for the years ending September 30, 1891-1900

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1891								
1	57	39	9,220	96	77	46	24	5.5
2	53	46	4,390	91	73	46	24	5.5
3	49	46	2,310	91	73	46	21	5.5
4	49	46	1,440	87	73	42	19	5.5
5	164	46	364	87	73	42	19	5.5
6	131	42	325	82	73	42	19	5.5
7	119	42	286	261	73	39	19	5.5
8	73	39	261	201	73	36	19	5.5
9	63	39	261	152	63	34	19	-----
10	55	39	247	152	57	34	19	-----
11	55	39	232	201	57	34	19	-----
12	53	39	217	152	57	34	17	-----
13	53	39	189	164	57	34	17	-----
14	49	39	164	189	57	34	17	-----
15	49	39	247	189	57	34	17	-----
16	49	344	189	201	57	34	15	-----
17	49	189	183	261	57	34	15	-----
18	49	114	176	232	53	32	13	-----
19	46	87	164	201	53	32	13	-----
20	46	82	158	189	53	32	13	-----
21	46	73	138	170	53	32	11	-----
22	46	68	119	138	53	32	11	-----
23	42	7,380	114	124	49	29	11	-----
24	42	3,250	110	124	46	29	11	-----
25	42	1,730	105	114	46	29	11	-----
26	42	789	101	105	46	29	8	-----
27	42	928	96	96	46	29	8	-----
28	39	4,080	114	96	46	29	5.5	-----
29	39	-----	105	91	46	27	5.5	-----
30	39	-----	105	82	46	27	5.5	-----
31	39	-----	101	-----	46	-----	5.5	-----
Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1891-92								
1	19	344	46	68	658	57	36	19
2	-----	306	46	77	1,080	63	34	19
3	-----	201	46	114	603	124	34	17
4	29	138	46	96	325	138	32	17
5	29	96	53	91	286	124	32	15
6	11	87	77	77	261	344	32	15
7	-----	77	110	68	201	261	32	15
8	-----	68	105	63	189	217	32	15
9	11	68	96	57	164	138	29	13
10	11	68	82	57	138	138	29	13
11	19	57	73	55	124	124	29	13
12	21	57	68	53	114	110	29	11
13	-----	53	68	53	105	101	29	11
14	-----	53	68	53	96	96	29	11
15	-----	49	57	57	110	164	29	8
16	5.5	49	55	114	101	170	29	8
17	11	49	55	91	91	124	27	8
18	11	46	55	77	87	105	27	5.5
19	15	46	63	110	82	91	27	5.5
20	29	42	286	268	77	82	27	-----
21	24	42	164	209	77	77	24	-----
22	15	42	124	158	77	68	24	-----
23	19	42	105	131	73	68	21	-----
24	11	42	96	110	73	68	21	-----
25	-----	42	91	101	68	57	21	-----
26	-----	46	82	91	63	55	21	-----
27	-----	53	73	105	57	53	21	-----
28	232	57	68	114	57	53	19	-----
29	449	53	68	124	57	49	19	-----
30	3,460	49	-----	4,080	57	46	19	-----
31	449	46	-----	1,530	-----	42	-----	-----

Daily discharge, in second-feet, of Alameda Creek at Niles Dam, Calif., for the years ending September 30, 1891-1900—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1892-93											
1		8,400	364	1,530	1,000	383	209	55	24	19	13
2		5,430	325	1,000	1,000	344	201	55	24	17	13
3		12,200	286	1,000		261	176	42	24	17	13
4		4,500	286	727		239	164	42	24	17	13
5		2,430	286	603		261	168	39	24	17	13
6		1,730	274	497		261	152	39	21	15	13
7		928	261	325		261	145	36	21	15	13
8		402	232	261		261	138	34	21	15	13
9		325	217	5,120		261	131	32	21	13	13
10		201	201	5,430		261	131	29	21	13	13
11		201	201	4,500		354	124	29	21	13	13
12		176	189	3,250		392	124	29	21	13	11
13		176	189	1,730		383	119	29	21	13	11
14		164	176	1,530	928	344	119	29	21	13	11
15		164	176	1,340		315	114	29	19	13	11
16		152	261	1,080		296	114	29	19	13	11
17		152	261	727		280	119	27	19	13	11
18		138	232	497		274	124	27	19	13	11
19		138	232	449		280	124	27	19	13	11
20		124	176	402		261	119	27	19	13	11
21		114	152	325		261	114	27	19	13	11
22		114	124	286		261	110	27	19	13	11
23		114	124	286		261	105	27	19	13	11
24		9,630	114	286		261	96	24	19	13	11
25		4,500	124	261		254	87	24	19	13	11
26		3,870	1,340	261	928	247	82	24	19	13	8
27		1,840	3,560	261	1,480	239	77	24	19	13	8
28	449	1,170	2,820	247	1,340	232	73	24	19	13	8
29	5,580	789	1,340		473	232	68	24	19	13	8
30	16,200	603	2,310		425	217	63	24	19	13	8
31		449	4,080		387		57		19	13	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1893-94												
1	5.5	5.5	29	39	105	201	73	39	29	15	8	
2	5.5	5.5	24	124	96	364	73	36	29	15	8	
3	5.5	5.5	19	124	87	286	73	34	29	15	5.5	
4	5.5	5.5	19	87	87	232	73	32	29	15	5.5	
5	5.5	5.5	15	57	77	201	68	32	29	15	5.5	
6	5.5	5.5	11	53	77	727	68	29	29	15	5.5	
7	5.5	5.5	11	46	77	449	68	29	29	15	5.5	
8	5.5	5.5	11	42	201	364	63	29	27	15	5.5	
9		5.5	11	39	286	325	57	27	27	15	5.5	
10		8	11	39	4,500	325	55	24	24	15	5.5	
11		8	11	39	1,730	286	53	24	21	15	5.5	
12		8	11	36	859	286	49	24	21	15	5.5	
13		8	13	34	364	261	49	24	24	15	5.5	
14	11	8	15	34	286	261	49	46	24	15	5.5	
15	11	8	21	4,500	232	232	49	53	21	15	2.7	
16	11	5.5	21	1,950	449	201	46	42	21	15	2.7	
17	8	5.5	17	402	286	176	46	39	21	13	2.7	
18	8	5.5	17	364	3,870	176	42	34	21	13	2.7	
19	8	5.5	17	261	9,630	152	42	32	21	13	2.7	
20	8	5.5	17	8,400	2,820	138	42	32	21	13	2.7	
21	8	5.5	17	4,500	6,360	114	42	32	19	13	2.7	
22	8	5.5	27	1,730	2,180	105	39	29	19	13	2.7	
23		5.5	27	603	1,080	96	39	29	19	11	2.7	
24		11	32	325	727	96	39	29	17	11	2.7	
25		19	68	232	449	87	39	32	17	11	2.7	
26	8	29	68	201	261	87	53	32	17	11	2.7	
27	8	29	57	176	232	87	68	34	17	11	2.7	
28	8	34	57	176	201	77	55	34	17	11	2.7	
29	8	29	42	152		77	46	32	15	11	2.7	
30	8	29	39	124		77	42	32	15	8		39
31	8		36	124		77		29		8		

Daily discharge, in second-feet, of Alameda Creek at Niles Dam, Calif., for the years ending September 30, 1891-1900—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1894-95												
1	24	8	11	247	325	195	158	114	55	21	8	5.5
2	15	8	11	232	286	195	145	232	53	21	8	5.5
3	11	8	15	201	286	189	131	201	53	19	8	5.5
4	2 7	8	15	1,530	286	183	114	189	53	19	5.5	5.5
5		8	15	6,360	274	176	110	164	46	19	5.5	5.5
6		8	19	3,250	261	170	105	138	42	19	5.5	5.5
7		8	201	1,530	232	170	96	114	42	19	5.5	5.5
8	19	8	859	859	217	164	91	114	36	19	5.5	5.5
9	19	8	261	1,250	217	164	91	105	32	19	5.5	5.5
10		8	789	658	209	152	87	91	34	19	5.5	5.5
11	15	8	232	418	217	176	82	87	34	19	5.5	5.5
12	15	5.5	286	344	4,500	145	77	77	34	19	5.5	5.5
13		5.5	201	449	4,500	152	73	68	34	19	5.5	5.5
14		5.5	152	603	2,180	152	164	68	34	19	5.5	5.5
15	2 7	5.5	96	402	1,250	138	124	68	34	19	2.7	5.5
16	2 7	5.5	82	5,430	859	131	21	63	32	17	2.7	5.5
17	15	5.5	77	7,720	523	124	152	63	32	15	2.7	5.5
18	15	5.5	1,730	10,900	449	124	131	63	29	15	2.7	5.5
19	15	5.5	1,170	7,040	364	119	138	63	27	15	2.7	5.5
20	11	5.5	3,250	3,250	325	201	119	57	27	15	2.7	5.5
21	15	8	1,530	1,950	286	201	114	57	24	15	2.7	5.5
22	15	8	8,400	3,250	286	232	110	55	21	15	2.7	5.5
23	19	8	3,770	5,740	261	217	96	55	24	13	2.7	2.7
24	15	8	1,340	3,250	247	195	91	53	24	13	2.7	2.7
25	11	8	549	1,730	217	176	68	53	21	13	2.7	2.7
26	8	8	364	1,170	209	152	68	53	21	11	2.7	2.7
27	5.5	8	261	859	201	145	124	53	21	11	2.7	2.7
28	5.5	15	261	630	201	217	201	68	21	8	2.7	2.7
29	5.5	15	387	402		232	176	68	21	8	2.7	2.7
30	5.5	13	449	325		217	138	63	21	8	2.7	2.7
31	8	13	325	325		189		57		8	2.7	
1895-96												
1	2 7	11	13	13	325	77	96	232	53	21	5.5	2.7
2		11	13	13	261	77	87	217	49	21	5.5	2.7
3		13	13	13	232	105	87	201	46	19	5.5	2.7
4	24	19	13	13	201	114	77	201	46	15	5.5	2.7
5	15	19	13	13	176	114	77	201	46	13	5.5	2.7
6		19	13	13	152	124	114	189	46	13	5.5	2.7
7		17	13	13	138	164	201	201	42	13	5.5	2.7
8	11	15	13	13	124	176	138	176	39	13	5.5	2.7
9	8	15	13	13	114	189	124	195	36	13	5.5	2.7
10		15	13	13	105	176	232	145	36	11	5.5	2.7
11		13	13	13	101	152	201	201	34	11	5.5	2.7
12		13	13	13	96	138	176	201	32	11	2.7	2.7
13		13	13	13	96	114	152	176	32	11	2.7	2.7
14		13	13	53	96	105	164	152	29	11	2.7	2.7
15		11	17	39	96	105	152	138	29	11	2.7	2.7
16	8	11	19	68	91	105	152	131	29	8	2.7	2.7
17	8	11	19	1,730	87	105	124	119	29	8	2.7	2.7
18	8	11	17	6,360	82	96	114	110	27	8	2.7	2.7
19	29	11	17	1,950	77	87	114	105	27	8	2.7	5.5
20	15	11	24	4,500	77	87	105	101	27	8	2.7	5.5
21	46	11	29	3,250	77	87	105	101	27	8	2.7	5.5
22	29	8	19	859	77	87	286	110	24	8	2.7	11
23	15	8	19	603	77	77	261	105	24	8	2.7	11
24	15	8	19	449	73	77	5,430	96	21	8	5.5	8
25	13	8	15	286	73	77	3,250	82	21	8	5.5	5.5
26	13	8	15	449	73	77	1,730	68	21	8	5.5	5.5
27		11	15	3,870	73	201	727	63	21	8	2.7	5.5
28	15	15	15	2,430	73	201	402	57	21	8	2.7	5.5
29	13	19	13	1,730	73	152	325	55	21	8	2.7	5.5
30	13	17	13	638		124	261	53	21	8	2.7	5.5
31	13		13	402		105		53		5.5	2.7	

Daily discharge, in second-feet, of Alameda Creek at Niles Dam, Calif., for the years ending September 30, 1891-1900—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1896-97												
1	5.5	7.5	42	402	5,430	1,730	859	96	53	24	8	4.6
2	5.5	7.5	42	261	4,960	1,340	603	91	53	24	8	4.6
3	5.5	7.5	39	232	1,630	3,250	473	87	42	24	8	4.6
4	5.5	7.5	32	152	1,730	1,730	402	82	32	24	8	4.6
5	5.5	7.5	15	124	3,250	1,000	364	77	29	24	8	4.6
6	2.7	7.5	15	114	4,810	1,950	325	68	27	24	8	4.6
7	2.7	9.5	15	96	1,950	3,870	296	68	27	24	8	4.1
8	2.7	7.5	15	87	1,630	2,430	261	68	27	24	8	4.1
9	2.7	15	15	73	789	1,730	232	63	27	19	8	4.1
10	5.5	17	15	68	603	1,480	217	63	27	19	8	4.1
11	5.5	12	15	63	449	1,080	201	63	27	17	8	4.1
12	5.5	9.5	15	57	383	859	201	63	27	17	8	4.1
13	2.7	9.5	20	63	334	658	201	63	27	17	8	4.1
14		9.5	20	63	274	549	201	63	27	17	8	4.1
15		8.5	39	57	261	449	201	63	27	17	5.5	3.7
16	2.4	8.5	68	55	232	402	195	82	27	15	5.5	3.2
17	2.4	8.5	77	55	603	325	195	77	27	13	5.5	3.2
18	2.4	8.5	53	53	425	325	189	77	27	13	5.5	3.2
19	2.4	7.5	46	49	2,430	658	189	73	27	11	5.5	3.2
20	2.4	9.5	39	49	2,180	789	183	68	27	11	5.5	3.2
21	2.4	12	36	49	1,250	603	176	68	27	11	5.5	3.2
22	2.4	29	36	49	894	364	170	63	27	11	5.5	2.7
23	2.4	29	34	46	603	364	164	57	27	11	5.5	2.7
24	2.4	1,170	32	46	603	325	152	57	27	11	5.5	2.7
25	4.9	402	29	49	497	286	138	57	27	11	5.5	2.7
26	5.5	201	29	46	497	274	114	57	27	11	5.5	2.7
27	23	105	402	46	402	254	105	57	27	11	5.5	2.7
28	19	68	201	46	364	8,400	96	57	27	11	5.5	2.7
29	12	46	1,340	152		2,430	96	57	27	11	5.5	2.7
30	7.5	46	261	658		1,440	96	55	24	11	2.7	2.7
31	7.5		727	727		859		55		11	2.7	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Aug.
1897-98										
1	2.7	5.5		9.5	19	138	18	1.3	4.6	
2	2.7	5.5		9.5	7.5	114	18	1.3	2.7	
3	2.7	5.5		9.5	7.5	77	18	1.3	1.3	4.6
4	2.7	5.5		9.5	7.5	57	18	1.3	.7	
5	2.7	5.5		9.5	7.5	57	18	1.3		
6	2.7	5.5		9.5	9.5	53	18	1.3		
7	2.7	5.5		15	12	46	18	1.3		
8	2.7	5.5		15	15	29	18	.7	.7	
9	2.7	5.5		15	15	29	12	.7	.7	
10	2.7	5.5		15	12	29	12	.7	.7	
11	2.7	5.5		15	9.5	24	12	.7	.7	
12	2.7	5.5		17	7.5	24	12	.7	.7	
13	2.7	5.5		17	7.5	24	12	.7	.7	
14	2.7	5.5		15	7.5	19	12	.7		
15	2.7	5.5		15	8.5	19	12	4.6		
16	2.7		15	15	8.5	19	12	6		
17	2.7		12	15	9.5	19	9.5	8.5		
18	2.7		12	15	8.5	19	9.5	9		
19	2.7		12	15	8.5	19	6	7.5		
20	2.7		12	15	8.5	19	6	6.5		
21	2.7		12	15	5.5	17	3.7	5.5		
22	4.6		9.5	15	6.5	17	3.7	6		
23	6		9.5	13	5.5	17	3.7	5.5		
24	34		9.5	13	5.5	17	3.7	4.6		
25	15		9.5	13	497	17	3.7	3.7		
26	9.5		9.5	13	201	17	3.7	3.7		
27	7.5		9.5	12	105	17	3.7	3.2		
28	7.5		9.5	12	261	17	3.2	3.2		
29	5.5		9.5	12		18	2.7	3.2		
30	5.5		9.5	12		18	1.3	3.2		
31	5.5		9.5	12		18		3.2		

Daily discharge, in second-feet, of Alameda Creek at Niles Dam, Calif., for the years ending September 30, 1891-1900—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	
1898-99												
1		1.3			4.1	4.6	201	22	7.5	2.7	0.7	
2		1.3		4.6	4.6	4.6	152	22	7.5	2.7		
3		1.3		4.6	3.7	3.7	114	22	7.5	2.7		
4		1.3		3.2	3.7	3.2	114	19	7.5	2.7		
5		1.3	0.1	.7	3.7	3.2	87	19	6.5	2.7		
6		1.3			3.7	3.2	77	19	6.5	2.7		
7		1.3		.9	3.7	3.2	77	19	6.5	2.7		
8		4.1	.1	.6	4.1	3.2	68	18	6.5	2.0		
9		4.1	.1	.9	4.1	3.2	68	18	6.5	2.0		
10		4.1	.1	1.2	4.1	3.2	57	18	6.5	2.0		
11		1.3		105	4.1	3.2	56	18	6.5	1.3		
12		1.3		19	4.1	3.2	53	16	6.5	1.3		
13		1.3		170	3.7	2.7	46	16	6	2.0		
14			1.5	77	3.7	2.7	42	14	5.5	2.0		
15			.5	53	3.7	4.6	39	11	6	2.0		
16			.3	57	3.7	3,250	34	11	4.6	1.3		
17			.1	57	3.7	727	34	9.5	4.6	.7	.4	
18				46	3.7	402	32	9.5	4.6	.7		
19		.7	.7	39	3.7	201	32	9.5	4.6	.7		
20		.7	1.7	29	3.7	1,170	28	9.5	4.6	1.3		
21			1.5	24	3.7	603	26	9.5	4.1	1.3		
22			.9	13	3.2	1,730	24	9.5	3.2	1.3		
23	3.7		.7	5.5	3.7	6,360	24	9.5	3.2	1.3		
24	4.6		.3	3.7	3.7	8,400	24	9.5	3.2	.7		
25	6			3.2	3.7	3,250	24	9.5	4.1	.7		
26	7.5	.3		3.2	3.7	1,340	24	9.5	3.7	.7		
27	3.7			2.7	3.7	603	24	9.5	3.7	.7		
28	2.7			2.7	3.7	325	24	8.5	3.2	1.3		
29	1.3	.5		2.7		261	24	8.5	3.2	1.3		
30	1.3			3.7		232	24	8.5	3.2	1.3		
31	1.3			3.7		201		8.5		1.3		
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1899-1900												
1			39	105	42	29	36	29	7.5	2.7	0.5	
2			34	232	42	29	36	29	7.5	2.7	.3	
3			19	8,400	42	32	49	29	7.5	2.7		0.3
4			19	2,430	42	625	53	29	7.5	2.7		.3
5			19	859	42	261	42	20	6.5	2.7	.3	11.3
6			19	449	39	201	39	34	6	2.7		9.5
7			19	261	39	201	36	34	6	1.3		17
8			24	325	39	201	34	29	6	1.3	.1	
9			24	261	36	325	32	29	6	.5		.5
10			24	201	34	261	29	29	5.5	.5		.3
11			19	201	34	201	29	29	5.5	.5		.3
12			29	176	34	176	32	24	5.5	.5		
13	11		53	152	34	152	34	24	5.5	.7		
14	29		53	152	32	124	34	24	5.5	.7		
15	29		201	124	32	114	32	21	5.5	.3		
16		11	727	96	32	87	29	19	6			
17		39	325	87	29	96	29	19		.4		
18		87	261	77	29	77	27	19		.3		.5
19		39	201	73	32	68	27	19		.3		
20		24	152	68	34	57	34	19		.4	.1	
21		11	105	68	46	55	68	19		.6		
22		53	105	57	46	53	57	19		.7		
23		152	77	57	39	53	53	19		.8		
24		105	68	57	34	49	42	19	3.2	.9	.3	
25		87	57	53	34	46	42	8.5	3.2	.7		
26		68	53	53	34	42	36	8.5	3.2	.5		
27		53	46	49	32	39	34	8.5	3.2		.1	
28		39	46	49	32	39	32	8.5	3.2			
29		39	42	46		36	29	8	2.7	.1	.1	
30		39	286	46		36	29	8	2.7	.3		
31			201	42		36		8				

NOTE.—No flow on days for which no discharge is given. Discharge estimated Mar. 2-25 and 31, 1893. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Alameda Creek at Niles Dam, Calif., for the years ending September 30, 1891-1900

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1891				
January.....	164	39	57.9	3,590
February.....	7,380	39	705	39,200
March.....	9,220	96	717	44,100
April.....	261	82	147	5,750
May.....	77	46	57.5	3,540
June.....	46	27	34.4	2,060
July.....	24	5.5	14.3	579
August.....	5.5	0	4.40	88.1
The period.....	9,220	0		102,000
1891-92				
December.....	3,460	0	157	9,650
January.....	344	42	79.6	4,890
February.....	286	46	83.6	4,810
March.....	4,080	53	273	16,880
April.....	1,080	57	185	11,000
May.....	344	42	110	6,760
June.....	36	19	27.2	1,620
July.....	19	0	7.50	467
The year.....	4,080	0	77.1	56,600
1892-93				
November.....	16,200	0	741	44,100
December.....	12,200	114	1,080	122,000
January.....	4,080	114	675	41,500
February.....	5,430	247	1,220	67,800
March.....		387	916	56,300
April.....	392	217	281	16,700
May.....	209	57	121	7,440
June.....	55	24	31.1	1,880
July.....	24	19	20.2	1,240
August.....	19	13	13.6	596
September.....	13	8	11.1	660
The year.....	16,200	0	497	260,000
1893-94				
October.....	11	0	5.59	344
November.....	34	5.5	10.7	637
December.....	68	11	25.4	1,560
January.....	8,400	34	807	40,600
February.....	9,630	77	1,340	74,400
March.....	727	77	214	13,200
April.....	73	39	53.2	3,170
May.....	53	24	32.4	1,990
June.....	29	15	22.3	1,330
July.....	15	8	13.0	798
August.....	8	0	3.93	242
September.....	39	0	1.30	77.4
The year.....	9,630	0	204	147,000
1894-95				
October.....	24	0	9.37	578
November.....	15	5.5	7.90	470
December.....	8,400	11	874	53,700
January.....	10,900	201	2,330	142,000
February.....	4,500	201	703	39,000
March.....	232	110	174	10,700
April.....	201	21	113	6,720
May.....	232	53	89.5	5,506
June.....	55	21	32.8	1,959
July.....	21	8	15.5	958
August.....	8	2.7	4.19	258
September.....	5.5	2.7	4.60	279
The year.....	10,900	0	364	263,000

*Monthly discharge of Alameda Creek at Niles Dam, Calif., for the years ending
September 30, 1891-1900—Continued*

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1895-96				
October.....	46	0	10.1	621
November.....	19	8	12.6	750
December.....	29	13	15.2	935
January.....	6,360	13	963	59,200
February.....	325	73	117	6,730
March.....	201	77	119	7,320
April.....	5,430	77	516	30,700
May.....	232	53	137	8,420
June.....	63	21	31.9	1,900
July.....	21	5.5	10.7	688
August.....	5.5	2.7	3.93	242
September.....	11	2.7	4.24	252
The year.....	6,360	0	162	118,000
1896-97				
October.....	23	0	5.11	314
November.....	1,170	7.5	76.3	4,540
December.....	1,340	15	122	7,500
January.....	727	46	132	8,120
February.....	5,430	232	1,410	78,300
March.....	8,400	254	1,360	83,600
April.....	859	96	243	14,500
May.....	96	55	67.6	4,160
June.....	53	24	29.1	1,730
July.....	24	11	15.9	978
August.....	8	2.7	6.46	397
September.....	4.6	2.7	3.61	215
The year.....	8,400	0	282	204,000
1897-98				
October.....	34	2.7	5.05	311
November.....	5.5	0	2.71	161
December.....	15	0	5.40	332
January.....	17	9.5	13.2	812
February.....	497	5.5	45.7	2,540
March.....	138	17	32.9	2,020
April.....	18	1.3	10.2	607
May.....	9	.7	3.25	200
June.....	4.6	0	.45	26.8
July.....	0	0	0	0
August.....	0	0	.15	9.2
September.....	0	0	0	0
The year.....	497	0	9.69	7,020
1898-99				
October.....	7.5	0	1.04	64.0
November.....	4.1	0	.94	55.9
December.....	1.7	0	.28	17.2
January.....	176	0	24.0	1,480
February.....	4.6	3.2	3.79	210
March.....	8,400	2.7	939	57,700
April.....	201	24	55.3	3,290
May.....	22	8.5	13.7	842
June.....	7.5	3.2	5.27	314
July.....	2.7	.7	1.63	100
August.....	.7	0	.04	2.5
The year.....	8,400	0	88.5	64,100
1899-1900				
October.....	29	0	2.26	139
November.....	152	0	28.1	1,670
December.....	727	19	108	6,640
January.....	8,400	42	494	30,400
February.....	46	29	36.2	2,010
March.....	325	29	113	6,950
April.....	68	27	37.2	2,210
May.....	34	8	21.0	1,290
June.....	7.5	0	3.98	237
July.....	2.7	0	.93	57.2
August.....	.5	0	.06	3.7
September.....	17	0	1.34	79.7
The year.....	8,400	0	71.3	51,700

NOTE.—No flow during months for which no discharge is given.

ALAMEDA CREEK NEAR NILES, CALIF.

LOCATION.—In Niles Canyon, one-eighth mile below Southern Pacific Co.'s first bridge above Niles, one-eighth of a mile above highway bridge, and $1\frac{1}{4}$ miles northeast of Niles, Alameda County.

DRAINAGE AREA.—633 square miles (measured on topographic map by State water commission).

RECORDS AVAILABLE.—October 1, 1916, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank. Prior to December 18, 1923, water-stage recorder located on right bank 800 feet upstream.

DISCHARGE MEASUREMENTS.—Made from suspension footbridge at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel; not permanent. Banks are high; channel straight from old gage to some distance below suspension bridge. Control at old gage solid rock and boulders. At medium and high stages water escapes around control on left bank. Control at new gage site is a concrete wall with slight dip at the low-water channel.

DIVERSIONS.—Spring Valley Water Co. obtains water from the gravels at lower end of Livermore Valley above station. See Spring Valley Water Co.'s aqueduct near Sunol.

REGULATION.—Spring Valley Water Co. has under construction a large storage reservoir on Calaveras Creek. Water was released from Calaveras Reservoir after periods of natural flow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.00 foot at 1.30 p. m. October 10 (discharge, 40 second-feet released from Calaveras Reservoir); no flow May 24 to September 30.

1916–1924: Maximum stage recorded 12.44 feet 10 p. m. February 10, 1922 (discharge, 13,900 second-feet); minimum stage, no flow during periods of 1918, 1920, and 1924.

ACCURACY.—Stage-discharge relation practically permanent. Rating curves well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Alameda Creek near Niles, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 18.....	0.58	11	Jan. 24.....	1.84	1.5	Mar. 21.....	1.70	0.47
Nov. 19.....	.38	4.5	Feb. 7.....	1.92	2.7	May 29.....		0
Dec. 20.....	1.80	1.0	Do.....	1.92	2.6	June 10.....		0
Dec. 27.....	1.72	.50	Feb. 14.....	1.82	1.3			
Jan. 24.....	1.84	1.6	Mar. 4.....	1.80	1.1			

Daily discharge, in second-feet, of Alameda Creek near Niles, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1	36	9	1.8	0.8	1.9	0.8	0.7	0.2
2	38	9	1.8	.9	1.6	1.0	.7	.2
3	38	9	2.0	1.9	1.6	1.5	.7	.2
4	38	9	2.0	3.2	1.6	1.1	.7	.2
5	37	9	2.1	3.6	2.0	.9	.5	.2
6	38	9	2.2	3.1	2.4	.8	.4	.2
7	39	8.5	2.2	2.2	2.7	.7	.4	.1
8	39	9	1.8	1.8	3.8	.8	.3	.1
9	39	3.3	1.7	1.7	3.1	.5	.4	.1
10	39	2.5	4.1	1.5	3.6	.5	.4	.1
11	30	2.7	6	1.3	3.6	.5	.4	.1
12	27	3.3	4.5	1.2	2.1	.5	.4	.2
13	20	3.9	2.5	1.0	1.7	.5	.4	.2
14	18	4.1	2.7	.9	1.3	.4	.6	.2
15	21	2.7	2.4	.9	1.1	.4	.5	.1
16	20	4.1	2.2	.9	1.0	.4	.4	.1
17	19	4.3	2.1	.9	.9	.4	.4	.1
18	14	4.5	1.7	.9	.8	.4	.4	.1
19	11	4.1	1.4	1.0	.8	.4	.3	.1
20	9.5	5	1.1	1.5	.8	.4	.3	.1
21	11	5.5	1.1	1.5	.8	.4	.3	.1
22	11	5.5	.8	1.6	.8	.5	.4	.1
23	11	5.5	.8	1.7	.7	.5	.4	.1
24	10	6	.8	1.7	.6	.6	.3	
25	9.5	7	.8	2.2	.7	.7	.3	
26	7.5	3.7	.7	7	.7	.9	.3	
27	7.5	1.6	.7	9	.7	.8	.2	
28	8	1.6	.6	7.5	.7	.7	.3	
29	8	1.6	.5	5	.7	.6	.3	
30	8.5	1.7	.5	3.6		.6	.3	
31	8		.7	2.7		.6		

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Alameda Creek near Niles, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	39	7.5	21.6	1,330
November	9	1.6	5.22	311
December	6	.5	1.82	112
January	9	.8	2.41	148
February	3.8	.6	1.54	88.6
March	1.5	.4	.64	39.4
April	.7	.3	.42	25.0
May	.2	0	.10	6.1
The year	39	0	2.84	2,060

NOTE.—No flow during months for which no record is given.

CALAVERAS CREEK NEAR SUNOL, CALIF.

LOCATION.—In sec. 13, T. 5 S., R. 1 E., just below Freeman Dam site, half a mile below Calaveras Dam, half a mile above junction with Alameda Creek, and 8 miles southeast of Sunol, Alameda County.

DRAINAGE AREA.—100 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—June 15, 1910, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 400 feet below Freeman Dam site, installed in 1913. From 1910–1913 recorder was on left bank 500 feet below Calaveras Dam.

DISCHARGE MEASUREMENTS.—Made from suspension gaging bridge 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Concrete weir a short distance below gage at each site.

EXTREMES OF DISCHARGE.—1910-1924: Maximum mean daily discharge recorded, 3,830 second-feet on March 7, 1911; stream dry for short periods nearly every year since construction of Calaveras Dam was begun.

DIVERSIONS.—None.

REGULATION.—Water is stored in Calaveras Reservoir and when released it flows down the natural channel of Calaveras Creek past gaging station.

No regulation prior to July 1, 1915, when construction of dam was begun.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1910					1910				
1.....		11	6.5	5	16.....	13	8.5	5.5	3.7
2.....		11	6.5	5	17.....	13	8.5	6.5	3.7
3.....		11	6.5	5	18.....	13	8.5	6.5	3.7
4.....		11	6.5	5	19.....	13	8.5	6.5	3.7
5.....		11	6.5	5	20.....	13	8.5	6.5	3.7
6.....		10	5.5	5	21.....	12	8.5	6.5	3.7
7.....		10	5.5	4.2	22.....	12	8	6.5	3.7
8.....		10	5.5	4.2	23.....	13	8	6.5	3.7
9.....		10	5.5	4.2	24.....	13	8	5.5	4.2
10.....		10	5.5	4.2	25.....	13	8	5.5	4.2
11.....		10	5.5	4.2	26.....	11	7	5.5	4.2
12.....		10	5.5	4.2	27.....	11	7	5.5	4.2
13.....		9.5	5.5	3.7	28.....	13	7	5.5	4.2
14.....		9.5	5.5	3.7	29.....	11	7	5	4.2
15.....	13	8.5	5.5	3.7	30.....	12	6.5	5	4.2
					31.....		6.5	5	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1910-11												
1.....	4.2	2.2	3.3	5	824	145	99	45	28	10	9	5.5
2.....	4.2	2.2	3.3	5	520	250	99	44	27	10	9	5.5
3.....	4.2	2.2	3.3	5	361	537	89	43	27	9	9	5.5
4.....	4.2	2.2	3.3	5	405	1,560	89	42	27	9	8.5	6
5.....	4.2	2.2	3.4	5	378	1,280	114	43	27	9	8.5	6
6.....	4.2	2.2	3.4	2.8	302	1,780	116	45	27	10	8.5	6
7.....	4.2	2.4	3.4	2.8	257	3,830	109	42	24	10	8.5	6
8.....	4.2	2.2	3.4	4.6	211	3,130	86	42	22	10	8.5	6
9.....	4.2	2.2	3.4	5	186	1,540	81	41	21	12	8.5	6
10.....	4.2	2.7	3.8	6.5	172	706	81	40	21	12	8.5	6
11.....	5	2.7	3.8	15	248	536	79	40	19	12	8.5	6
12.....	5.5	2.7	4.4	515	344	411	74	40	19	12	8.5	6
13.....	5.5	2.7	4.4	1,460	544	323	69	40	18	12	8.5	6
14.....	5.5	2.7	4.4	1,590	820	284	69	36	16	12	8.5	6
15.....	5	2.3	4.4	2,390	508	248	69	36	16	12	8.5	6
16.....	5	2.3	4.6	523	357	230	61	36	16	12	8.5	6
17.....	5	2.8	4.6	284	375	193	59	36	16	12	8.5	6
18.....	5	2.8	5	187	290	179	54	36	16	10	8	6
19.....	5	2.8	5	155	202	165	54	36	15	10	7.5	6
20.....	5	2.8	5	137	183	165	54	34	15	11	7.5	6
21.....	5.5	2.8	5	193	162	151	54	34	14	11	7.5	5.5
22.....	5.5	2.8	5	239	144	151	54	34	14	11	7.5	5.5
23.....	5.5	2.8	5	169	137	137	49	34	13	11	7.5	5.5
24.....	5.5	2.8	5	219	126	137	48	31	13	11	7.5	5.5
25.....	5.5	2.8	5	599	141	123	47	30	12	11	7.5	5.5
26.....	1.7	3.3	5	702	109	109	46	30	12	11	7	5.5
27.....	1.7	3.3	5	535	102	109	49	28	10	10	7	5.5
28.....	2.2	3.3	5	478	103	109	49	28	9.5	10	7	4.6
29.....	2.2	3.3	5	751	-----	104	47	28	9.5	10	6.5	4.6
30.....	2.2	3.3	5	1,510	-----	99	45	28	9	9.5	6.5	4.6
31.....	2.2	-----	5	1,220	-----	99	-----	28	-----	9	5.5	-----

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1911-12												
1-----	4.6	5.5	7	12	17	10	21	23	8	3.7	1.6	1.3
2-----	4.6	5.5	7	13	17	10	20	23	5.5	3.7	1.6	1.3
3-----	4.6	5.5	7	9	17	10	19	23	5.5	3.7	1.6	1.3
4-----	4.6	5.5	7	8	17	10	18	21	5.5	3.7	1.6	1.3
5-----	4.6	5.5	6.5	8.5	15	10	18	19	5.5	3.7	1.3	1.3
6-----	4.6	5.5	7	8.5	13	289	18	19	5.5	3.7	1.3	1.3
7-----	4.6	5.5	7	9	14	230	18	19	5.5	3.3	1.3	1.3
8-----	4.6	5.5	7	9	14	67	18	15	4.9	3.3	1.3	1.3
9-----	5.5	6	8	10	14	40	18	15	4.3	3.3	1.3	1.3
10-----	5	6.5	8	12	14	30	21	13	4.3	2.8	1.3	1.3
11-----	5	6.5	8	12	14	30	62	12	4.3	2.8	1.3	.8
12-----	5	6.5	8	13	14	654	210	12	4.3	2.8	1.3	.8
13-----	5	6.5	8	8.5	14	480	127	12	4.3	2.8	1.3	.8
14-----	5.5	6.5	8	8	15	290	78	12	4.3	2.8	1.3	.8
15-----	5.5	7	8	7	15	240	43	11	4.3	2.8	1.3	.8
16-----	5.5	7	8	7	15	619	38	11	4.3	2.8	1.3	.8
17-----	5.5	7	8	9	15	192	35	10	4.3	2.8	1.3	.8
18-----	5.5	7	8	13	15	85	32	10	4.3	2.8	1.3	.8
19-----	5.5	7	8	13	14	79	28	10	4.3	2.8	1.3	.8
20-----	5.5	7	8	13	14	58	26	10	4.3	2.8	1.3	.8
21-----	5.5	7	8	12	14	46	26	9	4.3	2.3	1.3	.8
22-----	5.5	7	8	12	13	38	23	9	4.3	2.3	1.3	.8
23-----	5.5	7	8	12	12	30	24	9	4.3	2.3	1.3	.8
24-----	5	7	8	12	12	30	23	8	4.3	2.3	1.3	.8
25-----	5	7	8	12	12	30	23	9	4.3	2.3	1.3	.8
26-----	5	7	7.5	441	12	28	23	9	3.7	2.3	1.3	.8
27-----	5.5	7	7.5	256	12	25	23	9	3.7	2.3	1.3	.8
28-----	5.5	7	8.5	132	10	23	23	9	3.7	2.3	1.3	.8
29-----	5.5	7	12	43	10	23	21	9	3.7	1.6	1.3	.8
30-----	5.5	7	12	17	-----	23	24	9	3.7	1.6	1.3	.8
31-----	5.5	-----	11	17	-----	21	-----	8	-----	1.6	1.3	-----
1912-13												
1-----	.8	.8	1.6	3.3	12	6.5	19	4.9	3.2	2.3	1.3	1.0
2-----	.8	.8	1.6	3.3	11	6.5	16	4.9	3.2	2.3	1.3	1.0
3-----	.8	.8	1.6	3.3	11	6.5	12	4.9	3.2	2.3	1.3	1.0
4-----	.8	.8	1.6	3.3	10	6.5	12	4.9	3.2	2.3	1.3	1.0
5-----	.8	.8	1.6	3.3	9	6.5	12	4.9	3.2	2.3	1.3	1.0
6-----	.8	.8	2.3	3.3	9	6	11	4.9	3.2	2.3	1.3	1.0
7-----	.8	.8	2.3	3.3	9	6	11	4.9	3.2	2.3	1.3	1.0
8-----	.8	.8	2.3	3.3	9	6	11	4.3	3.2	2.3	1.3	1.0
9-----	.8	.8	2.3	3.3	9	6	11	4.3	3.2	1.8	1.3	1.0
10-----	.8	1.3	2.3	3.3	9	6	11	4.3	3.2	1.8	1.3	1.0
11-----	.8	.8	2.3	3.3	9	6	11	4.3	3.2	1.8	1.3	1.0
12-----	.8	.8	2.3	3.3	8	6	10	4.3	3.2	1.8	1.3	1.0
13-----	.8	.8	2.3	3.3	8	6	9	4.3	3.2	1.8	1.3	1.0
14-----	.8	.8	2.3	3.3	8	5.5	8	4.3	2.8	1.8	1.3	1.0
15-----	.8	.8	2.3	4.3	8	5.5	8	4.3	2.8	1.8	1.3	1.0
16-----	.8	.8	2.3	891	8	5.5	8	4.3	2.8	1.8	1.3	1.0
17-----	.8	.8	2.3	350	8	5.5	7.5	4.3	2.8	1.8	1.2	.9
18-----	.8	1.3	2.3	977	8	6	7.5	4.3	2.8	1.8	1.2	.9
19-----	.8	1.3	2.3	405	7.5	6	7.5	4.3	2.8	1.8	1.1	.9
20-----	.8	1.3	2.3	214	7.5	6	6.5	4.3	2.8	1.8	1.1	.9
21-----	.8	1.3	2.3	148	7.5	6.5	6	3.7	2.8	1.8	1.1	.9
22-----	.8	1.3	2.3	109	7.5	11	6	3.7	2.8	1.8	1.1	.8
23-----	.8	1.3	3.3	42	7.5	46	6	3.7	2.8	1.8	1.1	.8
24-----	.8	1.3	3.3	30	7.5	48	6.5	3.7	2.8	1.8	1.1	.7
25-----	.8	1.3	3.3	23	7.5	54	5.5	3.7	2.8	1.8	1.1	.6
26-----	.8	1.3	3.3	23	7.5	43	5.5	3.7	2.8	1.8	1.1	.6
27-----	.8	1.3	3.3	20	7.5	30	5.5	3.2	2.3	1.8	1.0	.6
28-----	.8	1.6	3.3	18	7.5	27	4.9	3.2	2.3	1.8	1.0	.6
29-----	.8	1.6	3.3	18	-----	25	4.9	3.2	2.3	1.8	1.0	.6
30-----	.8	1.6	3.3	16	-----	23	4.9	3.2	2.3	1.8	1.0	.6
31-----	.8	-----	3.3	14	-----	20	-----	3.2	-----	1.8	1.0	-----

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1913-14							
1	0.6	0.6	0.6	1,220	230	144	12
2	.6	.6	.6	949	192	70	12
3	.6	.6	.6	507	127	46	12
4	.6	.6	.6	351	97	46	12
5	.6	.6	.6	268	97	36	25
6	.6	.6	.6	145	70	36	21
7	.6	.6	.6	140	70	36	17
8	.6	.6	.6	105	70	36	12
9	.6	.6	.6	97	70	36	25
10	.6	.6	1.0	84	70	36	36
11	.5	.6	1.1	77	70	21	25
12	.5	.6	1.1	70	70	21	25
13	.5	.6	1.1	644	70	21	17
14	.5	.5	4.1	982	70	21	12
15	.5	.6	1.1	968	58	21	12
16	.5	.6	1.1	562	25	21	12
17	.5	.6	1.1	1,030	25	21	12
18	.5	.6	1.5	1,050	25	12	12
19	.5	.6	1.5	713	654	12	12
20	.5	.6	1.7	713	1,040	12	13
21	.5	.6	155	713	1,560	12	9
22	.5	.6	713	2,770	1,300	12	9
23	.5	.6	742	1,020	968	12	9
24	.5	.6	200	1,840	713	12	-----
25	.5	.6	58	1,600	535	12	-----
26	.5	.6	180	1,330	490	12	-----
27	.5	.6	57	1,070	194	9	-----
28	.5	.6	36	815	160	9	-----
29	.5	.6	36	550	-----	9	-----
30	.5	.6	253	357	-----	12	-----
31	.5	-----	2,290	293	-----	12	-----
Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1914-15							
1	1.0	24	1,170	255	142	47	45
2	1.0	21	2,620	224	104	48	41
3	1.0	25	1,700	195	88	52	37
4	1.3	70	851	175	85	165	35
5	1.3	66	521	150	76	470	37
6	1.7	114	350	128	68	286	38
7	1.9	132	277	117	75	162	37
8	1.9	275	1,450	107	32	122	42
9	-----	220	1,840	103	72	105	42
10	26	118	1,340	92	60	147	41
11	113	93	774	81	62	337	37
12	87	314	456	76	58	349	37
13	28	172	330	72	55	238	37
14	-----	313	260	74	54	176	35
15	-----	207	209	71	51	139	32
16	20	132	204	70	48	122	29
17	93	102	924	63	47	303	29
18	345	79	500	57	45	529	29
19	153	65	334	57	44	342	29
20	90	52	435	55	42	254	23
21	56	48	367	52	52	193	23
22	41	41	489	46	51	160	22
23	30	38	500	44	45	134	27
24	16	37	616	44	45	116	26
25	19	67	549	44	44	97	25
26	17	48	399	44	44	84	24
27	28	35	297	52	42	75	22
28	34	115	309	159	40	70	20
29	27	1,050	-----	145	42	62	17
30	12	1,430	-----	100	45	55	20
31	16	1,390	-----	190	-----	47	-----

Daily discharge in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924.—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1915-16										
1		9	285	2.5	7	9	12	7.5	21	10
2		75	275	2.5	6	10	12	8	20	5
3	7.5	2,680	303	2.3	4.0	11	12	9	20	13
4	63	2,770	1,150	2.3	4.0	12	12	9.5	19	20
5	13	1,290	1,970	2.3	5	13	12	10	19	20
6	2.9	430	753	2.3	5	14	11	11	19	20
7		212	512	2.2	5	13	11	12	19	23
8		251	371	2.2	6	12	11	12	19	25
9		647	285	2.2	5	11	10	14	20	19
10		1,590	231	2.2	4.0	10	10	15	20	18
11		551	203	2.2	2.9	9	10	16	21	18
12		350	176	2.2	2.9	8	10	17	21	18
13	53	320	153	25	2.9	7	10	18	21	18
14	454	1,230	135	150	2.9	8	10	20	20	18
15	115	730	63	110	2.9	8	10	21	20	18
16	28	382	4.0	70	2.9	9	10	20	19	17
17	13	1,420	4.0	65	4.0	10	10	19	18	17
18	13	1,060	4.0	45	4.0	11	10	18	18	17
19	11	607	4.0	37	4.0	12	11	17	17	17
20	7.5	399	4.0	44	4.0	13	11	17	18	17
21	7	248	4.0	53	4.0	14	12	15	18	19
22	7.5	215	4.0	4.0	5	14	13	15	19	19
23	7	232	4.0	4.0	6	14	13	15	19	19
24	9	788	2.9	4.0	4.0	13	14	17	20	19
25	13	1,200	2.9	4.0	5	13	14	18	20	19
26	13	585	2.9	4.0	6	12	14	19	21	19
27	9.5	1,180	2.9	4.0	6	12	14	20	22	19
28	9.5	1,260	2.9	3.1	7	12	14	21	22	19
29	10	675	2.9	3.1	7	12	14	22	23	19
30	7	439		3.1	8	12	14	22	24	19
31	7.5	345		4.0		12		21	24	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1916-17												
1	11	14	10		8	117	6	6	23	44	73	68
2	7.5	14	10		8	117	6	6	23	44	72	68
3	4.5	14	10	169	6	117	6	6	22	38	72	68
4	5.5	13	10	257	6	107	12	6	21	57	72	68
5	7.5	4.0	2.9	8	6	109	12	6	21	73	54	68
6	4.5	2.0	2.9	8	6	103	12	6	21	73	36	68
7	3.2	2.6	2.9	8	6	60	12	17	21	84	36	68
8	1.7	3.4	2.9	8	6	33	12	17	21	62	35	68
9	5.5	4.2	1.9	8	8	12	12	17	21	62	49	68
10	12	5	.9	8	8	10	18	18	22	62	62	68
11	12	14	13	8	8	12	18	18	22	62	62	68
12	13	2.0	12	8	8	12	17	18	22	62	62	68
13	13	4.0	13	8	8	12	17	17	20	62	62	58
14	13	6	13	8	15	12	12	17	14	62	62	58
15	13	4.6	13	8	11	12	19	17	14	62	62	52
16	13	3.1	13	8	11	13	19	17	14	62	62	85
17	13	2.0	13	8	11	14	19	17	16	62	62	85
18	13	7	13	8	11	14	19	17	18	62	62	85
19	13	15	13	8	11	15	12	17	20	62	62	85
20	13	15	13	8	28	19	12	17	22	55	62	85
21	13	9	13	8	1,160	19	8	17	31	65	62	85
22	13	2.9	13	8	2,390	19	8	17	30	73	62	85
23	13	6	14	8	254	19	7	22	30	73	50	85
24	13	6	14	8	1,540	19	7	21	30	73	43	85
25	13	7	8	8	2,820	12	6	21	30	73	43	85
26	13	.9	9	8	364	12	6	21	30	73	43	85
27	12	2.0	4.0	8	873	12	6	21	30	73	43	85
28	9	10	2.0	8	416	6	6	21	30	73	72	85
29	13	.9		8		6	6	22	31	73	68	90
30	12	2.0		8		6	6	22	31	73	68	90
31	13			8		6		21		73	68	

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	July	Aug.	Sept.
1917-18											
1	91	14	1.2	1.5	0.5	6	4.0	2.0	0	48	20
2	91	15	1.9	1.2	.5	6	6	2.0	22	48	20
3	91	6.5	1.9	1.2	.9	2.9	12	2.0	28	48	20
4	91	6.5	2.0	1.1	.9	2.9	19	2.0	28	48	20
5	86	7	2.0	.9	.9	2.9	19	2.0	19	48	16
6	91	6.5	2.2	.9	.9	2.9	19	2.0	39	48	28
7	91	5.5	2.2	.9	.5	2.9	19	2.0	39	48	28
8	91	4.3	2.3	.9	.5	6	19	2.0	39	48	28
9	91	3.7	2.3	.9	.5	4.0	19	2.0	39	46	21
10	91	2.9	2.5	.9	.5	4.0	19	1.9	39	41	28
11	92	2.3	2.5	1.7	.5	4.0	19	1.7	33	30	24
12	94	9	2.6	2.0	.9	4.0	19	1.7	39	18	25
13	94	5	2.8	.5	.9	4.0	19	1.7	42	30	32
14	94	5	2.8	.5	.9	4.0	19	1.7	36	31	51
15	96	5.5	2.9	.5	.9	4.0	19	1.5	44	38	51
16	94	5.5	2.9	.5	.9	4.0	19	1.5	21	44	51
17	92	5.5	2.9	2.9	.9	4.0	19	1.4	1.6	38	51
18	89	6	3.1	2.8	2.9	4.0	19	1.2	17	44	51
19	89	6	3.1	2.5	4.0	4.0	19	1.2	48	44	51
20	89	6.5	3.2	2.3	4.0	4.0	19	1.1	48	44	51
21	84	6.5	3.2	2.2	4.0	4.0	19	1.1	48	44	51
22	76	6.5	3.1	2.0	6	4.0	19	1.1	48	35	51
23	79	6	2.9	1.9	6	4.0	19	.9	48	49	51
24	96	6	2.8	1.7	6	4.0	19	.9	48	44	51
25	96	5.5	2.6	1.5	6	4.0	19	.9	48	48	51
26	82	5.5	2.5	1.4	6	4.0	19	.9	48	29	51
27	73	4.6	2.3	1.2	6	4.0	4.0	.9	48	26	47
28	68	3.6	2.2	1.1	6	4.0	4.0	.9	48	39	51
29	73	2.9	2.0	.9		2.9	4.0	.9	48	39	42
30	79	.9	1.9	.8		2.9	4.0	.9	48	59	29
31	58		1.7	.6		2.9		.9	48	51	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1918-19												
1	45	10	13	7		443	71	20	35	65	56	49
2	37		12	13		46	66	22	35	65	56	51
3	50	1.5	12	12		180	62	20	38	65	56	52
4	98	8	15	11		227	57	20	46	65	56	58
5	232	9	11	10		204	52	19	41	65	56	60
6	177	9	6	10		222	48	24	40	65	56	60
7	155	9	3.5	9		436	44	37	40	65	59	65
8	149	9	10	9		721	39	30	43	65	59	66
9	139	9	75	9		205	36	30	40	67	59	66
10	131	9	33	9	3.1	41	34	30	46	67	59	66
11	70	9	52	4.1	3.1	90	32	30	46	67	57	66
12	37	9	51	11		110	32	30	46	65	57	66
13	6	9	19	10	29	283	32	33	46	73	55	63
14	340	9	26	10	119	795	32	36	46	73	55	69
15	57	9	48	5.5	307	770	32	36	52	73	55	71
16	4.0	9	18		214	661	31	36	56	73	55	71
17	31	9	11		26	538	31	36	56	66	55	71
18	25	9	1.0	10	68	432	91	36	56	63	55	70
19		10	12	26	84	341	54	36	56	61	55	68
20		8	20	23	82	271	37	36	56	48	55	68
21		8.5	28	67	81	210	14	36	56	50	55	68
22		19	54	35	32	173	.9	36	56	59	55	68
23		18	27	28	100	156	.9	36	56	56	54	68
24		53	29		126	139	7	36	56	56	54	68
25		61	23		124	122	8	35	56	56	54	68
26		34	21		499	109	7	35	56	56	54	62
27		28	19		798	107	11	35	56	56	54	60
28		26	18		821	101	15	35	56	56	45	60
29		25	6			98	17	35	56	56	37	56
30	5	18				89	19	35	56	56	37	53
31	30					78		35		56	44	

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1919-20												
1	39		0.9	6	22	8	0.8	17	46	35	12	12
2	20		.9	4.0	22	10	.8	17	51	39	12	12
3	22			4.0	21	.8	1.4	18	56	39	12	12
4	37	6		3.9	13	2.2	7.5	18	56	39	12	12
5	37	4.6		3.9	8.5	17	12	19	56	39	12	12
6	37			3.9	8	34	24	29	56	39	12	12
7	37			1.9	5.5	35	30	34	56	39	12	12
8	26			1.9	5	32	20	20	56	39	12	12
9	26			1.9	5	32	18	18	56	39	12	12
10	15			1.9	4.6	25	11	23	56	39	12	12
11	12			1.9	4.6	2.6	7	40	56	39	12	12
12	9.5			1.9	4.6	3.4	6.5	47	60	39	12	12
13	9.5			1.9	4.6	7	11	47	65	45	11	12
14	7.5			1.9	4.5	6.5	19	47	65	42	11	12
15			35	1.9	5	6.5	11	47	69	34	11	12
16			37	1.9	5	2.9	1.5	47	72	26	11	12
17			39	1.5	5	.8	1.4	47	63	17	11	12
18			37	1.5	4.6	.8	1.4	46	59	17	11	12
19			36	1.5	4.6	.8	1.4	46	46	17	11	12
20	12		35	1.5	4.6	2.3	1.4	46	57	17	11	12
21			35	1.5	4.6	.8	1.4	46	57	18	11	12
22			34	1.5	4.5	.8	1.4	46	57	25	11	12
23			33	1.5	2.2	.8	1.4	46	57	13	11	12
24		3.7	33	1.5	6	.8	1.4	46	57	12	11	12
25		9	33	1.5	4	.8	15	46	52	13	11	13
26		4.0	32	1.5	3.2	.8	25	46	44	12	11	14
27		1.1	26	6	3.6	.8	14	46	35	10	17	14
28		.9	26	17	4.2	.8	19	46	35	11	14	14
29		.9	23	7	5.5	.8	17	46	35	12	12	14
30		.9	17	17		.8	17	46	35	12	12	14
31	4.6		11	24		.8		46		12	12	
1920-21												
1	14	14	20	63	280		8.5	49	21	27	32	35
2	14	14	20	52	274		10	49	23	27	32	34
3	14	14	20	46	158		11	49	23	29	32	33
4	14	14	20	43	150		11	49	24	29	32	33
5	14	14	22	41	151		13	49	24	29	32	33
6	14	14	27	40	153		13	49	24	29	35	33
7	14	14	31	36	153		13	45	24	30	36	33
8	14	14	31	32	153		13	44	24	31	37	33
9	14	14	19	29	90		15	44	24	31	37	33
10	14	14	93	25	1.5		15	44	28	31	35	33
11	14	14	131	19	1.5		15	44	29	31	35	33
12	14	14	140	24	1.5		15	44	27	30	35	35
13	14	14	149	12	1.5		15	17	22	31	35	40
14	14	14	145	20	1.5		13	14	22	31	35	41
15	14	14	145	16	1.4		13	16	23	31	35	41
16	14	14	177	21	1.4		14	19	24	35	35	40
17	14	14	218	112	1.4		11	21	26	36	35	38
18	14	14	200	112	1.2		26	22	29	33	35	36
19	14	14	194	750	1.2		52	22	26	30	35	35
20	14	14	219	750	1.2		55	22	26	30	35	35
21	14	14	202	750	1.1		55	10	28	33	35	35
22	14	14	261	699	1.1		54	8	29	33	35	36
23	14	14	255	665	.9		53	7.5	29	33	35	36
24	14	14	781	545	.8		50	13	27	33	35	36
25	14	14	696	266	.6		58	20	27	33	35	36
26	14	14	166	148	.5	3.2	60	25	27	33	35	36
27	14	18	126	244	.2	7.5	60	18	27	33	35	36
28	14	20	96	147		8.5	56	20	27	33	35	35
29	14	20	109	1.5		7	49	22	27	33	35	35
30	14	20	57	1.5		8	49	19	27	33	35	35
31	14		75	127		8.5		17		33	35	

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1921-22												
1	34	24	13	117	30	7	11	20	14	22	23	31
2	34	24	13	156	29	2.9	6	20	15	25	31	33
3	32	23	13	101	30	8	7	20	16	23	30	33
4	32	23	14	79	22	12	8.5	19	16	20	23	33
5	29	23	13	75	13	15	8.5	18	17	21	30	33
6	27	24	15	115	14	72	9.5	18	17	16	30	33
7	27	27	15	267	11	99	9.5	18	18	26	30	33
8	28	27	15	143	1.4	71	5.5	21	36	24	30	33
9	33	27	15	94	32	79		24	77	32	30	33
10	33	27	15	66	808	54		24	134	21	30	33
11	33	27	15	68	1,660	257	58	35	155	15	30	33
12	32	27	15	58	1,590	176	75	53	71	15	29	33
13	32	27	15	39	1,020	60	46	33	45	22	29	33
14	33	15	16	31	220	15	11	33	50	23	29	33
15	33	14	22	34	282	188	9	28	49	25	29	33
16	33	14	22	19	244	576		21	47	26	29	33
17	33	14	22	15	184	416	4.6	21	46	20	29	33
18	33	14	23	16	114	274	1.9	19	46	18	29	33
19	33	13	23	25	590	36	4.5	16	46	30	29	33
20	33	13	23	16	1,100	7.5	36	16	46	33	29	33
21	32	13	23	7.5	509	4.8	45	16	46	29	29	33
22	32	13	23	6.5	370	5	15	16	46	29	31	33
23	32	13	23	3.9	365	9	50	16	46	29	31	32
24	31	13	23		365	9.5	59	16	46	29	31	32
25	30	13	19	1.9	307	9	59	16	46	29	31	32
26	29	13		6	200		45	15	46	29	31	32
27	26	13	460	1.5	197	6.5	39	15	46	29	31	32
28	26	13	1,420	9	145	1.2	31	18	45	29	31	32
29	26	13	1,810	24		5.5	24	18	42	29	31	32
30	26	13	1,130	25		8.5	20	13	35	29	31	32
31	25		404	17		7.5		7.5		22	31	
1922-23												
1	32	24	26	180		57	20	21	60	60	36	50
2	31	24	26	180		57	20	21	60	60	36	50
3	30	24	25	77		57	20	21	60	66	41	50
4	30	24	25	3.1		57	20	21	60	69	52	53
5	30	24	23	3.1		49	15	21	60	69	52	63
6	30	24	17	3.1		40	3.1	21	60	67	52	66
7	30	24		3.1		31		21	60	66	52	66
8	30	24		33		24		21	60	66	52	66
9	30	12		21		24		25	60	66	52	66
10	30	15		24		24		28	60	66	52	66
11	29	9		3.1		24		28	48	66	52	66
12	28			3.1		9		28	41	66	52	66
13	28	21	444					28	41	66	52	66
14	28	20	498		41			28	35	66	52	66
15	26		4.2		190			28	31	66	52	66
16	37		167		229	6	17	28	31	66	52	66
17	26		299	20	226	1.7	8	28	28	66	52	66
18	26		2.0	27	226	25		28	25	66	51	66
19	25	42	3.1	20	148	25		28	25	55	51	66
20	24	17	3.1	20	115	25	25	28	25	51	51	66
21	24	26	3.1	20	67	25	39	28	25	51	51	66
22	24	46	3.1	15	4.0	25	21	28	25	51	51	66
23	24	47	50	17	4.0	25	20	28	25	51	51	64
24	24	46	167	4.2	35	22	20	28	25	51	51	64
25	24	46	167	3.1	57	20	20	28	25	51	51	64
26	24	46	120		9	20	20	31	25	51	51	64
27	24	39	42	91	57	20	20	31	24	51	51	64
28	24	35	184	533	57	20	20	31	43	51	51	64
29	24	32	384	331		20	20	31	43	51	51	64
30	24	23	180			20	20	50	60	41	51	63
31	24		180			20		60		36	51	

Daily discharge, in second-feet, of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1923-24												
1.....	63	34	31	21	18	22	14	17	19	15	13	26
2.....	63	34	31	21	18	22	14	17	19	15	13	9.5
3.....	63	33	31	21	18	22	14	17	19	15	13	9.5
4.....	63	33	31	21	17	22	14	17	19	15	12	9.5
5.....	63	33	31	19	16	22	14	17	19	15	17	9.5
6.....	63	33	31	17	16	22	14	17	19	15	28	9.5
7.....	63	33	31	17	16	22	14	17	19	15	14	9.5
8.....	63	33	30	17	15	22	14	15	20	15	14	8
9.....	63	33	30	17	15	22	14	18	20	16	25	8
10.....	58	33	25	17	15	14	14	19	20	16	15	7.5
11.....	51	33	17	16	15	9	14	19	20	16	14	7.5
12.....	44	33	14	17	15	8	14	19	20	16	14	7
13.....	45	33	14	17	15	7	14	19	20	16	14	7
14.....	45	33	14	17	15	6	14	19	20	16	14	7
15.....	45	33	14	17	15	7	14	19	21	16	14	7
16.....	45	33	14	18	15	7.5	14	19	16	16	11	6.5
17.....	39	31	14	19	15	6.5	14	19	18	16	19	6
18.....	33	31	14	19	15	6.5	14	19	13	16	18	6
19.....	33	31	14	19	18	9.5	14	19	18	16	20	5.5
20.....	33	31	14	19	20	5	14	19	18	16	18	6
21.....	33	31	14	19	22	12	14	19	11	16	18	6.5
22.....	33	31	14	19	22	20	17	21	11	16	18	3.1
23.....	33	31	14	19	22	14	17	19	11	16	18	5.5
24.....	33	31	14	20	22	14	17	16	15	16	18	7.5
25.....	33	31	14	20	22	14	17	18	15	16	18	3.7
26.....	33	31	14	20	22	14	17	19	33	14	18	3.1
27.....	35	31	14	20	22	14	17	19	27	18	18	3.4
28.....	34	31	15	20	22	14	17	19	15	13	18	3.4
29.....	34	31	17	19	22	14	17	19	15	13	12	1.9
30.....	34	31	19	18	-----	14	17	19	15	13	12	3.1
31.....	34	-----	21	18	-----	14	-----	19	-----	13	12	-----

NOTE.—No flow on days for which no discharge is given except for Apr. 24 to June 30, 1914, and July 1 to Dec. 2, 1915, for which discharge was estimated for the purpose of completing the monthly computations. Daily discharge estimated from record of Alameda Creek near Sunol, July 9-31, Oct. 15-31, and Dec 21, 1913.

Monthly discharge of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1910				
June 15-30.....	13	11	12.4	394
July.....	11	6.5	8.98	552
August.....	6.5	5	5.94	365
September.....	5	3.7	4.19	249
The period.....				1,560
1910-11				
October.....	5.5	1.7	4.31	285
November.....	3.3	2.2	2.94	157
December.....	5	3.3	4.33	266
January.....	2,390	2.8	449	27,600
February.....	324	102	298	16,600
March.....	3,830	99	607	37,800
April.....	118	45	69.7	4,150
May.....	45	28	36.5	2,240
June.....	28	9	17.9	1,070
July.....	12	9	1.07	658
August.....	9	5.5	8.00	492
September.....	6	4.6	5.64	336
The year.....	3,830	1.7	126	91,100

Monthly discharge of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911-12				
October.....	5.5	4.6	5.06	311
November.....	7	5.5	6.58	392
December.....	12	6.5	8.08	497
January.....	441	7	37.7	2,320
February.....	17	10	14.0	805
March.....	664	10	121	7,440
April.....	210	18	36.7	2,180
May.....	23	8	12.8	287
June.....	8	3.7	4.60	274
July.....	3.7	1.6	2.76	170
August.....	1.6	1.3	1.36	83.6
September.....	1.3	.8	1.00	59.5
The year.....	654	.8	21.1	15,300
1912-13				
October.....	.8	.8	.84	51.6
November.....	1.6	.8	1.09	64.9
December.....	3.3	1.6	2.45	151
January.....	977	3.3	108	6,640
February.....	12	7.5	8.42	468
March.....	54	5.5	14.7	904
April.....	19	4.9	8.83	525
May.....	4.9	3.2	4.18	257
June.....	3.2	2.3	2.91	173
July.....	2.3	1.8	1.92	118
August.....	1.3	1.0	1.19	73.2
September.....	1.0	.6	.86	51.2
The year.....	977	.6	13.1	9,480
1913-14				
October.....	.6	.5	.56	34.4
November.....	.6	.5	.57	33.9
December.....	2,290	.6	153	9,410
January.....	2,770	70	744	45,790
February.....	1,640	25	347	19,300
March.....	144	9	26.6	1,640
April.....	36		• 15.5	922
May.....			• 9.97	613
June.....			• 5.00	298
The period.....	2,770	0	108	78,000
1914-15				
December.....	345	0	40.8	2,510
January.....	1,430	21	222	13,600
February.....	2,620	204	717	39,800
March.....	255	44	101	6,210
April.....	142	40	60.2	3,580
May.....	529	47	176	10,800
June.....	45	17	31.3	1,860
July.....			• 7.09	436
August.....			• 2.87	176
September.....			• 2.61	155
The year.....	2,620	0	109	79,100
1915-16				
October.....			• 2.17	133
November.....			• 2.06	123
December.....	454	0	28.4	1,750
January.....	2,770	9	778	47,800
February.....	1,970	2.9	239	13,700
March.....	150	2.2	21.4	1,320
April.....	8	2.9	4.75	283
May.....	14	7	11.3	695
June.....	14	10	11.7	696
July.....	22	7.5	16.0	984
August.....	24	17	20.0	1,230
September.....	25	5	17.9	1,070
The year.....	2,770	0	96.1	69,800

• Estimated.

Monthly discharge of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1916-17				
October.....	13	1.7	10.6	652
November.....	15	.9	6.52	388
December.....	14	0	8.40	616
January.....	257	0	21.0	1,200
February.....	2,820	6	357	19,800
March.....	117	6	34.0	2,090
April.....	19	6	11.1	660
May.....	22	6	16.2	996
June.....	31	14	23.3	1,390
July.....	84	38	64.7	3,980
August.....	73	35	58.1	3,570
September.....	90	58	76.6	4,560
The year.....	2,820	0	55.2	39,900
1917-18				
October.....	96	58	86.7	5,330
November.....	15	.9	5.87	349
December.....	3.2	1.2	2.47	152
January.....	2.9	.5	1.36	83.6
February.....	6	.5	2.49	138
March.....	6	2.9	3.94	242
April.....	19	4.0	15.7	934
May.....	2.0	.9	1.46	89.8
June.....	48	0	37.0	2,280
July.....	49	18	40.5	2,490
August.....	51	16	38.2	2,270
September.....				
The year.....	96	0	19.8	14,400
1918-19				
October.....	340	0	58.6	3,600
November.....	61	0	15.1	898
December.....	75	0	21.8	1,340
January.....	67	0	10.6	652
February.....	821	0	127	7,050
March.....	795	41	271	16,700
April.....	91	.9	33.8	2,010
May.....	37	19	31.7	1,950
June.....	56	35	49.3	2,930
July.....	73	48	62.1	3,820
August.....	59	37	53.8	3,310
September.....	71	49	63.5	3,780
The year.....	821	0	66.3	48,000
1919-20				
October.....	39	0	11.4	701
November.....	9	0	1.05	62.5
December.....	39	0	17.3	1,060
January.....	24	1.5	4.23	269
February.....	22	2.2	6.86	395
March.....	35	.8	7.71	474
April.....	30	.8	10.0	595
May.....	47	17	38.1	2,340
June.....	72	35	53.4	3,180
July.....	45	10	26.7	1,640
August.....	17	11	12.0	738
September.....	14	12	12.6	750
The year.....	72	0	16.8	12,200

Monthly discharge of Calaveras Creek near Sunol, Calif., for the years ending September 30, 1910-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1920-21				
October.....	14	14	14.1	867
November.....	20	14	14.8	881
December.....	781	20	156	9,590
January.....	750	1.5	188	11,600
February.....	280	0	56.5	3,140
March.....	8.5	0	1.39	85.5
April.....	60	8.5	29.9	1,780
May.....	49	7.5	28.9	1,780
June.....	29	21	25.5	1,520
July.....	36	27	31.5	1,940
August.....	37	32	34.5	2,120
September.....	41	33	35.4	2,110
The year.....	781	0	51.7	37,400
1921-22				
October.....	34	25	30.7	1,890
November.....	27	13	18.6	1,100
December.....	1,420	0	167	10,300
January.....	267	0	52.6	3,230
February.....	1,660	1.4	373	20,700
March.....	576	0	80.4	4,940
April.....	75	0	23.3	1,390
May.....	53	7.5	20.7	1,270
June.....	155	14	47.0	2,800
July.....	33	15	24.8	1,520
August.....	31	23	29.7	1,830
September.....	33	31	32.9	1,960
The year.....	1,660	0	73.1	52,900
1922-23				
October.....	37	24	27.2	1,670
November.....	47	0	23.4	1,390
December.....	498	0	98.1	6,030
January.....	533	0	52.7	3,240
February.....	229	0	54.0	3,000
March.....	57	0	24.6	1,510
April.....	39	0	12.3	732
May.....	60	21	27.9	1,720
June.....	60	24	41.7	2,480
July.....	69	36	50.0	3,630
August.....	52	36	49.9	3,070
September.....	66	50	63.2	3,760
The year.....	533	0	44.5	32,200
1923-24				
October.....	63	33	45.5	2,800
November.....	34	31	32.4	1,930
December.....	31	14	19.6	1,210
January.....	21	16	18.6	1,140
February.....	22	15	17.9	1,030
March.....	22	5	14.3	879
April.....	17	14	15.2	904
May.....	21	15	18.3	1,130
June.....	33	11	17.7	1,050
July.....	16	13	15.3	941
August.....	28	11	14.3	879
September.....	26	1.9	7.12	424
The year.....	63	1.9	19.7	14,300

NOTE.—No flow during months for which no discharge is given.

SAN ANTONIO CREEK NEAR SUNOL, CALIF.

LOCATION.—At San Antonio Creek dam site on Valle de San Jose grant, $1\frac{1}{2}$ miles above junction with Alameda Creek and $2\frac{1}{2}$ miles southeast of Sunol, Alameda County.

DRAINAGE AREA.—38.7 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on left bank at dam site. Previous to November, 1914, gage was on right bank.

DISCHARGE MEASUREMENTS.—Made from suspension gaging bridge, a short distance below gage, or by wading. Previous to November, 1914, a car and cable were used at same section.

CHANNEL AND CONTROL.—Channel is gravel; not permanent. In 1915 a concrete control was built across channel a short distance below gaging bridge.

EXTREMES OF DISCHARGE.—1912-1924: Maximum mean daily discharge, 1,460 second-feet January 3, 1916; stream dry for a part of the time during most years.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

No flow during the year ending September 30, 1924.

Daily discharge, in second-feet, of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923

Day	Jan.	Feb.	Mar.	Apr.	May	June	July
1912							
1.....	1.2	3.6	1.5	2.3	3.0	0.8	0.3
2.....	1.4	3.6	1.4	2.3	2.8	.6	.3
3.....	1.4	2.8	1.6	2.3	2.5	.5	.3
4.....	1.3	2.7	1.6	2.3	2.2	.5	.2
5.....	1.2	2.7	3.4	2.3	2.2	.5	.1
6.....	1.2	2.4	3.9	2.3	2.1	.5	.1
7.....	1.2	2.4	6.	2.3	2.0	.5	.1
8.....	1.3	2.4	4.9	2.3	2.0	.5	.1
9.....	1.3	2.2	4.6	2.3	1.9	.5	.1
10.....	1.4	2.2	4.3	2.6	1.7	.5	.1
11.....	1.4	2.4	4.3	4.4	1.6	.5	.1
12.....	1.4	2.2	10.	5.5	1.6	.5	.1
13.....	1.6	2.2	46.	5.5	1.4	.6	.1
14.....	1.8	2.6	22.	4.8	1.4	.5	.1
15.....	1.9	2.4	17.	3.6	1.3	.5	.1
16.....	2.0	2.4	46.	3.0	1.2	.4	.1
17.....	1.9	2.4	22.	2.6	1.1	.4	.1
18.....	1.8	2.2	15.	2.6	1.0	.4	.1
19.....	1.8	2.4	10.	2.6	1.0	.4	.1
20.....	1.8	1.8	8.	2.8	1.1	.4	.1
21.....	1.8	1.7	6.	2.6	1.2	.4	.1
22.....	1.8	1.7	5.5	2.4	1.4	.3	.1
23.....	1.8	1.7	5.	2.2	1.4	.4	.1
24.....	1.8	1.7	4.2	2.2	1.6	.4	.1
25.....	1.6	1.7	4.2	2.2	1.8	.4	.1
26.....	70.	1.7	3.8	2.2	1.6	.4	-----
27.....	31.	1.7	3.6	2.4	1.4	.4	-----
28.....	13.	1.6	3.5	2.6	1.2	.4	-----
29.....	8.5	1.5	3.4	2.7	1.2	.4	-----
30.....	6.	-----	3.2	3.0	1.0	.4	-----
31.....	4.1	-----	2.6	-----	.9	-----	-----

Daily discharge, in second-feet, of San Antonio Creek near Sanol, Calif., for the years ending September 30, 1912-1923—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	June
1912-13							
1	0.1	0.2	5	2.9	2.2	5	2.9
2	.1	.2	5	2.9	2.2	5	2.9
3	.1	.2	5	2.9	2.2	5	2.9
4	.1	.2	5	2.2	2.2	5	2.9
5	.1	.2	5	2.2	2.2	5	2.9
6	.1	.2	5	2.2	2.2	5	2.2
7	.1	.2	5	2.2	2.2	5	2.2
8	.1	.2	5	2.2	2.2	5	2.2
9	.1	.2	2.9	2.2	2.2	5	2.2
10	.1	.2	31	2.2	2.2	3.7	2.2
11	.1	.2	36	2.2	2.2	3.7	2.2
12	.2	.2	36	2.2	2.2	3.7	2.2
13	.2	.2	36	2.2	2.2	3.7	2.2
14	.2	.2	2.9	2.2	1.4	3.7	2.2
15	.2	.2	2.9	2.2	1.4	3.7	2.2
16	.2	.3	16	2.2	2.2	8.7	2.2
17	.2	.3	36	2.2	2.2	3.7	2.2
18	.2	.3	45	2.2	2.2	3.7	2.2
19	.2	.3	92	2.2	2.9	3.7	2.2
20	.2	.5	34	2.2	2.9	3.7	2.2
21	.2	.7	16	2.2	2.9	3.7	2.2
22	.2	.9	8	2.2	4.1	3.7	2.2
23	.2	1.2	8	2.2	12	3.7	2.2
24	.2	1.4	5	2.2	9.5	3.7	2.2
25	.2	1.6	5	2.2	11	3.7	2.2
26	.2	1.8	5	2.2	8	3.7	2.2
27	.2	2.0	5	2.2	8	3.7	1.4
28	.2	2.3	5	2.2	5	3.7	1.4
29	.2	2.5	5	---	5	2.9	1.4
30	.2	2.6	2.9	---	5	2.9	1.4
31	---	2.9	2.9	---	5	---	1.4

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1913-14								
1		0.6	117	45	38	16	6.5	4.2
2		.8	181	33	38	16	6.5	3.8
3		.9	51	33	38	16	6.5	3.8
4		1.1	38	25	33	16	6.5	3.8
5		1.1	29	25	33	16	6.5	3.8
6		1.1	22	25	29	16	6.5	3.8
7		1.1	29	20	29	14	6.5	3.6
8		.9	22	20	22	11	6.5	3.6
9		.9	22	15	22	11	6.5	3.6
10		.9	17	15	22	11	6.5	3.6
11		.9	20	15	22	11	6.5	3.4
12		.9	47	15	22	11	5.5	3.2
13		.9	69	11	20	11	5.5	3.2
14		1.1	351	11	20	11	5.5	2.7
15		1.1	118	11	20	11	5.5	2.5
16		1.1	27	11	20	11	5.5	2.5
17		1.1	214	11	20	11	5.5	2.5
18		1.1	140	15	17	11	5.5	2.2
19		1.1	91	76	17	9	5.5	2.2
20		1.1	51	625	17	9	5.5	2.0
21		1.4	198	282	16	9	5.5	1.5
22		13	566	175	16	9	5.5	1.5
23		11	147	118	14	9	5.5	1.4
24		8	473	91	14	9	5.5	1.4
25		31	605	69	14	9	5.5	1.4
26		14	282	69	14	9	5.5	1.2
27	0.1	9	245	51	14	9	5.5	.8
28	.1	8	208	51	14	9	5.5	.8
29	1.4	8	142	---	16	9	5.5	.8
30	1.4	16	118	---	16	9	4.2	.8
31	---	700	69	---	16	---	4.2	---

Daily discharge, in second-feet, of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1914-15										
1.....	0.3	0.9	206	91	22	7	10	2.2	0.6	0.4
2.....	.3	.9	741	72	19	6.5	9.5	2.0	.6	.4
3.....	.3	2.5	252	67	17	6.5	9	1.8	.6	.4
4.....	.3	11	102	61	16	26	8.5	1.8	.6	.4
5.....	1.0	5.5	96	51	14	67	8.5	1.7	.6	.4
6.....	1.0	22	73	46	14	34	8.5	1.5	.6	.4
7.....	1.0	14	70	43	14	24	8	1.4	.6	.4
8.....	1.0	56	616	37	16	20	7	1.3	.6	.4
9.....	1.0	29	466	31	14	20	6.5	1.1	.5	.4
10.....	1.0	12	361	26	13	69	5.5	1.0	.5	.4
11.....	1.0	17	238	24	11	114	5	.9	.5	.4
12.....	1.0	65	172	24	10	122	5	.8	.5	.4
13.....	1.0	44	134	24	10	80	4.7	.7	.5	.4
14.....	1.0	128	108	22	9.5	64	4.5	.6	.4	.4
15.....	1.0	57	89	19	9	47	4.3	.6	.4	.4
16.....	1.0	33	74	18	9	37	4.1	.6	.4	.4
17.....	24	22	193	18	9	89	4.0	.6	.4	.4
18.....	21	15	201	16	9	115	3.8	.5	.4	.4
19.....	13	13	170	14	8.5	69	3.7	.5	.4	.4
20.....	8.5	12	231	13	8.5	58	3.5	.4	.4	.4
21.....	6	11	156	13	8.5	46	3.2	.4	.4	.4
22.....	4.0	10	172	13	8.5	40	3.1	.4	.4	.4
23.....	3.3	9	170	13	8	34	3.1	.5	.4	.4
24.....	2.3	10	175	12	8	29	3.0	.5	.4	.4
25.....	1.5	13	142	11	8	24	3.0	.6	.4	.4
26.....	1.0	15	104	10	7.5	20	3.0	.6	.4	.4
27.....	1.5	15	88	10	7.5	14	2.9	.6	.4	.4
28.....	2.3	25	144	21	7	13	2.9	.6	.4	.4
29.....	1.7	133	-----	20	7	12	2.8	.6	.4	.4
30.....	1.5	231	-----	22	7	11	2.7	.6	.4	.4
31.....	1.2	280	-----	29	-----	10	-----	.6	.4	-----

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1915-16 ²												
1.....	0.4	0.3	4.0	4.6	97	285	10	6	3.1	0.6	0.2	0.2
2.....	.4	.3	4.0	36	85	125	10	6	3.1	.6	.2	.2
3.....	.4	.3	29	1,460	159	84	10	6	3.1	.6	.2	.2
4.....	.4	.3	9	328	554	77	10	4.6	3.1	.6	.1	.2
5.....	.4	.3	5	101	461	130	10	4.6	3.1	.6	.1	.2
6.....	.4	.3	2.0	59	257	76	10	4.6	3.1	.6	.1	.2
7.....	.4	.3	2.0	43	173	57	10	4.6	3.1	.6	.1	.2
8.....	.4	.3	.9	155	125	56	10	4.6	3.1	.6	.1	.2
9.....	.4	.3	1.1	258	93	46	10	4.6	3.1	.6	.2	.2
10.....	.4	.3	.9	528	82	39	10	4.6	1.5	.5	.2	.2
11.....	.4	.3	1.0	152	76	34	10	4.6	1.5	.5	.2	.2
12.....	.4	.3	.9	94	65	34	10	4.6	1.5	.5	.2	.2
13.....	.4	.3	121	88	54	34	9	4.6	1.5	.5	.2	.2
14.....	.4	.3	96	467	43	31	9	3.1	1.5	.5	.2	.2
15.....	.4	.3	35	170	43	28	9	3.1	1.5	.5	.2	.1
16.....	.4	.3	24	105	43	23	8	3.1	1.5	.5	.2	.1
17.....	.4	.3	17	772	40	23	8	3.1	1.5	.4	.2	.1
18.....	.4	.3	13	347	39	23	8	3.1	1.5	.4	.2	.1
19.....	.4	.3	10	201	39	22	8	3.1	1.5	.4	.2	.1
20.....	.4	.3	9	141	36	23	7	3.1	1.5	.4	.2	.1
21.....	.4	.3	6	105	34	23	7	3.1	1.5	.3	.2	.1
22.....	.4	.3	4.0	94	31	20	7	3.1	1.5	.3	.2	.2
23.....	.4	.3	4.0	93	29	20	6	3.1	1.5	.2	.2	.2
24.....	.4	.3	5	224	26	19	6	3.1	1.5	.2	.2	.2
25.....	.4	.3	6	308	23	19	6	3.1	1.5	.2	.2	.2
26.....	.4	.3	5	217	26	19	6	3.1	1.5	.2	.2	.2
27.....	.4	.3	4.0	521	29	12	5	3.1	1.5	.2	.2	.2
28.....	.4	.3	2.9	302	43	11	5	3.1	1.5	.2	.2	.2
29.....	.5	.3	2.9	309	43	11	5	3.1	1.5	.2	.2	.2
30.....	.4	.3	2.9	186	-----	11	5	3.1	1.5	.2	.2	.2
31.....	.4	-----	2.9	141	-----	11	-----	3.1	-----	.2	.2	-----

Daily discharge, in second-feet, of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1913-1923—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1916-17									
1	0.3	0.4	2.9	10	2.0	50	7.5	2.8	1.5
2	.3	.4	2.9	33	2.0	30	7.5	2.7	1.5
3	.3	.4	2.9	116	2.0	22	7.5	2.6	1.4
4	.3	.4	2.9	49	2.0	16	6.5	2.6	1.4
5	.3	.4	2.9	32	1.5	19	6	2.5	1.4
6	.3	.4	2.9	20	1.5	17	6	2.3	1.3
7	.4	.4	2.9	12	1.5	15	6	2.1	1.2
8	.4	.4	2.9	10	1.5	14	6	2.2	1.2
9	.4	.4	2.9	10	1.4	40	6	2.4	1.1
10	.4	.4	2.9	7.5	1.1	47	6	2.5	1.1
11	.4	.4	2.9	6	1.2	33	6	2.5	1.1
12	.4	.4	2.9	5	1.2	20	6	2.5	1.0
13	.4	.4	2.9	5	1.2	28	6	2.5	1.0
14	.4	.4	2.9	5	1.2	59	5.5	2.5	1.0
15	.4	.4	2.9	5	1.4	45	5.5	2.5	.5
16	.4	.4	2.9	5	1.4	30	5.5	2.5	.2
17	.4	.4	2.9	5	1.5	26	5.5	2.5	.2
18	.4	.4	2.9	3.9	1.5	26	5.5	2.5	.2
19	.4	.4	2.9	3.7	2.0	24	5.5	2.5	.2
20	.4	.4	2.9	3.6	51	20	5.5	2.5	.2
21	.4	.4	2.9	3.1	410	18	5.5	2.5	.2
22	.4	.4	2.9	2.9	261	18	4.6	2.5	.2
23	.4	.4	42	2.9	127	15	4.6	2.5	.2
24	.4	.4	166	2.8	232	12	4.6	2.5	.2
25	.4	.3	45	2.6	291	10	4.0	2.5	.2
26	.4	.3	20	2.3	145	10	4.0	2.5	.2
27	.4	.3	7	2.0	93	9.5	4.2	2.5	.2
28	.4	.3	6	2.0	65	9.5	4.3	2.5	.2
29	.4	.3	5.5	2.0	-----	9.5	3.1	2.5	.2
30	.4	.3	6	2.0	-----	9.5	2.9	2.5	.2
31	.4	-----	12	2.0	-----	8.5	-----	2.5	-----

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1917-18							
1	-----	0.1	0.3	0.3	2.5	4.0	0.9
2	-----	.1	.3	.3	2.3	3.6	.9
3	-----	.1	.3	.3	2.3	3.2	.9
4	-----	.1	.3	.3	2.2	2.9	.9
5	-----	.1	.3	.3	2.2	2.8	.9
6	-----	.1	.3	.3	2	2.6	.9
7	-----	.2	.3	.3	2	2.5	.8
8	-----	.2	.3	.3	1.9	2.3	.8
9	-----	.2	.3	.3	1.5	2.2	.8
10	-----	.2	.3	.3	18	2.0	.8
11	-----	.2	.3	.3	61	2.0	.6
12	-----	.2	.3	.3	168	2.0	.6
13	-----	.2	.3	.3	80	2.0	.6
14	-----	.2	.3	.3	32	2.0	.6
15	-----	.2	.3	.3	18	2.0	.6
16	-----	.2	.3	.3	14	1.9	.6
17	-----	.2	.3	.6	13	1.7	.5
18	-----	.2	.3	.6	14	1.5	.5
19	0.1	.2	.3	.7	241	1.5	.5
20	.1	.2	.3	1.0	72	1.5	.5
21	.1	.2	.3	24	32	1.4	.5
22	.1	.2	.3	15	22	1.4	.5
23	.1	.2	.3	10	17	1.2	.5
24	.1	.2	.3	25	14	1.2	.5
25	.1	.2	.3	13	12	1.1	.5
26	.1	.2	.3	5	12	1.1	.5
27	.1	.3	.3	5	10	1.1	.4
28	.1	.3	.3	3.1	6	1.1	.4
29	.1	.3	.3	-----	5	1.1	.4
30	.1	.3	.3	-----	5	.9	.4
31	-----	.3	.3	-----	4.0	-----	.4

Daily discharge, in second-feet, of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1918-19							
1		1.0	2.0	63	18	6.5	1.9
2		1.0	2.0	71	17	6.5	1.7
3		1.0	2.0	78	15	6.5	1.5
4		1.0	2.0	54	15	6.5	1.5
5		1.0	2.0	45	14	6.5	1.5
6		1.0	2.5	77	13	6.5	1.5
7		1.0	2.9	74	12	6.5	1.4
8		1.0	3.6	61	10	6.5	1.2
9		1.0	69	47	10	6.5	1.1
10		1.0	1,090	38	10	6.5	.9
11		1.0	650	28	10	6.5	.8
12		1.0	153	24	9	6	.6
13		1.0	65	413	9	5.5	.5
14		1.0	58	322	9	5	.3
15		1.2	43	141	9	4.5	.2
16		1.3	30	108	8	4.3	-----
17		1.4	27	90	7.5	4.2	-----
18	0.9	1.5	27	80	7	4	-----
19	1.2	15	26	69	7	3.9	-----
20	2.6	28	24	58	6.5	3.7	-----
21	14	28	23	53	6.5	3.6	-----
22	10	9.5	22	49	6.5	3.4	-----
23	3.4	7	22	41	6.5	3.2	-----
24	2.0	6.5	23	34	6.5	3.1	-----
25	2.0	5	26	32	6.5	2.9	-----
26	1.9	4.5	317	30	6.5	2.8	-----
27	1.7	2.9	156	31	6.5	2.6	-----
28	1.5	2.5	89	29	6.5	2.5	-----
29	1.4	2.0	-----	24	6.5	2.3	-----
30	1.2	2.0	-----	22	6.5	2.2	-----
31	1.1	2.0	-----	21	-----	2.0	-----

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1919-20							1919-20						
1		0.9	1.4	15	15	4.2	16	0.9	0.8	2.5	42	69	1.4
2		.9	1.4	33	15	3.9	17	.9	.8	2.6	30	85	1.2
3		.9	1.5	21	14	3.6	18	.9	.8	2.8	16	27	1.1
4		.9	1.5	12	13	3.2	19	.9	.9	2.9	7.5	15	.9
5		.9	1.5	9	12	2.9	20	.9	.9	3.1	7	13	.8
6		.9	1.7	6.5	11	2.8	21	.9	.9	3.2	67	10	.6
7		.9	1.7	5	11	2.6	22	.9	.9	3.6	179	8	.5
8		.9	1.7	4.0	10	2.5	23	.9	.9	3.9	76	7.5	-----
9	0.3	.9	1.9	2.6	9	2.3	24	.9	1.1	4.0	39	7.5	-----
10	.3	.9	1.9	7	8.5	2.2	25	.9	1.1	4.2	56	7	-----
11	1.1	.8	2.0	6	7.5	2.0	26	.9	1.1	4.6	86	6.5	-----
12	1.1	.8	2.0	5.5	7	1.9	27	.9	1.1	5.5	61	6	-----
13	1.1	.8	2.2	4.8	8	1.7	28	.9	1.2	7	47	5.5	-----
14	1.1	.8	2.2	4.2	7	1.5	29	.9	1.2	7	32	5	-----
15	.9	.8	2.3	3.6	33	1.5	30	.9	1.2	-----	21	4.5	-----
							31	.9	1.4	-----	16	-----	-----

Daily discharge, in second-feet, of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923—Continued.

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1920-21							
1		13	68	22	8.5	5.5	3.9
2		13	54	20	8	5	3.7
3		10	40	19	8	5	3.7
4		9	36	17	8	5	3.6
5		8	93	15	7.5	5	3.6
6		7	63	14	7.5	5	3.4
7	0.5	7	47	13	7.5	5	3.1
8	5	7	39	13	7.5	5	2.8
9	19	6	33	12	7	4.8	2.5
10	28	6	31	12	7	4.8	2.2
11	62	6	25	11	7	4.8	2.0
12	41	6	21	11	7	4.8	1.9
13	20	5	18	11	7	4.8	1.7
14	13	5	31	11	7	5	1.5
15	11	7	28	10	7	5	1.4
16	10	10	24	10	7	5.5	1.2
17	8	42	32	10	7	5.5	1.1
18	6	286	30	10	7	6	.9
19	63	277	30	10	7	6.5	
20	43	282	28	10	6.5	6.5	
21	28	105	55	10	6.5	7	
22	22	63	48	10	6.5	7	
23	22	48	38	10	6	6.5	
24	185	38	33	10	6	6	
25	80	31	30	10	6	5.5	
26	38	23	28	10	6	5	
27	22	87	25	10	6	4.6	
28	16	107	23	9.5	5.5	4.2	
29	13	52		9.5	5.5	4.0	
30	14	271		9	5.5	4.0	
31	13	103		8.5		3.9	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1921-22								
1		47	5	29	57	4.6	1.2	0.2
2		45	5	26	42	4.3	1.2	.2
3		24	6	26	30	4.0	1.2	.2
4		19	5	31	23	3.6	1.1	.2
5		17	5.5	26	22	4.0	1.1	.2
6		71	5.5	23	19	4.0	1.1	.2
7		53	7.5	20	17	4.3	1.1	
8		33	13	17	16	4.3	1.1	
9		27	654	17	14	5.5	1.1	
10		19	966	22	13	4.8	1.1	
11		15	429	123	13	4.3	1.2	
12		12	147	58	19	3.7	1.2	
13		10	75	53	16	3.4	1.2	
14		9	52	62	14	2.9	1.1	
15		8	37	63	13	2.5	.9	
16		7	43	161	12	2.5	.9	
17		6.5	43	107	11	2.5	.8	
18		6.5	60	75	9.5	2.5	.8	
19		6.5	302	67	9	2.5	.6	
20		6	261	62	9	2.5	.6	
21	37	5.5	134	57	8.5	2.5		
22	34	5	75	50	8	2.5		
23	12	4.6	57	42	8	2.3		
24	52	4.3	46	35	7.5	2.2		
25	158	4.0	38	30	7.5	2.0		
26	60	4.5	38	25	7	1.9		
27	128	5	47	21	6.5	1.7		
28	47	6	35	19	6	1.5		
29	34	6.5		17	5.5	1.4		
30	27	6.5		15	5	1.2		
31	19	7		54		1.2		

Daily discharge, in second-feet, of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1922-23								
1.....		0.3	27	29	8	5	2.0	0.5
2.....		.3	22	26	7.5	7.5	1.9	.3
3.....		.3	18	24	7.5	7	1.9	.3
4.....		.3	13	20	7	7.5	1.7	.3
5.....		.3	11	18	6.5	10	1.5	.2
6.....		119	10	17	6	21	1.5	-----
7.....		84	9.5	15	6	15	1.4	-----
8.....	0.3	29	8.5	14	5.5	9	1.4	-----
9.....	17	18	8	13	5.5	8	1.2	-----
10.....	8	42	8	13	5.5	18	1.2	-----
11.....	5	45	7.5	16	5.5	12	1.1	-----
12.....	1.1	247	7.5	55	5	11	1.1	-----
13.....	.5	130	7.5	47	4.8	10	.9	-----
14.....	.5	57	7.5	33	4.6	9.5	.9	-----
15.....	.5	27	7	30	4.5	8.5	.9	-----
16.....	.5	21	7	28	4.3	7.5	.9	-----
17.....	.5	24	7	22	4.2	7.5	.9	-----
18.....	.5	20	7	21	4.0	7	.9	-----
19.....	.5	13	7	21	3.7	6.5	.8	-----
20.....	.5	13	7	20	3.6	6	.8	-----
21.....	.5	10	7	18	3.6	5.5	.8	-----
22.....	.5	8.5	8.5	17	3.4	4.6	.8	-----
23.....	.5	7.5	153	15	3.2	4.0	.8	-----
24.....	.5	7.5	129	13	3.1	3.7	.6	-----
25.....	.3	7	68	12	3.1	3.4	.6	-----
26.....	.3	7	47	10	2.9	3.2	.6	-----
27.....	.3	7	30	9	2.9	2.9	.6	-----
28.....	.3	112	57	8.5	2.9	2.6	.6	-----
29.....	.3	44	89	-----	2.8	2.3	.5	-----
30.....	.3	27	45	-----	2.8	2.0	.5	-----
31.....		41	38	-----	2.8	-----	.5	-----

NOTE.—No flow for year ending Sept. 30, 1924, and for days for which no discharge is given except July 26 to Aug. 9, 1912, Nov. 22-26, 1913, Nov. 13-18, 1917, when discharge was less than 0.05 second-foot, and June and July, 1913, and September, October, and November, 1918, for which mean monthly discharge was estimated from rainfall records. Discharge interpolated Dec. 3, 1919.

Monthly discharge of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
January.....	70	1.2	5.54	341
February.....	3.6	1.5	2.24	129
March.....	46	1.4	9.19	565
April.....	5.5	2.2	2.82	168
May.....	3.0	.9	1.60	98.4
June.....	.8	.3	.47	28.0
July.....	.3		.13	8.0
August.....			.006	.4
The period.....				
1912-13				
November.....	.2	.1	.16	9.5
December.....	2.9	.2	.80	49.2
January.....	9.2	2.9	15.6	959
February.....	2.9	2.2	2.25	125
March.....	12	1.4	3.85	237
April.....	5	2.9	4.08	243
May.....	2.9	1.4	2.17	133
June.....			.17	10.1
July.....			.15	9.2
The year.....				
92				

^a Estimated.

Monthly discharge of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1913-14				
November.....	1.4	0	*0.11	6.5
December.....	700	.6	27.0	1,660
January.....	605	17	151	9,280
February.....	625	11	70.3	3,900
March.....	38	14	21.2	1,300
April.....	16	9	11.3	672
May.....	6.5	4.2	5.91	363
June.....	4.2	.8	2.53	151
The year.....	700	0	24.0	17,300
1914-15				
December.....	24	.3	3.40	209
January.....	280	.9	42.3	2,600
February.....	741	70	205	11,400
March.....	91	10	28.7	1,760
April.....	22	7	11.1	660
May.....	122	6.5	42.8	2,630
June.....	10	2.7	5.12	305
July.....	2.2	.4	.92	56.6
August.....	.6	.4	.47	28.9
September.....	.4	.4	.40	23.8
The year.....	741	0	27.2	19,700
1915-16				
October.....	.4	.4	.35	21.5
November.....	.3	.3	.34	20.2
December.....	121	.9	13.9	855
January.....	1,460	4.6	258	15,900
February.....	554	23	98.3	5,650
March.....	285	11	46.0	2,830
April.....	10	5	8.17	486
May.....	6	3.1	3.89	289
June.....	3.1	1.5	2.01	120
July.....	.6	.2	.42	25.8
August.....	.2	.1	.18	11.1
September.....	.2	.1	.16	9.5
The year.....	1,460	.1	36.0	26,200
1916-17				
October.....	.4	.3	.37	22.8
November.....	.4	.3	.37	22.0
December.....	166	2.9	12.0	738
January.....	116	2.0	12.0	738
February.....	410	1.1	60.9	3,380
March.....	59	8.5	22.9	1,410
April.....	7.5	2.9	5.43	323
May.....	2.8	2.1	2.48	152
June.....	1.5	.2	.70	41.7
The year.....	410	0	9.44	6,830
1917-18				
November.....	.1	0	.04	2.4
December.....	.3	.1	.19	11.7
January.....	.3	.3	.29	17.8
February.....	24	.3	3.82	212
March.....	241	1.5	28.6	1,760
April.....	4.0	.9	1.93	115
May.....	.9	.4	.61	37.5
September.....			*2.84	169
The year.....	241	0	3.21	2,330
1918-19				
October.....			*.15	9.2
November.....			*3.71	221
December.....	14	0	1.47	90.4
January.....	28	1.0	4.34	267
February.....	1,090	2.0	106	5,890
March.....	413	21	74.4	4,570
April.....	18	6.5	9.36	557
May.....	6.5	2.0	4.63	285
June.....	1.9	0	.56	33.3
The year.....	1,090	0	16.5	11,900

* Estimated.

Monthly discharge of San Antonio Creek near Sunol, Calif., for the years ending September 30, 1912-1923—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1919-20				
December.....	1.1	0	0.67	41.2
January.....	1.4	.8	.95	53.4
February.....	7	1.4	2.89	166
March.....	179	2.6	29.7	1,830
April.....	69	4.5	13.5	803
May.....	4.2	0	1.46	89.8
The year.....	179	0	4.11	2,990
1920-21				
December.....	185	0	25.1	1,540
January.....	286	5	62.5	3,840
February.....	93	18	37.5	2,090
March.....	22	8.5	11.8	726
April.....	8.5	5.5	6.84	407
May.....	7	3.9	5.23	322
June.....	3.9	0	1.47	87.5
The year.....	286	0	12.5	9,000
1921-22				
December.....	158	0	19.6	1,210
January.....	71	4.0	16.2	996
February.....	966	5	128	7,110
March.....	161	15	46.2	2,840
April.....	57	5	14.9	887
May.....	5.5	1.2	3.00	184
June.....	1.2	0	.69	41.1
July.....	.2	0	.03	1.8
The year.....	966	0	18.3	13,300
1922-23				
November.....	17	0	1.28	76.2
December.....	247	.3	37.7	2,320
January.....	153	7	23.3	1,740
February.....	55	8.5	20.9	1,160
March.....	8	2.8	4.60	263
April.....	21	2.0	7.57	450
May.....	2.0	.5	1.03	63.3
June.....	.5	0	.05	3.0
The year.....	247	0	8.42	6,100

NOTE.—No flow during months for which no discharge is given. No flow during year ending Sept. 30, 1924.

ARROYO DE LA LAGUNA NEAR PLEASANTON, CALIF.

LOCATION.—At Laguna Dam on Valle de San Jose grant, between the Western Pacific and Southern Pacific railroad bridges, $3\frac{3}{4}$ miles south of Pleasanton, Alameda County. Previous to 1918, station was at bridge on county road No. 2,000, 2 miles west of Pleasanton.

DRAINAGE AREA.—401 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 300 feet above Laguna Dam. Previous to 1918, water-stage recorder was on left bank just above bridge.

DISCHARGE MEASUREMENTS.—Made from bridge three-fourths mile above gage or by wading. Previous to 1918, made from suspension gaging bridge on upstream side of county bridge.

CHANNEL AND CONTROL.—Gravel and sand; fairly permanent. At location used prior to 1918, shifting gravel and sand.

EXTREMES OF DISCHARGE.—1912-1924: Maximum mean daily discharge, 9,810 second-feet January 25, 1914; stream dry during a part of some years.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

Daily discharge, in second-feet, of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1924

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1912									
1	9	10	4.6	6.5	7	5	2.2	0.9	0.5
2	12	10	4.7	7	6.5	5	2.1	.7	.6
3	10	10	5	7	6	5	2.1	.7	.7
4	9	7.5	4.7	7	6	5	2.1	.7	.8
5	9	7.5	8	7	5.5	5	1.8	.6	.9
6	9	7.5	14	6.5	5.5	5	1.8	.6	1.0
7	10	7.5	12	5.5	5.5	5	1.8	.6	1.1
8	10	7.5	7.5	5.5	5.5	5	1.7	.6	1.0
9	10	7.5	7	6	5.5	3.0	1.6	.6	.9
10	10	7.5	7	7	5.5	3.0	1.5	.6	.9
11	10	6.5	7	9	5.5	3.0	1.5	.6	.8
12	10	6.5	8	7.5	5	3.0	1.4	.6	.8
13	10	6	13	7	5	3.0	1.4	.6	.7
14	10	6	9.5	7	5	3.0	1.3	.6	.7
15	10	6	8	7	5	2.8	1.3	.6	.6
16	10	6	16	7	5	2.8	1.3	.6	.6
17	10	6	12	6.5	4.6	2.7	1.1	.6	.5
18	10	6	7.5	6.5	4.6	2.6	1.1	.5	.5
19	10	5.5	7	6	4.6	2.6	1.1	.5	.5
20	10	5.5	6.5	5.5	5	2.6	1.1	.5	.4
21	10	5.5	6.5	6	5	2.6	1.0	.5	.4
22	10	5	6	6	5	2.6	.9	.5	.4
23	10	5	6	5.5	5	2.7	.9	.5	.4
24	10	4.9	6	5.5	5	3.0	.8	.5	.4
25	10	4.7	6	5.5	4.6	3.0	.8	.5	.4
26	26	6	6.5	5.5	4.6	3.0	.8	.5	.4
27	33	4.4	6.5	6	4.6	2.8	.8	.5	.4
28	13	4.5	6.5	6	4.6	2.6	.9	.5	.4
29	13	4.6	7	6.5	4.6	2.4	.9	.5	.4
30	11		7	7	5	2.3	.9	.4	.4
31	10		6.5		5		.9	.4	
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1912-13									
1	0.4	0.7	1.0	0.8	0.8	1.0	0.8	0.8	0.5
2	.4	.7	.9	.9	.8	1.0	.8	.8	.5
3	.4	.8	.9	1.0	.8	1.0	.8	.8	.5
4	.4	.8	.8	1.0	.8	1.0	.8	.8	.5
5	.4	.8	.8	1.0	.8	1.0	.8	.8	.5
6	.4	.9	.7	1.0	.8	1.0	.8	.8	.5
7	.4	.9	.7	1.0	1.0	1.0	1.0	.8	.5
8	.4	.9	.7	.8	1.0	1.0	1.0	.8	.5
9	.4	.9	.7	.8	1.0	.8	1.0	.8	.5
10	.4	.9	.7	.8	1.0	.8	1.0	.8	.5
11	.4	.9	.8	.8	1.0	.8	1.0	.8	.5
12	.4	.9	.8	.8	1.0	.8	1.0	.8	.5
13	.4	1.0	.8	.8	1.0	.8	1.0	.8	.5
14	.4	1.0	.8	1.6	1.0	.8	1.0	.5	.5
15	.4	1.0	.8	14	1.0	.8	1.0	.5	.5
16	.4	1.0	.8	3.2	1.0	.8	1.0	.5	.5
17	.4	1.0	.8	20	1.0	.8	.8	.5	.3
18	.4	1.0	.8	7.5	1.0	.8	.8	.5	.3
19	.4	1.1	.9	1.6	1.0	1.0	.8	.5	.3
20	.4	1.2	.9	1.0	1.0	.5	.8	.5	.3
21	.4	1.3	.9	1.0	1.0	.8	.8	.5	.3
22	.4	1.3	.9	.8	1.0	.8	.8	.5	.3
23	.5	1.4	.9	.8	1.0	.8	.8	.5	.3
24	.5	1.4	.9	.8	1.0	1.3	.8	.5	.3
25	.5	1.3	.9	.8	1.0	1.0	.8	.5	.3
26	.5	1.3	.9	.8	1.0	1.0	.8	.5	.3
27	.6	1.2	.9	.8	1.0	1.0	.8	.5	.3
28	.6	1.2	.9	.8	1.0	1.0	.8	.5	.3
29	.6	1.1	.9	.8		1.0	.8	.5	.3
30	.6	1.1	.9	.8		.8	.8	.5	
31	.6		.9	.8		.8		.5	

Daily discharge, in second-feet of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1913-14							
1		2,540	230	215	27	8.5	7.5
2		618	208	155	26	9	7
3		242	175	141	24	9	6.5
4		126	126	126	23	9.5	6
5		34	93	112	21	9.5	6
6		16	65	99	26	9	6
7		12	43	87	21	9	5.5
8		9.5	30	84	16	9	5.5
9		8	21	79	12	9	4.8
10		8	16	75	12	8.5	4.0
11		8	14	71	9.5	8.5	4.0
12		54	12	67	7.5	8.5	4.0
13		363	11	65	7.5	8.5	3.1
14		1,310	11	67	7	8.5	3.1
15		713	9.5	71	7	8	3.1
16		258	4.8	72	6.5	8	3.1
17		2,400	4.8	75	6.5	7.5	3.1
18		3,480	10	66	6.5	7.5	3.1
19		810	956	56	6.5	7.5	4.0
20		232	5,810	47	6.5	7.5	2.3
21		3,090	3,340	40	5.5	7.5	2.0
22		0.8	3,310	1,610	34	4.8	2.0
23		2,140	1,280	36	4.8	7.5	2.0
24		6	4,010	1,070	38	5	2.0
25		26	9,810	849	35	5	2.0
26	2.2	3,540	670	37	6.5	7.5	2.0
27	2.2	1,340	492	34	7	7.5	2.0
28	.5	533	341	37	7.5	7.5	2.0
29	.5	300		38	8	7.5	1.7
30	56	253		40	8	7.5	1.7
31	3,170	253		34		7.5	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1914-15										
1		1.0	1,120	330	140	27	16	9.5	5.5	3.6
2		1.0	2,650	247	97	24	16	9.5	5.5	3.6
3		1.0	2,150	192	76	25	14	9.5	5.5	3.5
4		1.0	956	154	62	44	14	9	5.5	3.5
5		1.5	469	130	49	214	13	9	5.5	3.4
6		6	266	115	43	149	13	8.5	5	3.4
7		12	196	105	41	86	13	8.5	5	3.3
8		17	1,400	96	52	69	12	8.5	5	3.3
9		9.5	2,300	92	46	52	12	8	5	3.2
10		1.1	1,820	92	38	64	11	8	5	3.2
11	2.2	7	1,030	91	30	169	11	8	4.8	3.2
12	2.1	79	571	85	28	288	11	8	4.7	3.1
13	.5	17	322	77	26	167	11	7.5	4.6	3.1
14	.2	29	210	67	26	98	11	7.5	4.6	3.0
15	.3	18	165	60	26	70	11	7.5	4.5	3.0
16	.8	10	150	60	24	52	11	7.5	4.5	3.0
17	10	2.0	314	60	23	52	11	7	4.4	2.9
18	10	1.0	334	60	22	109	11	7	4.3	2.9
19	4.5	1.0	206	54	22	95	11	7	4.3	2.8
20	2.2	1.0	483	46	21	72	11	7	4.2	2.8
21	1.4	3.0	265	42	26	58	11	6.5	4.2	2.7
22	.9	3.5	480	36	30	51	11	6.5	4.1	2.7
23	.9	2.5	404	35	26	45	11	6.5	4.1	2.7
24	.3	2.5	512	36	26	40	11	6.5	4	2.6
25	.3	3.5	424	38	26	35	10	6.5	3.9	2.6
26	.2	4.0	350	38	26	31	10	6	3.9	2.5
27	1.4	4.5	306	44	26	28	10	6	3.8	2.5
28	2.2	12	540	70	28	25	10	6	3.8	2.5
29	1.4	610		122	28	22	9.5	6	3.7	2.4
30	.8	715		96	29	17	9.5	6	3.7	2.4
31	.9	789		123		17		5.5	3.7	

Daily discharge, in second-feet, of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1915-16										
1.....	2.0	25	469	442	63	21	17	15	11	6.5
2.....	2.0	34	405	353	62	21	17	15	11	6.5
3.....	2.0	3,550	367	250	62	21	16	15	11	6.5
4.....	2.0	2,090	1,590	242	61	21	16	15	11	6.5
5.....	2.0	426	2,890	396	61	21	16	15	11	6.5
6.....	2.0	214	1,150	383	58	21	15	15	11	6.5
7.....	2.0	132	656	225	55	21	15	14	11	6.5
8.....	2.0	461	492	193	53	21	14	14	11	6.5
9.....	2.0	1,210	416	168	51	21	13	14	11	6.5
10.....	2.0	2,970	365	148	44	20	13	13	11	6.5
11.....	2.0	866	343	130	44	20	13	13	11	6.5
12.....	2.0	416	257	110	43	20	14	13	11	6.5
13.....	13	357	263	104	43	19	13	13	11	6.5
14.....	79	2,810	220	108	42	19	13	14	9.5	6.5
15.....	12	1,360	201	108	40	19	13	15	9.5	6.5
16.....	2.0	477	201	108	38	19	13	15	9.5	6.5
17.....	2.0	3,490	184	104	36	19	13	15	8	6.5
18.....	2.0	1,870	170	100	39	19	13	15	7	7
19.....	2.0	822	184	104	38	18	13	13	7	7
20.....	2.0	499	203	104	36	18	14	13	5.5	7
21.....	2.0	392	229	106	34	18	14	12	5	7
22.....	2.0	367	203	104	33	18	14	12	5	7.5
23.....	2.0	642	176	104	31	18	13	11	5.5	7.5
24.....	2.0	1,090	170	98	30	18	13	11	6	7.5
25.....	2.0	1,640	186	90	29	18	13	11	7	7.5
26.....	2.0	716	210	85	28	17	13	11	7	7.5
27.....	5	2,120	231	85	27	17	13	11	8	8
28.....	5	2,590	221	86	27	16	13	11	7.5	8
29.....	10	1,696	201	79	26	16	13	11	7.5	8.5
30.....	15	860	-----	78	25	16	13	11	7	9
31.....	15	571	-----	67	-----	17	-----	11	7	-----

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1916-17												
1.....	9.5	7	15	37	9	189	28	17	13	7	5	5.5
2.....	9.5	7	15	36	9	137	28	17	13	7	5	5.5
3.....	9.5	7	18	379	9	119	27	17	13	7	5	5.5
4.....	9.5	7	14	181	9	100	26	17	13	7	5	5.5
5.....	9.5	6.5	11	99	9	78	24	17	12	7	5	5.5
6.....	9.5	6.5	8	55	8.5	46	23	16	11	7	5	5.5
7.....	9.5	6.5	9.5	31	8	63	23	16	11	7	5	5.5
8.....	9.5	6	9.5	21	8	63	23	16	11	7	5	5.5
9.....	11	6	9.5	15	8.5	119	23	16	11	7	5	5.5
10.....	11	5.5	9.5	15	8.5	109	23	15	11	7	5	5.5
11.....	11	5.5	9.5	14	8.5	63	23	16	11	7	5	5.5
12.....	11	5	9.5	14	8.5	53	23	16	11	7	5	5.5
13.....	11	4.8	9.5	13	9	72	24	16	11	7	5	5.5
14.....	11	5	9.5	12	9	72	23	16	11	7	5	5.5
15.....	11	6	9.5	12	9	66	23	15	11	7	5	5.5
16.....	11	5	11	11	9	60	22	15	11	7	5.5	5.5
17.....	11	5	11	9	12	55	22	15	10	7	5.5	5.5
18.....	11	5.5	11	10	12	50	22	15	9.5	7	5.5	5.5
19.....	11	5.5	11	11	17	48	21	15	9	7	5.5	5.5
20.....	11	5.5	11	11	72	46	20	15	9	7	5.5	5.5
21.....	11	5.5	11	11	1,920	44	20	15	8.5	6.5	5.5	5.5
22.....	11	5.5	15	10	1,740	42	20	15	8.5	6.5	5.5	5
23.....	11	5.5	38	9.5	581	39	20	15	7.5	6.5	5.5	5
24.....	11	5.5	169	9	1,220	39	19	15	7.5	6.5	5.5	5
25.....	9.5	5.5	97	9	3,050	37	19	15	7.5	6.5	5.5	5
26.....	9	6	26	9	1,180	35	19	15	7.5	6.5	5.5	5
27.....	8	6	16	8.5	525	33	18	15	7.5	6.5	5.5	5
28.....	7.5	6	14	8.5	319	31	18	15	7.5	6.5	5.5	5
29.....	7	6	12	8.5	-----	30	17	15	7.5	6.5	5.5	5
30.....	7	6	12	8.5	-----	28	17	15	7.5	6.5	5.5	5
31.....	7	-----	22	8.5	-----	28	-----	15	-----	6.5	5.5	-----

Daily discharge, in second-feet, of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1917-18								
1	4.8	2.9	1.2	1.3	1.3	1.0	1.2	0.6
2	4.6	2.9	1.2	1.3	1.3	1.1	1.2	.6
3	4.6	2.8	1.2	1.3	1.3	1.1	1.4	.6
4	4.5	2.8	1.2	1.3	1.3	1.1	1.5	.6
5	4.3	2.6	1.2	1.3	1.3	1.2	1.5	.6
6	4.3	2.6	1.2	1.3	2.0	1.2	1.5	.6
7	4.2	2.6	1.2	1.3	1.9	1.2	1.5	.6
8	4.2	2.5	1.2	1.3	1.9	1.1	1.5	.6
9	4.2	2.5	1.2	1.3	1.6	1.0	1.6	.6
10	4.2	2.3	1.2	1.3	1.4	1.7	1.6	.6
11	4.2	2.3	1.2	1.3	1.1	3.7	1.6	.6
12	4.2	2.2	1.2	1.3	.9	11	1.6	.6
13	4.0	2.2	1.2	1.3	1.0	67	1.6	.6
14	4.0	2.2	1.2	1.3	1.1	38	1.6	.6
15	4.0	2.2	1.2	1.3	1.1	2.0	1.6	.6
16	4.0	2.2	1.2	1.3	1.1	1.6	1.6	.6
17	4.0	2.0	1.2	1.3	2.4	1.0	1.6	.6
18	4.0	2.0	1.2	1.3	1.6	1.6	1.6	.6
19	4.0	2.0	1.2	1.3	2.3	64	1.2	.5
20	3.9	1.9	1.2	1.3	2.1	151	1.2	.4
21	3.9	1.9	1.2	1.3	2.3	56	1.1	.3
22	3.9	1.7	1.3	1.3	2.8	24	.9	.2
23	3.9	1.7	1.3	1.3	1.9	18	1.0	.2
24	3.7	1.7	1.3	1.3	2.1	3.0	.8	.1
25	3.6	1.5	1.3	1.3	1.6	3.0	.7	.1
26	3.4	1.5	1.3	1.3	1.1	3.0	.6	.1
27	3.2	1.5	1.3	1.3	1.0	1.9	.6	.1
28	3.1	1.4	1.3	1.3	1.0	1.9	.6	1
29	3.1	1.4	1.3	1.3		1.7	.6	-----
30	2.9	1.2	1.3	1.3		1.7	.6	-----
31	2.9	-----	1.3	1.3		1.3	-----	-----

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1918-19							1918-19						
1			190	21	12	6.5	16	1.5	52	529	13	7.5	5.5
2			155	18	11	6.5	17	1.5	40	368	13	7.5	5.5
3			226	15	11	6.5	18	1.5	37	290	13	7.5	5
4			178	17	11	6.5	19	1.5	33	220	12	7.5	5
5			153	15	10	6.5	20	173	31	152	12	7.5	4.8
6			80	16	9.5	6.5	21	132	30	122	12	7.5	4.6
7	1.5		71	15	8.5	6.5	22	66	28	85	12	7.5	4.5
8	1.5		50	17	8.5	6	23	29	27	70	12	7.5	4.3
9	1.5	92	45	15	8	6	24	10	25	65	12	7.5	4.2
10	1.5	2,410	51	13	8	6	25		24	57	12	7.5	4.0
11	1.5	4,300	43	13	8	6	26		1,270	53	12	7	3.9
12	1.5	934	46	13	8	6	27		828	53	12	7	3.7
13	1.5	314	483	13	8	5.5	28		321	48	12	7	3.6
14	1.5	177	1,530	13	8	5.5	29			40	12	7	3.4
15	1.5	117	899	13	7.5	5.5	30			31	12	7	3.2
							31			36	-----	7	-----

Day	Dec.	Jan.	Mar.	Apr.	Day	Dec.	Jan.	Mar.	Apr.
1919-20					1919-20				
1	1.5				16	0.6			11
2	1.5				17	.6			36
3	1.5	0.6			18	.6			6
4	1.5				19	.6			5.5
5	1.5				20	.6			5.5
6	1.5				21	.6			5
7	1.5				22	.6		10	
8	1.5				23	.6		12	
9	1.5				24	.6		12	
10	1.5				25	.6		11	
11	1.5				26	.6		11	
12	1.5				27	.6		10	
13	.8				28	.6		4.0	
14	.8				29	.6		3.1	
15	.8			4.0	30	.6		2.0	
					31	.6		.9	

Daily discharge, in second-feet, of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1920-21										
1		0.9	238	13	6	4.5	1.9	1.1	0.9	1.1
2		.9	132	13	6	4.5	1.9	1.1	.9	1.1
3		.9	86	13	6	4.5	1.9	1.1	.9	1.1
4		.9	78	12	6	4.5	1.9	1.1	.9	.9
5		.8	98	11	6	4.3	1.9	1.1	.9	.8
6		.8	97	11	6	4.3	1.9	1.1	.9	.8
7		.8	79	10	6	4.3	1.9	1.1	.9	.6
8		.8	51	10	5.5	4.3	1.9	1.1	.9	.5
9		.8	37	9.8	5.5	4.3	1.9	1.1	.9	.3
10		.8	26	9.5	5	4.3	1.9	1.1	.9	.3
11		.8	23	9	4.3	4	1.9	1.1	.9	.3
12		.8	22	8.5	4.5	3.6	1.9	1.1	.9	.3
13		.8	22	8.5	4.5	3.1	1.9	1.1	.9	.3
14		.8	28	8	4.5	2.8	1.9	1.1	.9	.3
15		.8	35	7.5	4.5	2.5	1.5	1.1	.9	.3
16		.8	23	7.5	4.5	2.3	1.5	1.1	.9	.3
17		14	26	7	4.5	2.3	1.5	1.1	.9	.3
18		851	32	6.5	4.5	2.3	1.5	1.1	.8	.3
19	19	828	40	6	4.5	2.2	1.5	1.1	.8	.3
20	6.5	786	47	5.5	4.5	2.2	1.4	1.1	.8	.3
21	6	414	74	5	4.5	2.2	1.4	1.1	.8	.3
22	2.0	202	65	7.5	4.5	2.0	1.4	.9	.8	.3
23	2.2	125	50	11	4.5	2.0	1.4	.9	.8	.3
24	33	87	33	7	4.5	2.0	1.2	.9	.8	.3
25	66	67	24	7	4.5	2.0	1.2	.9	.8	.2
26	20	52	17	6.5	4.5	2.0	1.2	.9	.8	.2
27	14	164	15	6	4.5	2.0	1.2	.9	.8	.2
28	16	98	14	6	4.5	2.0	1.1	.9	.8	.2
29	17	62		6	4.5	2.0	1.1	.9	.9	.2
30	21	1,030		6	4.5	2.0	1.1	.9	.9	.2
31	12	744		6		2.0		.9	1.1	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1921-22												
1	0.2	2.0	0.9	21	1.5	76	58	12	7	3.7	2.5	2.4
2	.2	2.0	.8	27	1.4	70	52	12	7	3.7	2.5	3.4
3	.2	2.0	.6	26	1.2	76	38	12	6.5	3.7	2.5	3.4
4	1.4	2.0	.6	22	1.1	76	40	12	6.5	3.4	2.5	3.4
5	1.2	2.2	.6	21	.9	73	35	12	6.5	3.4	2.5	3.2
6	1.2	2.2	.6	22	.8	60	20	12	6	3.1	2.5	3.2
7	1.2	2.2	.6	86	.8	55	34	12	6	3.1	2.5	3.1
8	1.2	2.2	.6	85	3.1	52	34	12	6	3.1	2.5	3.1
9	1.2	2.2	.6	62	2,450	52	34	12	6	3.1	2.5	3.1
10	1.2	2.2	.6	55	4,100	52	34	12	6	3.1	2.5	3.1
11	1.4	2.0	.6	50	3,580	262	25	11	6.5	2.9	2.6	3.2
12	1.4	1.9	.6	31	863	134	24	11	6.5	2.9	2.6	3.2
13	1.4	1.7	.6	15	382	138	23	11	7	2.8	2.6	3.2
14	1.4	1.5	.6	7.5	207	152	26	10	6.5	2.8	2.6	3.2
15	1.6	1.4	.6	4.6	158	140	29	10	6	2.8	2.8	3.2
16	1.5	1.2	.6	3.9	118	178	25	10	6	2.8	2.8	3.2
17	1.5	1.2	.6	3.6	85	140	22	9.5	6	2.8	2.8	3.2
18	1.5	1.2	.6	2.9	79	104	17	9.5	5.5	2.8	2.8	3.2
19	1.5	1.2	.6	2.9	1,210	82	15	9.5	5.5	2.8	2.8	3.2
20	1.5	1.1	3.1	2.9	1,340	65	15	9.5	5.5	2.8	2.8	3.2
21	1.5	1.1	4.6	2.8	519	71	14	9.5	5.5	2.8	2.8	3.4
22	1.5	1.1	7	2.6	357	58	13	9.5	5	2.8	2.8	3.4
23	1.5	1.1	7	2.6	243	52	12	9.5	5	2.8	2.8	2.4
24	1.5	1.1	8	2.5	178	48	11	9	4.8	2.6	2.8	3.4
25	1.5	1.1	10	2.5	175	46	11	8.5	4.8	2.5	2.9	3.4
26	1.5	1.1	12	2.3	136	44	12	8.5	4.6	2.5	3.1	3.6
27	1.5	1.1	227	2.3	143	42	12	8	4.6	2.5	3.1	3.6
28	1.7	1.1	226	2.2	110	40	12	8	4.6	2.5	3.2	3.6
29	1.9	.9	55	2.2		35	12	7.5	4.6	2.5	3.4	3.7
30	1.9	.9	33	2.0		35	12	7.6	4.6	2.5	3.4	3.7
31	1.9		31	1.9		48		7.5		2.5	3.4	

Daily discharge, in second-feet, of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1922-23												
1.....	3.7	5.5	2.0	132	85	15	10	10	6.5	5.5	2.0	1.2
2.....	3.7	5	2.0	84	72	14	16	10	6.5	4.8	1.9	1.2
3.....	3.7	5	2.0	50	66	14	14	10	6.5	4.8	1.9	1.2
4.....	3.7	5	2.0	45	51	14	13	9.5	6	4.8	1.7	1.2
5.....	3.9	4.8	2.0	42	45	13	22	9.5	6	4.8	1.7	1.2
6.....	3.9	4.6	2.0	38	43	13	34	9.5	6	5	1.7	1.2
7.....	3.9	4.6	2.0	33	39	13	42	9.5	6	5	1.7	1.2
8.....	3.9	4.6	2.0	26	34	13	29	9.5	6	5	1.7	1.2
9.....	4.0	10	10	19	30	13	25	9.5	6	5	1.7	1.4
10.....	4.0	9.5	18	15	27	13	30	9.5	6	5	1.7	1.4
11.....	4.0	7.5	25	21	21	12	25	9.5	6.5	5	1.7	1.5
12.....	4.0	6	108	21	58	12	24	9.5	6.5	4.8	1.7	1.5
13.....	4.2	4.6	1,040	18	296	12	19	9.5	6.5	4.8	1.7	1.7
14.....	4.2	3.1	447	15	179	12	15	9.5	6.5	4.8	1.7	1.7
15.....	4.3	2.0	158	14	102	12	14	9.5	7	4.8	1.5	1.9
16.....	4.3	2.0	71	18	80	11	13	8.5	7	4.8	1.5	2.0
17.....	4.3	2.0	131	33	63	11	13	8	7	4.6	1.5	2.0
18.....	4.5	2.0	115	32	57	11	12	7.5	7	4.5	1.4	2.0
19.....	4.5	2.0	91	20	57	11	12	7.5	7	4.3	1.4	2.0
20.....	4.5	2.0	42	13	51	11	11	7	7	3.7	1.4	2.0
21.....	4.6	2.0	25	11	44	11	11	7	7	3.1	1.4	2.0
22.....	4.6	2.0	22	18	40	11	11	6.5	7	2.8	1.2	2.0
23.....	4.6	2.0	19	139	32	10	11	6.5	7	2.3	1.2	2.2
24.....	4.8	2.0	17	772	29	10	11	6.5	7	2.3	1.2	2.2
25.....	4.8	2.0	15	678	25	10	11	7	6.5	2.2	1.1	2.2
26.....	4.8	2.0	14	290	24	10	11	7	6.5	2.2	1.1	2.2
27.....	5	2.0	13	154	19	10	11	7	6.5	2.2	1.1	2.2
28.....	5	2.0	313	130	15	10	11	7	6.5	2.2	1.1	2.2
29.....	5	2.0	187	171	-----	10	11	7	7	2.2	1.1	2.2
30.....	5	2.0	92	163	-----	10	11	7	6.5	2.2	1.1	2.3
31.....	5.5	-----	104	117	-----	10	-----	7	-----	2.0	1.1	-----

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1923-24							
1.....	2.3	2.6	3.2	2.0	0.8	0.6	0.2
2.....	2.3	2.6	3.4	1.9	.8	.6	.2
3.....	2.3	2.8	3.6	1.7	.8	.6	.2
4.....	2.3	2.8	3.7	1.6	.9	.6	.2
5.....	2.5	2.8	3.9	1.5	.9	.6	.2
6.....	2.5	2.8	4.3	1.5	.9	.6	.2
7.....	2.5	2.8	4.3	1.5	.9	.6	.2
8.....	2.5	2.8	4.3	1.4	.9	.6	.2
9.....	2.6	2.8	4.3	1.4	.9	.6	.2
10.....	2.6	2.9	4.3	1.2	.9	.6	.2
11.....	2.6	2.9	4.3	1.1	.9	.6	.2
12.....	2.5	2.9	4.0	.9	.9	.6	.2
13.....	2.5	2.9	3.7	.9	.9	.6	.2
14.....	2.5	2.9	3.4	.9	.9	.6	.2
15.....	2.5	2.9	3.1	.8	.8	.5	.2
16.....	2.5	2.9	3.1	.8	.8	.5	.2
17.....	2.5	3.1	2.9	.6	.8	.5	.2
18.....	2.5	3.1	2.8	.6	.8	.5	.2
19.....	2.5	3.1	2.6	.6	.8	.5	.2
20.....	2.5	3.1	2.6	.6	.8	.5	.2
21.....	2.5	3.1	2.5	.5	.8	.5	.2
22.....	2.5	3.1	2.5	.5	.8	.5	.2
23.....	2.5	3.1	2.5	.5	.8	.5	-----
24.....	2.5	3.1	2.3	.5	.8	.5	-----
25.....	2.5	3.1	2.3	.6	.8	.5	-----
26.....	2.5	3.1	2.3	.6	.8	.5	-----
27.....	2.5	3.1	2.2	.6	.8	.5	-----
28.....	2.5	3.1	2.2	.8	.8	.5	-----
29.....	2.5	3.1	2.0	.8	.8	.3	-----
30.....	2.5	3.1	2.0	.8	-----	.3	-----
31.....	2.5	-----	2.0	.8	-----	.3	-----

NOTE.—No flow on days for which no discharge is given except as follows: May 29-30, 1918, flow less than 0.05 second-foot; Dec. 1-18, 1920, flow less than 0.2 second-foot; no record Jan. 1-2, Jan. 4 to Mar. 21, Apr. 1-14, and 23-30, 1920; and October and November, 1915, for which mean monthly discharge was estimated.

Monthly discharge of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1919 and 1921-1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
January.....	33	.9	11.5	707
February.....	10	4.4	6.47	372
March.....	16	4.6	7.72	475
April.....	9	5.5	6.48	386
May.....	7	4.6	5.25	323
June.....	5	2.3	3.39	202
July.....	2.2	.8	1.33	81.8
August.....	.9	.4	.56	34.4
September.....	1.1	.4	.61	36.3
The period.....				2,620
1912-13				
October.....	.6	.4	.44	27.1
November.....	1.4	.7	1.02	60.7
December.....	1.0	.7	.84	51.6
January.....	20	.8	2.23	137
February.....	1.0	.8	.95	52.8
March.....	1.3	.5	.87	53.5
April.....	1.0	.8	.83	49.4
May.....	.8	.5	.61	37.5
June.....	.5	0	.38	22.6
The year.....	20	0	.68	492
1913-14				
December.....	3,170	0	105	6,460
January.....	9,810	8	1,350	83,000
February.....	5,810	4.8	625	34,700
March.....	215	34	72.1	4,430
April.....	27	4.8	11.5	684
May.....	9.5	7.5	8.15	501
June.....	7.5	1.7	3.73	222
The year.....	9,810	0	179	130,000
1914-15				
December.....	10	0	1.41	86.7
January.....	789	1.0	76.3	4,690
February.....	2,650	150	728	40,400
March.....	330	35	98.3	5,740
April.....	140	21	38.7	2,300
May.....	288	17	74.0	4,550
June.....	16	9.5	11.5	684
July.....	9.5	5.5	7.42	456
August.....	5.5	3.7	4.52	278
September.....	3.6	2.4	2.98	177
The year.....	2,650	0	82.1	59,400
1915-16				
October.....			*1.89	116
November.....			*1.01	60.1
December.....	79	2.0	6.45	397
January.....	3,550	25	1,190	73,200
February.....	2,890	170	443	25,500
March.....	442	67	154	9,470
April.....	63	25	41.9	2,490
May.....	21	16	19.0	1,170
June.....	17	13	14.0	833
July.....	15	11	13.2	812
August.....	11	5	8.68	534
September.....	9	6.5	7.03	418
The year.....	3,550		158	115,000
1916-17				
October.....	11	7	9.75	*600
November.....	7	4.8	5.74	342
December.....	169	8	21.1	1,300
January.....	379	8.5	35.0	2,150
February.....	3,050	8	385	21,400
March.....	189	28	64.3	3,950
April.....	28	17	22.0	1,310
May.....	17	15	15.8	972
June.....	13	7.5	10.0	595
July.....	7	6.5	6.70	412
August.....	5.5	5	5.35	329
September.....	5.5	5	5.38	320
The year.....	3,050	4.8	46.5	33,700

* Estimated.

Monthly discharge of Arroyo de la Laguna near Pleasanton, Calif., for the years ending September 30, 1912-1919 and 1921-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1917-18				
October.....	4.8	2.9	3.93	242
November.....	2.9	1.2	2.11	126
December.....	1.3	1.2	1.26	77.5
January.....	1.3	1.3	1.31	80.6
February.....	2.8	.9	1.58	87.8
March.....	151	1.0	15.1	928
April.....	1.6	.6	1.25	74.4
May.....	.6	0	.42	25.3
The year.....	151	0	2.27	1,640
1918-19				
January.....	173	0	13.9	855
February.....	4,300	0	408	22,400
March.....	1,530	31	207	12,700
April.....	21	12	13.7	815
May.....	12	7	8.17	502
June.....	6.5	3.2	5.26	313
The year.....	4,300	0	51.9	37,600
1920-21				
December.....	66		7.63	469
January.....	1,030	.8	162	9,960
February.....	238	14	54.0	8,000
March.....	12	5	8.35	513
April.....	6	4.5	4.95	295
May.....	4.5	2.0	3.02	186
June.....	1.9	1.1	1.58	94.0
July.....	1.1	.9	1.03	63.3
August.....	1.1	.8	.88	54.1
September.....	1.1	.2	.42	26.0
The year.....	1,030	0	20.3	14,700
1921-22				
October.....	1.9	.2	1.36	83.6
November.....	2.2	.9	1.54	91.6
December.....	227	.6	20.5	1,260
January.....	86	1.9	13.6	1,140
February.....	4,160	.8	589	32,700
March.....	262	35	82.4	5,070
April.....	58	11	24.3	1,450
May.....	12	7.5	10.1	621
June.....	7	4.6	5.79	345
July.....	3.7	2.5	2.90	178
August.....	3.4	2.5	2.76	170
September.....	3.7	3.1	3.34	199
The year.....	4,160	.2	59.9	43,300
1922-23				
October.....	5.5	3.7	4.35	267
November.....	10	2.0	3.74	223
December.....	1,040	2.0	99.7	6,136
January.....	772	11	107	6,580
February.....	296	15	59.8	3,320
March.....	15	10	11.6	713
April.....	42	10	16.6	968
May.....	10	6.5	8.31	511
June.....	7	6	6.59	392
July.....	5.5	2.0	3.91	240
August.....	2.0	1.1	1.43	91.0
September.....	2.3	1.2	1.75	104
The year.....	1,040	1.1	27.0	19,600
1923-24				
October.....	2.6	2.3	2.47	152
November.....	3.1	2.6	2.96	176
December.....	4.3	2.0	3.13	192
January.....	2.0	.5	.98	80.3
February.....	.9	.8	.83	47.7
March.....	.6	.3	.62	32.0
April.....	.2	0	.11	6.5
The year.....	4.3	0	.92	666

* Estimated.

NOTE.—No flow during months for which no discharge is given except December, 1919, to April, 1920, for which see daily-discharge table.

ALAMO CREEK AT DUBLIN, CALIF.

LOCATION.—1,000 feet south of Hayward-Tracy highway on San Ramon grant and 1 mile east of Dublin, Alameda County.

DRAINAGE AREA.—40.4 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—October 1, 1914, to September 30, 1920, when station was discontinued.

GAGE.—Water-stage recorder on left bank 1,000 feet below highway bridge.

DISCHARGE MEASUREMENTS.—Made from gaging bridge at gage or by wading.

CHANNEL AND CONTROL.—Fine gravel and sand; fairly permanent.

EXTREMES OF DISCHARGE.—1914-1920: Maximum mean daily discharge, 894 second-feet January 3, 1916; stream dry during a part of each year.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

Daily discharge, in second-feet, of Alamo Creek at Dublin, Calif., for the years ending September 30, 1915-1920

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1914-15							
1		1.0	148	30	14	9.5	2.0
2		1.0	648	20	14	8.5	1.2
3		1.3	210	19	14	8	1.2
4		2.0	22	19	14	8.5	.6
5		3.0	12	16	13	12	.6
6		7	6	14	13	13	.4
7		4.0	9	16	12	13	.4
8		12	582	16	12	11	.4
9		5	199	16	12	10	.2
10		3.0	190	18	12	9.5	.2
11	0.6	9.5	30	23	12	84	.2
12	.6	26	9.5	24	12	126	.2
13		12	4.0	21	12	26	.2
14		21	2.0	21	11	13	.2
15		11	3.0	20	11	10	.1
16	.3	5	6	8	11	9	.1
17	10	4.0	48	12	11	8.5	.1
18	9.5	3.5	10	12	11	8	.1
19	1.3	3.0	7	10	11	7.5	.1
20	1.7	6	8	10	11	7	.1
21	1.8	6	21	8	11	6	.1
22		6	24	8	11	5.5	.1
23		6	27	10	11	4.5	.1
24		6	52	12	11	4.0	.1
25		6	26	12	11	3.6	.1
26		10	16	10	10	2.9	.1
27	.8	12	13	10	10	2.5	.1
28	1.5	14	97	10	10	2.0	.1
29	.7	86		10	10	2.0	.1
30		132		12	10	2.0	.1
31		127		16		2.0	
1915-16							
1		11	34	68	6	1.7	.6
2		20	28	35	6	1.4	.6
3		894	25	22	6	1.4	.6
4	10	122	384	18	6	1.4	.6
5		32	102	18	6	1.4	.6
6		15	75	16	6	1.2	.6
7		9	45	15	5	1.2	.6
8		171	38	14	5	1.2	.5
9		207	34	13	5	1.2	.5
10		443	28	12	5	1.1	.3

Daily discharge, in second-feet, of Alamo Creek at Dublin, Calif., for the years ending September 30, 1915-1920—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1915-16							
11.....		48	28	12	5	1.1	0.3
12.....		24	25	11	5	1.1	.2
13.....	33	56	21	10	4.0	.9	.2
14.....	30	508	21	10	4.0	.9	.2
15.....	18	66	21	10	4.0	.8	.2
16.....	13	36	21	10	4.0	.8	.2
17.....	12	429	21	10	4.0	.8	.2
18.....	12	72	21	11	4.0	.6	.2
19.....	12	40	25	11	4.0	.6	.2
20.....	12	20	25	11	2.9	.6	.2
21.....	11	16	25	10	2.9	.6	.2
22.....	11	39	21	10	2.9	.6	
23.....	11	184	21	9	2.9	.6	
24.....	11	314	21	9	2.9	.6	
25.....	11	179	18	8	2.0	.6	
26.....	11	45	18	7	2.0	.6	
27.....	11	373	18	6	2.0	.6	
28.....	11	111	18	6	2.0	.6	
29.....	11	355	18	6	2.0	.6	
30.....	11	60		6	2.0	.6	
31.....	11	40		6		.6	

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1916-17							1916-17						
1.....	9.5	3.2	17	3.6	1.3	0.5	16.....	3.6	4.2	7.5	3.6	1.3	-----
2.....	10	3.2	13	3.6	1.3	.5	17.....	3.6	4.2	7.5	3.6	1.3	-----
3.....	20	3.2	13	3.6	1.3	.5	18.....	3.6	4.2	7.5	3.6	1.3	-----
4.....	16	3.2	13	3.6	1.3	.5	19.....	3.6	4.2	7.5	3.6	.5	-----
5.....	12	3.2	13	3.6	1.3	.3	20.....	5.5	30	7.5	3.6	.5	-----
6.....	10	3.2	13	3.6	1.3	.2	21.....	5.5	378	7.5	2.6	.5	-----
7.....	9.5	3.2	13	3.6	1.3	.1	22.....	5.5	105	7.5	2.6	.5	-----
8.....	10	3.2	13	3.6	1.3	-----	23.....	5.5	50	7.5	2.6	.5	-----
9.....	7.5	3.2	13	3.6	1.3	-----	24.....	5.5	291	6	2.6	.5	-----
10.....	6	4.2	12	3.6	1.3	-----	25.....	5.5	328	6	2.6	.5	-----
11.....	4.6	4.2	12	3.6	1.3	-----	26.....	5.5	123	6	2.6	.5	-----
12.....	4.6	4.2	12	3.6	1.3	-----	27.....	3.6	36	6	2.6	.5	-----
13.....	3.6	4.2	12	3.6	1.3	-----	28.....	3.6	21	6	1.5	.5	-----
14.....	3.6	4.2	12	3.6	1.3	-----	29.....	3.6	-----	6	1.5	.5	-----
15.....	3.6	4.2	11	3.6	1.3	-----	30.....	3.6	-----	6	1.5	.5	-----
							31.....	3.6	-----	3.6	-----	.6	-----

Day	Mar.	Day	Mar.	Day	Mar.
1917-18		1917-18		1917-18	
1.....		11.....	2.5	21.....	0.6
2.....		12.....	8.5	22.....	.5
3.....		13.....	4.0	23.....	
4.....		14.....	.5	24.....	
5.....		15.....	.5	25.....	
6.....		16.....	.5	26.....	
7.....		17.....	.5	27.....	
8.....		18.....	.5	28.....	
9.....		19.....	21	29.....	
10.....		20.....	5.5	30.....	
				31.....	

Daily discharge, in second-feet, of Alamo Creek at Dublin, Calif., for the years ending September 30, 1915-1920—Continued

Day	Jan.	Feb.	Mar.	Apr.	May	Day	Jan.	Feb.	Mar.	Apr.	May
1918-19						1918-19					
1.			37	5.5	0.8	16.		5.5	23	2.9	
2.			21	5	.8	17.		4.9	14	2.8	
3.			37	4.6	.6	18.		3.0	12	2.6	
4.			16	4.5	.6	19.	0.2	2.6	11	2.5	
5.			7.5	4.5	.5	20.	65	2.6	11	2.2	
6.			3.8	4.2		21.	.9	2.6	10	2.0	
7.			3.8	4.2		22.	.9	2.4	8.5	2.0	
8.			3.8	4.2		23.	2	2.4	7.5	1.9	
9.			3.8	4.0		24.	.8	2.4	7.5	1.5	
10.		171 750	3.8	3.9		25.		1.8	6.5	1.4	
11.		600	3.9	3.6		26.		442	6.5	1.2	
12.		78	4.2	3.4		27.		81	6.6	1.1	
13.		23	245	3.4		28.		46	6	.9	
14.		2.8	356	3.2		29.			6	.9	
15.		8	55	3.2		30.			5.5	.9	
						31.			5.5		

Day	Mar.	Apr.	Day	Mar.	Apr.	Day	Mar.	Apr.
1919-20			1919-20			1919-20		
1.			11.			21.		
2.			12.			22.		3.6
3.			13.			23.		1.7
4.			14.			24.		.3
5.			15.		0.9	25.		
6.			16.			26.		.2
7.			17.			27.		.2
8.			18.			28.		.2
9.			19.			29.		
10.			20.			30.		
						31.		

NOTE.—No flow on days for which no discharge is given except December, 1916, for which mean monthly discharge was estimated.

Monthly discharge of Alamo Creek at Dublin, Calif., for the years ending September 30, 1915-1920

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1915				
December.....	10	0	0.93	57.2
January.....	132	1.0	17.8	1,090
February.....	648	2.0	96.7	4,820
March.....	30	8	15.0	922
April.....	14	10	11.8	702
May.....	126	2.0	14.2	873
June.....	2.0	.1	.31	18.4
The period.....	648	0	11.7	8,480
1915-16				
December.....	33	0	8.79	540
January.....	894	9	159	9,780
February.....	384	18	41.3	2,380
March.....	68	6	13.5	630
April.....	6	2.0	4.03	240
May.....	1.7	.6	.91	58.0
June.....	.6	0	.25	14.9
The year.....	894	0	19.1	13,800

Monthly discharge of Alamo Creek at Dublin, Calif., for the years ending September 30, 1915-1920—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1916-17				
December.....			*1.30	80.0
January.....	20	3.6	6.57	404
February.....	378	3.2	51.2	2,840
March.....	17	3.6	9.72	598
April.....	3.6	1.5	3.14	187
May.....	1.3	.5	.96	59.0
June.....	.5	0	.08	4.8
The year.....	378	0	5.77	4,170
1917-18				
March.....	21	0	1.47	90.4
The year.....	21	0	.12	90.4
1918-19				
January.....	65	0	2.24	138
February.....	750	0	79.7	4,430
March.....	356	3.8	30.7	1,890
April.....	5.5	.9	2.93	174
May.....	.8	0	.10	6.1
The year.....	750	0	9.16	6,640
1919-20				
March.....	3.6	0	.19	11.7
April.....	.9	0	.03	1.8
The year.....	3.6	0	.02	13.5

* Estimated.

NOTE.—No flow during months for which no discharge is given.

TASSAJERO CREEK NEAR PLEASANTON, CALIF.

LOCATION.—Just below Santa Rita highway bridge on Santa Rita grant, 3 miles north of Pleasanton, Alameda County.

DRAINAGE AREA.—27.9 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—December 1, 1914, to May 31, 1919, and October 1, 1921, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 300 feet below highway bridge.

DISCHARGE MEASUREMENTS.—Made from gaging bridge at gage or by wading.

CHANNEL AND CONTROL.—Fine gravel and sand; fairly permanent.

EXTREMES OF DISCHARGE.—1914-1924: Maximum mean daily discharge, 372 second-feet on January 14, 1916; stream dry during a part of each year.

DIVERSIONS.—In 1916, water was diverted one-fourth mile above the station for irrigation. No information for other years.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

No flow during the year ending September 30, 1924.

Daily discharge, in second-feet, of Tassajero Creek near Pleasanton, Calif., for the years ending September 30, 1915-1919 and 1922-1923

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1914-15							
1	0.5	0.4	35	16	6	4.0	2.6
2	.5	.4	203	9	6	4.0	2.6
3	.5	.4	69	9	6	4.0	2.2
4	.5	.5	22	8.5	6	5	1.6
5	.5	.5	17	6.5	6	14	1.6
6	.5	2.0	13	4.1	6	5.5	1.5
7	.5	2.0	12	4.1	6	4.8	1.5
8	.5	7	160	4.1	6	3.6	1.4
9	.5	4.0	79	4.1	5	4.0	1.4
10	.5	2.0	84	4.1	4.3	6.5	1.3
11	.5	3.3	32	8	4.2	34	1.3
12	.5	7.5	18	9	4.0	38	1.3
13	.5	3.0	14	9	4.0	15	1.1
14	.5	4.5	13	9	4.0	13	1.1
15	.5	2.0	12	9	4.0	11	1.1
16	.5	.5	11	9	4.0	9	1.1
17	.5	.5	18	9	4.0	6.5	1.1
18	.5	.5	13	9	4.0	6	1.1
19	3.1	.5	10	9	4.0	5	1.1
20	.4	4.0	50	9	4.0	4.6	1.1
21	.6	3.0	14	9	4.0	4.0	1.0
22	.6	3.2	44	6	4.0	3.9	1.0
23	.6	3.0	22	6	4.0	3.7	.5
24	.5	3.0	58	4.1	4.0	3.6	-----
25	.6	2.0	18	4.1	4.0	3.1	-----
26	.6	1.2	17	4.1	4.0	2.9	-----
27	.6	.5	18	4.1	4.0	2.6	-----
28	.6	2.2	58	6	3.7	2.8	-----
29	.7	15	-----	6	3.6	2.5	-----
30	.6	15	-----	6	3.6	2.5	-----
31	.6	32	-----	6	-----	2.3	-----

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1915-16								
1	-----	0.9	47	40	8	3.2	3.1	1.9
2	-----	.9	41	17	8	3.1	2.5	1.9
3	6	250	47	14	8	3.1	2.0	1.9
4	3.9	50	233	14	8	3.1	1.5	1.9
5	-----	19	104	34	7	3.1	1.2	1.9
6	-----	13	65	14	7	3.2	1.2	1.9
7	-----	9	47	13	7	2.3	1.2	1.9
8	-----	52	47	13	7	1.5	1.2	1.9
9	-----	81	41	12	6	1.5	1.1	1.9
10	-----	144	36	12	6	1.5	1.1	2.0
11	-----	32	34	12	6	1.5	1.1	2.0
12	-----	19	32	12	6	1.4	1.0	2.0
13	6	34	30	11	6	1.4	1.0	2.0
14	7	372	26	11	6	1.2	1.0	2.0
15	.9	61	23	11	6	1.2	1.0	2.0
16	.9	34	23	11	6	1.2	1.0	2.0
17	.9	292	22	11	6	1.2	1.0	3.0
18	.9	66	21	11	5	1.4	1.0	3.0
19	.9	46	21	11	5	1.4	1.0	3.0
20	.9	34	20	11	5	1.5	1.0	3.0
21	.9	28	26	10	5	1.7	1.0	3.0
22	.9	31	17	10	5	1.9	1.0	3.0
23	.9	90	14	9	5	1.9	1.0	3.0
24	.9	177	14	9	5	1.9	1.0	2.6
25	.9	127	14	9	4.0	2.2	1.0	1.5
26	.9	50	14	9	4.0	2.5	1.0	1.4
27	.9	222	26	8	4.0	2.8	1.0	1.2
28	.9	97	14	8	2.9	3.1	.9	.9
29	.9	131	14	8	2.9	3.2	.9	.5
30	.9	74	-----	7	2.9	3.1	.9	.3
31	.9	43	-----	7	-----	2.9	-----	.3

Daily discharge, in second-feet, of Tassajero Creek near Pleasanton, Calif., for the years ending September 30, 1915-1919 and 1922-1923--Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Dec.	Jan.	Feb.	Mar.	Apr.
1916-17						1917-18					
1	1.3	1.0	1.1	6.5	1.9	1	0.4	0.5	0.5	0.3	0.5
2	7.5	3.9	1.1	5	1.9	2	.4	.5	.6	.3	.4
3	2.0	7	1.1	4.0	1.9	3	.4	.5	.7	.4	.4
4	2.0	2.0	1.1	4.0	1.9	4	.4	.5	.8	.4	.3
5	2.0	1.5	1.1	4.0	1.9	5	.4	.5	.9	.5	.4
6	2.0	1.0	1.1	4.0	1.9	6	.4	.5	.9	.5	.4
7	2.0	1.0	1.1	4.0	1.9	7	.4	.6	1.0	.6	.4
8	2.0	1.0	1.1	5	1.9	8	.4	.6	.9	.5	.4
9	2.0	1.0	1.1	5	1.9	9	.4	.6	.9	.4	.4
10	2.0	1.0	1.1	4.0	1.9	10	.4	.6	.8	1.4	.5
11	1.5	1.0	1.1	4.0	1.9	11	.4	.7	.7	1.4	.5
12	1.5	1.0	1.1	4.0	1.9	12	.4	.7	.6	1.2	.5
13	1.5	1.0	1.1	4.0	1.9	13	.4	.6	.5	1.3	.4
14	1.5	1.0	1.1	4.0	1.5	14	.4	.6	.5	.4	.4
15	1.5	1.0	1.1	4.0	1.5	15	.4	.6	.5	.5	.4
16	1.4	1.0	1.1	4.0	1.5	16	.4	.5	.5	.5	.3
17	1.4	1.0	1.4	2.0	1.5	17	.4	.5	1.3	.5	.2
18	1.4	1.0	1.4	2.0	1.5	18	.4	.5	.6	.5	.1
19	1.4	1.0	1.8	2.0	1.5	19	.4	.5	1.1	14	.1
20	1.3	1.0	3.2	2.0	1.4	20	.4	.5	.9	2.0	.1
21	1.3	1.0	49	2.0	1.4	21	.4	.5	2.0	.8	.1
22	1.3	1.0	18	2.0	1.4	22	.4	.5	.9	.8	.1
23	5.5	1.0	6.5	2.3	1.4	23	.4	.5	.6	.7	.1
24	2.0	1.0	32	2.0	.8	24	.4	.5	.8	.7	.2
25	2.0	1.0	54	2.0	.8	25	.4	.5	.3	.7	.2
26	2.0	1.0	24	2.0	.8	26	.4	.5	.3	.6	.2
27	1.7	1.0	9.5	2.0	.7	27	.4	.5	.4	.6	.2
28	1.5	1.0	6.5	2.0	.6	28	.4	.5	.3	.5	.2
29	1.4	1.0		2.0	.6	29	.4	.5		.5	.2
30	1.3	1.0		2.0	.6	30	.4	.5		.5	.2
31	1.2	1.0		1.9		31	.4	.5		.5	
Day	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.
1918-19						1921-22					
1			8	2.0	0.9	1		1.2	0.5	2.9	2.0
2			7.5	2.0	.9	2		.9	.5	2.9	2.0
3				2.0	.9	3		.9	.5	2.9	2.0
4			6.5	2.0	.9	4		.5	.5	2.9	2.0
5			6	2.0	.9	5		.5	.5	2.5	2.0
6			5.5	2.0	.9	6		.9	.5	2.5	2.0
7			5	2.0	.9	7		.8	.5	2.5	2.0
8			4.6	2.0	.9	8		.5	.7	2.0	2.0
9		40	4.5	2.0	.9	9		.5	155	2.0	2.0
10		296	3.9	2.0	.9	10		.5	198	2.0	2.0
11		132	3.9	2.0	.9	11		.5	66	15	2.0
12		16	3.9	2.0	.9	12		.5	13	3.2	2.0
13		7.5	56	2.0	.9	13		.5	10	2.9	2.0
14		7	73	2.0	.9	14		.5	10	2.9	1.5
15		6.5	7	1.9	.9	15		.5	8	2.9	.9
16		6	3.9	1.7	.9	16		.5	6	4.0	.9
17		4.0	3.1	1.6	.8	17		.5	5	2.3	.9
18		2.5	2.8	1.4	.6	18		.5	10	2.0	.9
19	1.2	2.5	2.5	1.2	.5	19		.5	204	2.0	
20	16	2.5	2.2	1.1	.3	20		.5	62	2.0	
21	1.4	2.5	2.0	.9	.2	21	0.5	.5	13	2.0	
22		2.5	2.0	.9		22	1.2	.5	8	2.0	
23		2.5	2.0	.9		23	.5	.5	7.5	2.0	
24		2.5	2.0	.9		24	1.4	.5	7.5	2.0	
25		2.3	2.0	.9		25	1.4	.5	6	2.0	
26		154	2.0	.9		26	.9	.5	5	2.0	
27		24	2.0	.9		27	1.1	.5	5	2.0	
28		11	2.0	.9		28	.9	.5	4.0	2.0	
29			2.0	.9		29	.9	.5		2.0	
30			2.0	.9		30	.9	.5		2.0	
31			2.0			31	.9	.5		2.0	

NOTE.—No flow on days for which no discharge is given except June, 1919, to September, 1921, for which there was no record, and November, 1916, and May and June, 1917, for which mean monthly discharge was estimated. Discharge interpolated Dec. 29-31, 1916, and February, 1917. Intake pipe for water-stage recorder filled with silt February, 1917. Record is low for month but no correction was made.

Daily discharge, in second-feet, of Tassajero Creek near Pleasanton, Calif., for the years ending September 30, 1915-1919 and 1922-1923—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1922-23							
1			14	4.0	0.9	0.9	0.9
2			9.5	4.0	.9	.9	.9
3			7.5	4.0	.9	.9	.9
4			7	4.0	.9	3.6	.9
5			6	4.0	.9	3.6	.9
6		2.9	6	3.6	.9	3.6	.9
7		4.5	5.5	2.0	.9	3.6	.9
8		4.8	5	2.0	.9	3.6	.5
9	2.0	3.6	5	2.0	.9	3.6	.5
10	5	6	5	2.0	.9	3.6	.5
11	5	5.5	5	2.0	.9	.9	.5
12	5	26	1.7	4.0	.9	.9	.5
13	3.1	12	1.7	3.2	.9	.9	.5
14	.9	10	1.7	2.0	.9	.9	.5
15	.9	5.5	1.7	2.0	.9	.9	.5
16		.9	1.7	2.0	.9	.9	.5
17		3.6	6	2.0	.9	1.4	.5
18		1.4	5	2.0	.9	1.4	.5
19		.9	4.0	2.0	.9	1.4	.5
20		.9	4.0	2.0	.9	1.4	.5
21		.9	4.3	1.4	.9	1.4	.5
22		.9	5	1.4	.9	1.4	.5
23		1.4	42	1.4	.9	1.4	
24		4.2	30	1.4	.9	1.4	
25		4.2	11	1.4	.9	1.4	
26		5	6	1.4	.9	1.4	
27		5	5	1.4	.9	1.4	
28		43	5.5	.9	.9	1.4	
29		7.5	9		.9	1.4	
30		11	6.5		.9	1.4	
31		17	4.5		.9		

Monthly discharge of Tassajero Creek near Pleasanton, Calif., for the years ending September 30, 1915-1919 and 1922-1923

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1914-15				
December	3.1	0.4	0.61	37.5
January	32	.4	4.07	250
February	203	10	40.5	2,250
March	16	4.1	7.09	436
April	6	3.6	4.57	272
May	38	2.3	7.46	459
June	2.6	0	1.03	61.3
The period	203	0	5.20	3,770
1915-16				
December	7	0	1.25	76.9
January	372	.9	88.0	5,410
February	233	14	38.3	2,200
March	40	7	12.5	769
April	8	2.9	5.66	337
May	3.2	1.2	2.15	132
June	3.1	.9	1.21	72.0
July	3.0	.3	1.95	120
The year	372	0	12.6	9,130
1916-17				
November			* 1.02	60.7
December	7.5	1.2	1.96	121
January	7	1.0	1.36	83.6
February	54	1.1	7.99	444
March	6.5	1.9	3.23	199
April	1.9	.6	1.46	86.9
May			* .46	28.3
June			* .31	18.4
The year	54	0	1.44	1,040

* Estimated.

Monthly discharge of Tassajero Creek near Pleasanton, Calif., for the years ending September 30, 1915-1919 and 1922-1923—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1917-18				
December.....	0.4	0.4	0.39	24.0
January.....	.7	.5	.55	33.8
February.....	2.0	.3	.74	41.1
March.....	14	.3	1.12	68.9
April.....	.5	.1	.28	16.7
The year.....	14	0	.25	184
1918-19				
January.....	16	0	.61	37.5
February.....	296	0	25.8	1,430
March.....	73	2.0	7.72	475
April.....	2.0	.9	1.54	91.6
May.....	.9		.55	33.8
The period.....	296	0		2,070
1921-22				
December.....	1.4	0	.35	21.5
January.....	1.2	.5	.55	33.8
February.....	204	.5	29.0	1,610
March.....	15	2.0	2.81	173
April.....	2.0	0	1.05	62.5
The year.....	204	0	2.63	1,900
1922-23				
November.....	5	0	.73	43.4
December.....	43	0	6.08	374
January.....	42	1.7	7.48	460
February.....	4.0	.9	2.35	131
March.....	.9	.9	.93	57.2
April.....	3.6	.9	1.76	105
May.....	.9	0	.44	27.1
The year.....	43	0	1.65	1,200

NOTE.—No flow during months for which no discharge is given except June, 1919, to September, 1921, for which there is no record. No flow during year ending Sept. 30, 1924.

ARROYO MOCHO NEAR LIVERMORE, CALIF.

LOCATION.—In sec. 6, T. 4 S., R. 3 E., 4 miles above junction with Dry Creek and 5 miles southeast of Livermore, Alameda County.

DRAINAGE AREA.—38.3 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on right bank. Previous to November, 1914, station was at highway bridge 1 mile downstream.

DISCHARGE MEASUREMENTS.—Made from suspension gaging bridge at gage or by wading.

CHANNEL AND CONTROL.—Cobblestone and gravel; fairly permanent.

EXTREMES OF DISCHARGE.—1912-1924: Maximum mean daily discharge recorded, 700 second-feet February 20, 1914 (no record for flood in January, 1914); stream dry during a part of each year.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

Daily discharge, in second-feet, of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1912							1912						
1	1.7	0.4	0.4	0.6	0.7	0.2	16	0.8	0.6	1.3	0.5	0.2	0.1
2	2.7	.5	.4	.5	.5	.2	17	1.4	.6	3.5	.5	.2	
3	1.4	.6	.4	.4	.5	.2	18	1.3	.5	3.5	.5	.2	
4	.9	.7	.4	.4	.5	.2	19	1.3	.5	3.5	.4	.2	
5	.5	.7	.9	.5	.5	.2	20	1.3	.4	1.6	.3	.4	
6	.5	.6	2.5	.4	.4	.2	21	.5	.4	1.6	.4	.5	
7	.6	.7	2.5	.4	.4	.1	22	.5	.4	1.1	.4	.5	
8	.7	.7	1.8	.4	.3	.1	23	.4	.4	1.0	.3	.3	
9	.7	.6	1.5	.4	.3	.1	24	.4	.4	1.0	.3	.3	
10	.8	.5	1.0	.4	.2	.1	25	.3	.4	.9	.5	.7	
11	1.4	.5	.9	1.3	.2	.1	26	19	.4	.9	.6	.7	
12	.9	.5	2.3	1.5	.2	.1	27	7.5	.4	.9	.6	.6	
13	.8	.6	17	1.0	.2	.1	28	3.2	.4	.6	.3	.6	
14	.7	.7	10	.6	.2	.1	29	1.9	.4	.9	.7	.4	
15	.5	.7	4.9	.5	.2	.1	30	.8		.9	.8	.3	
							31	.5		.7		.2	
Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May						
1912-13													
1			0.4	0.4	0.3	0.4	0.2						
2			.4	.4	.3	.3	.2						
3			.4	.4	.3	.3	.2						
4			.4	.4	.3	.3	.1						
5			.7	.4	.3	.3	.1						
6			.8	.3	.3	.5	.1						
7			.9	.3	.3	.3	.1						
8			.9	.3	.3	.3							
9			1.0	.3	.3	.3	.1						
10	0.5		1.1	.3	.3	.3	.2						
11	.3		1.1	.3	.3	.3	.1						
12	.2		1.1	.3	.3	.3	.1						
13	.2		1.1	.3	.3	.3	.1						
14	.2		1.1	.3	.3	.3							
15	.1	0.6	1.3	.3	.3	.3							
16	.1	.5	8.5	.3	.3	.3							
17	.1	.4	17	.2	.3	.3							
18		.4	12	.2	.4	.4							
19		.1	17	.2	.7	.4							
20		.1	6	.2	.9	.5							
21			.4	2.3	.2	.4							
22			.4	1.5	.3	1.0							
23			.4	1.3	.3	1.7							
24			.4	1.1	.3	1.3							
25			.4	1.0	.3	1.1	.2						
26			.4	.9	.3	.8	.2						
27			.4	.9	.3	.6	.1						
28			.4	.9	.3	.6	.2						
29		.1	.4	.7		.5	.2						
30		.1	.4	.6		.4	.2						
31			.4	.4		.4							

Daily discharge, in second-feet, of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1913-14								
1		0.6		9.5	14	0.9	0.7	0.4
2		.5		9.5	14	.9	.6	.4
3		.4		11	11	.9	.6	.4
4		.4	16	11	11	.9	.6	.4
5		.4	11	11	7	.9	.6	.4
6		.4	8.5	9	7	1.1	.6	.4
7		.4	9	9	4.8	1.1	.6	.4
8		.4	8	9.5	5	1.0	.6	.4
9		.4	6.5	9.5	2.4	1.0	.6	.3
10		.4	6	10	2.4	.9	.6	.3
11		.5	5.5	11	2.4	.8	.6	.3
12		.6	8.5	11	1.8	.7	.6	.3
13		.7	35	7.5	1.8	.7	.6	.3
14		.6	93	7.5	1.8	.7	.5	.3
15		.5	29	9	1.6	.7	.5	.3
16		.5	17	9.5	1.6	.7	.5	.4
17		.5		11	1.6	.7	.5	.4
18		.5		14	1.4	.7	.6	.4
19		.6		189	1.4	.7	.5	.4
20		.6		700	1.4	.7	.5	.4
21		.8		375	1.2	.7	.5	.4
22		13		108	1.2	.7	.5	.4
23		4.9		83	1.2	.7	.5	.4
24		2.0		63	1.2	.7	.5	.4
25		11		43	1.2	.7	.5	.4
26	0.1	5		31	1.2	.7	.5	.4
27	.3	2.4	283	22	.9	.7	.5	.4
28	.3	1.9	157	22	.9	.7	.5	.4
29	.5	1.7	30		.9	.7	.5	.3
30	.7	4.3	15		.9	.7	.4	.3
31		22	11		.9		.4	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1914-15									
1		0.6	108	32	10	3.2	2.0	0.1	0.1
2		.6	508	24	10	3.1	1.8	.1	.1
3		1.5	212	18	9.5	2.9	1.5	.1	.1
4		2.5	90	15	9.5	7	1.3	.1	.1
5		2.5	52	12	9	37	1.2	.1	.1
6		6	39	11	9	14	1.2	.1	.1
7		5.5	32	11	8.5	11	1.0	.1	.1
8		27	212	11	8	11	.8	.1	.1
9		20	350	10	5.5	10	.7	.1	.1
10	3.3	13	255	9	5.5	27	.6	.1	.1
11	3.7	13	134	7	5	30	.5	.1	.1
12	5.5	36	82	7	4.6	15	.4	.1	.1
13	2.8	25	58	8	4.3	8.5	.3	.1	.1
14	1.5	28	45	8	4.1	8	.3	.1	.1
15	1.0	18	41	7	3.8	7.5	.2	.1	.1
16	1.2	7	28	7	3.8	6.5	.2	.1	.1
17	3.7	4.0	41	7	4.7	13	.2	.1	.1
18	30	3.0	43	5.5	4.7	12	.2	.1	.1
19	6.5	2.0	32	5	4.7	6.5	.1	.1	.1
20	4.6	2.0	54	5	4.7	6	.1	.1	.1
21	3.7	.6	58	6	4.7	5.5	.1	.1	.1
22	2.3	.6	60	5	4.7	5.5	.1	.1	.1
23	1.6	.6	70	5	4.7	4.6	.1	.1	.1
24	1.0	.6	58	4.0	4.7	4.0	.1	.1	.1
25	.9	.6	49	4.0	4.7	3.9	.1	.1	.1
26	.8	.6	32	4.0	3.8	3.6	.1	.1	.1
27	.8	.6	26	5	3.0	3.2	.1	.1	.1
28	.6	4.2	45	12	2.7	2.9	.1	.1	.1
29	.6	126		14	3.3	2.5	.1	.1	.1
30	.5	92		7	3.3	2.2	.1	.1	.1
31	.5	125		10		2.0		.1	.1

Daily discharge, in second-feet, of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924--Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1915-16								
1			68	36	9	4.2	0.9	0.3
2		11	60	32	9	4.2	.9	
3	13	645	74	30	8	4.2	.9	
4	5	112	314	25	7	4.3	.9	
5	1.0	25	320	47	6	4.3	.9	
6	1.0	18	130	25	6	4.3	.9	
7		12	93	24	6	4.5	.9	
8		60	60	23	6	4.5	.9	
9		110	47	21	6	4.5	.8	
10		231	35	20	6	4.5	.8	
11		57	31	19	6	4.3	.8	
12		30	25	18	6	4.3	.8	
13	12	26	22	17	6	4.3	.8	
14	22	260	21	17	6	4.2	.8	
15	15	112	19	16	6	4.2	.8	
16	4.0	47	18	15	6	3.9	.8	
17	2.0	419	17	14	6	3.6	.8	
18	2.0	175	16	14	6	3.1	.6	
19	1.0	87	16	15	6	2.8	.6	
20		60	15	15	5	2.5	.6	
21		42	22	14	5	2.2	.6	
22		30	22	14	5	2.0	.5	
23		42	21	13	5	1.5	.5	
24		82	20	12	5	1.5	.5	
25		60	19	11	5	1.4	.5	.1
26		17	18	10	5	1.4	.5	
27		83	17	9	5	1.4	.5	
28		260	17	9	5	1.2	.5	
29		160	17	9	5	1.2	.5	
30		105		9	5	1.2	.6	
31		73		9		1.2		.1

Day	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Dec.	Jan.	Feb.	Mar.	Apr.
1916-17						1916-17					
1	0.5	5	0.6	14	1.0	16	1.7	0.6	0.5	4.0	0.4
2	.5	10	.6	10	1.0	17	1.7	.6	.5	4.0	.3
3	.5	50	.6	7	.6	18	1.7	.6	.5	2.5	.3
4	1.7	17	.6	5	1.0	19	1.7	.6	2.3	1.6	.3
5	1.7	10	.6	4.0	1.0	20	4.0	.6	4.3	1.6	.3
6	1.7	5	.5	3.7	.6	21	4.0	.6	302	1.6	.3
7	1.7	3.4	.5	3.6	.6	22	4.0	.6	183	1.6	.3
8	1.7	1.6	.5	4.5	.5	23	4.0	.5	48	1.6	.3
9	1.7	.9	.5	10	.3	24	22	.5	83	1.6	.2
10	1.7	.9	.5	8.5	.3	25	4.0	.5	351	.9	.2
11	1.7	.9	.5	4.0	.5	26	4.0	.5	68	.9	.2
12	1.7	.9	.5	2.9	.5	27	4.0	.5	32	.9	.2
13	1.7	.9	.5	2.0	.6	28	4.0	.5	18	.9	.2
14	1.7	.9	.5	5	.6	29	4.0	.5		.9	.2
15	1.7	.9	.5	4.0	.6	30	4.0	.6		.9	.2
						31	5	.6		.9	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1917-18							1917-18						
1	0.2	0.2	0.3	0.6	1.0	0.2	16	0.2	0.2	0.4	3.0	0.5	0.2
2	.2	.2	.3	.6	.8	.2	17	.2	.3	1.2	2.0	.5	.2
3	.2	.2	.3	.6	.6	.2	18	.2	.3	1.0	8.2	.5	.2
4	.2	.2	.3	.6	.5	.2	19	.2	.3	1.1	36	.5	.2
5	.2	.2	.3	.6	.5	.2	20	.2	.3	1.2	19	.4	.2
6	.2	.2	.3	.6	.5	.2	21	.2	.3	2.9	7	.4	.2
7	.2	.2	.3	.9	.5	.2	22	.2	.2	3.5	5	.4	.2
8	.2	.2	.3	2.5	.5	.2	23	.2	.2	4.2	4.0	.4	.2
9	.2	.2	.3	1.6	.5	.2	24	.2	.2	10	3.5	.4	.2
10	.2	.2	.3	1.6	.5	.2	25	.2	.2	3.7	3.4	.4	.2
11	.2	.2	.3	6.5	.5	.2	26	.2	.2	2.8	3.0	.3	.2
12	.2	.2	.3	34	.5	.2	27	.2	.2	1.5	3.0	.3	.2
13	.2	.2	.3	26	.5	.2	28	.2	.2	1.1	2.0	.2	.2
14	.2	.2	.4	6.5	.5	.2	29	.2	.2		1.5	.2	.2
15	.2	.2	.4	5	.5	.2	30	.2	.2		1.5	.2	.2
							31	.2	.2		1.5		

Daily discharge, in second-feet, of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1918-19							1918-19						
1		0.6	19	5	1.1	0.3	16	0.5	12	51	2.0	0.5	0.2
2		.6	18	4.6	.9	.3	17	.5	9	38	1.9	.5	.2
3		.6	17	4.3	.8	.3	18	.5	6	31	1.9	.3	.2
4		.6	11	4.0	.8	.3	19	.6	5	26	1.7	.3	.2
5		.9	8	3.7	.6	.3	20	1.2	5	26	1.5	.3	.2
6		1.5	8.5	3.4	.6	.3	21	1.9	5	17	1.5	.3	.2
7	0.5	1.5	8.5	3.1	.5	.3	22	1.7	4.8	12	1.5	.3	.2
8	.5	1.5	7	2.6	.5	.3	23	1.5	4.8	10	1.5	.3	.2
9	.5	2.3	5.5	2.5	.5	.3	24	1.2	4.6	7.5	1.5	.3	.2
10	.5	173	5	2.3	.5	.3	25	1.1	2.6	7	1.5	.3	.2
11	.5	238	5	2.2	.5	.3	26	.9	67	6.5	1.5	.3	.2
12	.5	45	5.5	2.0	.5	.3	27	.8	52	6.5	1.5	.3	.2
13	.5	23	128	2.0	.5	.3	28	.6	26	6	1.4	.3	.2
14	.5	19	144	2.0	.5	.3	29	.6		6	1.2	.3	.2
15	.5	19	81	2.0	.5	.3	30	.6		5.5	1.1	.3	.2
							31	.6		5		.3	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Dec.	Jan.	Feb.	Mar.	Apr.
1919-20						1919-20					
1		0.8	0.8	2.2	11	16	0.8	0.8	0.9	4.0	9
2		.8	.8	2.6	10	17	.8	.8	.9	8	6
3		.8	.8	2.3	9.5	18	.8	.8	.9	6.5	5
4		.8	.8	2.0	9	19	.8	.8	.9	5	4.0
5		.8	.8	1.7	8	20	.8	.8	.9	3.6	3.1
6		.8	.8	1.4	7.5	21	.8	.8	.9	2.2	2.2
7		.8	.8	1.2	7	22	.8	.8	.9	59	1.5
8		.8	.8	1.1	6.5	23	.8	.8	.9	36	
9		.8	.8	.9	5.5	24	.8	.8	.9	23	
10		.8	.8	2.5	5	25	.8	.8	.9	21	
11		.8	.9	2.5	4.5	26	.8	.8	.9	29	
12	0.9	.8	.9	2.5	3.9	27	.8	.8	.9	25	
13	1.2	.8	.9	2.2	3.2	28	.8	.8	.9	17	
14	.9	.8	.9	1.9	2.6	29	.8	.8	1.2	12	
15	.8	.8	.9	1.5	2.0	30	.8	.8		12	
						31	.8	.8		11	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1920-21							1920-21						
1		2.2	18	2.0	0.9	0.5	16		2.8	6	2.8	0.9	
2		1.9	12	2.0	.9	.5	17		18	5.5	2.6	.9	
3		1.5	10	2.0	.9	.5	18		106	5	2.5	.9	
4		1.5	8	2.0	.9	.3	19		85	4.6	2.3	.9	
5		1.5	10	2.0	.9	.3	20		55	4.3	2.2	.9	
6		1.5	8	2.0	.9	.2	21		41	4.0	2.0	.9	
7		1.5	6	2.0	.9	.2	22		23	3.9	1.9	.8	
8		1.5	6.5	2.0	.9	.2	23		14	3.6	1.5	.8	
9		1.7	6.5	2.2	.9		24	18	9.5	3.2	1.5	.8	
10		1.9	6.5	2.3	.9		25	22	7	2.9	1.5	.8	
11		2.0	6.5	2.5	.9		26		12	5	2.6	1.4	.6
12		2.2	7	2.6	.9		27		8	4.6	2.3	1.2	.6
13		2.3	7	2.8	.9		28		4.0	4.3	2.0	1.1	.6
14		2.5	7	2.9	.9		29		2.9	4.0		1.1	.6
15		2.6	6.5	2.8	.9		30		2.5	55		1.1	.5
							31		2.4	42		.9	

Daily discharge, in second-feet, of Arroyo Mocha near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1921-22							
1		0.9	7	2.0	9.5	5.5	0.8
2		.9	10	2.0	7	5	.8
3		.9	5	2.5	6	4.6	.8
4		.9	2.9	2.9	5.5	4.2	.8
5		.9	2.6	3.4	5	3.6	.8
6		.9	17	3.2	4.5	3.6	.8
7		.9	26	3.1	3.9	3.6	.8
8		.9	15	14	3.4	3.6	.8
9		.9	9	342	5	3.6	.8
10		.9	6	543	10	3.6	.8
11		.9	4.0	261	6	3.6	.6
12		.9	3.9	75	7	3.6	.6
13		.9	3.6	35	7	3.2	.6
14		.9	3.4	21	5.5	2.9	.6
15		.9	3.1	15	13	2.6	.5
16		.9	2.9	12	29	2.3	.5
17		.9	2.6	12	20	2.0	.5
18		.9	2.3	12	17	1.5	.5
19		.9	2.0	59	17	1.5	.3
20		.9	2.0	95	12	1.4	.3
21		.9	2.0	50	9.5	1.4	.3
22		.9	2.0	34	8	1.2	.3
23		1.2	2.0	24	7.5	1.2	.2
24		5.5	2.0	23	7.5	1.1	.2
25		48	2.0	20	7.5	.9	.2
26		29	2.0	17	7.5	.9	.2
27		36	2.0	15	7	.9	.2
28	0.9	16	2.0	12	7	.9	.2
29	.9	7.5	2.0		7	.9	
30	.9	10	2.0		6	.8	
31		6	2.0		5.5		
1922-23							
1			5	5	2.0	0.5	0.5
2			2.9	4.0	2.0	.9	.5
3			2.0	3.6	2.0	2.0	.5
4			2.0	3.6	2.0	4.2	.5
5			2.0	2.9	2.0	6	.5
6		5	2.0	2.0	1.5	5	.5
7		5	2.0	2.0	1.5	4.0	.5
8		5.5	2.0	2.0	1.4	4.0	.5
9		5.5	.9	2.0	1.4	6	
10	0.5	6	.9	2.5	1.2	9	
11	.5	5	.9	2.9	1.2	7.5	
12	.5	74	.9	24	1.1	6	
13	.5	48	.9	24	1.1	5	
14	.5	24	.9	11	.9	5	
15	.5	11	.9	10	.9	3.6	
16		7	.9	7.5	.8	3.6	
17		7	.9	6	.8	1.2	
18		7	.9	6	.8	1.1	
19		5	.9	4.5	.6	1.1	
20		2.0	.9	4.0	.6	.9	
21		2.0	.9	3.6	.5	.8	
22		2.0	.9	3.6	.5	.6	
23		2.0	12	3.6	.5	.6	
24		2.0	59	3.6	.5	.5	
25		2.0	20	2.9	.5	.5	
26		2.0	13	2.0	.5	.5	
27		.9	9	2.0	.5	.5	
28		6	9	2.0	.5	.5	
29		7	9		.5	.5	
30		5.5	7		.5	.5	
31		5.5	6		.5		

Daily discharge, in second-feet, of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Jan.	Feb.	Day	Jan.	Feb.	Day	Jan.	Feb.
1923-24			1923-24			1923-24		
1		0.9	11		0.9	21		
2		.8	12		.9	22		
3		.8	13			23		
4		.8	14			24		
5		.6	15			25		
6		.8	16			26		
7		.9	17			27		
8		.9	18			28		
9		.9	19			29	0.9	
10		.9	20			30	.9	
						31	.9	

NOTE.—No flow on days for which no discharge is given except as follows: June 17 to July 24, Nov. 18, 21-28, and Dec. 1-14, 1912, and Nov. 25, 1913, flow less than 0.05 second-foot; September, October, and November, 1915, July, August, September, October, and November, 1916, and May and June, 1917, mean monthly discharge estimated; and Jan. 1-3 and 17-26, 1914, for which there was no record. Discharge interpolated Dec. 31, 1920, and Apr. 30, 1922. Discharge estimated Jan. 29 to Feb. 5, 1924.

Monthly discharge of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
January	19	0.3	1.82	112
February	7	.4	.54	31.1
March	23	.4	3.32	204
April	1.5	.3	.54	32.1
May	.7	.2	.38	23.4
June	.2		.08	4.8
July		0	.01	.6
The period				408
1912-13				
November	0.5	0	.07	4.2
December	.6		.24	14.8
January	17	.4	2.71	167
February	.4	.2	.32	17.8
March	1.7	.3	.53	32.6
April	.5	.1	.30	17.9
May	.2	0	.05	3.1
The year	17	0	.35	257
1913-14				
November	.7	0	.06	3.6
December	22	.4	2.55	157
February	700	7.5	64.9	3,600
March	14	.9	3.46	213
April	1.1	.7	.79	47.0
May	.7	.4	.53	32.6
June	.4	.3	.36	21.4
1914-15				
December	30	0	2.47	152
January	126	.6	18.4	1,130
February	508	26	100	5,550
March	32	4.0	9.55	587
April	10	2.7	5.60	333
May	37	2.0	8.99	553
June	2.0	.1	.52	30.9
July	.1	.1	.09	5.5
August	.1	.1	.07	4.3
September			.06	3.6
The year	508	0	11.6	8,350

• Estimated.

Monthly discharge of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1915-16				
October.....			* 0.06	3.7
November.....			*.22	13.1
December.....	22	0	2.52	155
January.....	645	0	111	6,820
February.....	320	15	54.2	3,120
March.....	47	9	18.1	1,110
April.....	9	5	5.93	353
May.....	4.5	1.2	3.13	192
June.....	.9	.5	.70	41.7
July.....			*.19	11.7
August.....			*.06	3.7
September.....			*.06	3.6
The year.....	645	0	16.3	11,800
1916-17				
October.....			*.39	24.0
November.....			*.39	23.2
December.....	22	0.5	3.09	190
January.....	50	.5	3.80	234
February.....	351	.5	39.3	2,180
March.....	14	.9	3.60	227
April.....	1.0	.2	.45	26.8
May.....			*.15	9.2
June.....			*.09	5.4
The year.....	351	0	4.04	2,920
1917-18				
December.....	.2	.2	.22	13.5
January.....	.3	.2	.24	14.8
February.....	10	.3	1.41	78.3
March.....	36	.6	5.99	368
April.....	1.0	.2	.46	27.4
May.....	.2	.2	.19	11.7
The year.....	36	0	0.71	514
1918-19				
January.....	1.9	0	.61	37.5
February.....	238	.6	26.1	1,450
March.....	144	5	23.6	1,450
April.....	5	1.1	2.31	137
May.....	1.1	.3	.46	28.3
June.....	.3	.2	.23	13.7
The year.....	238	0	4.31	3,120
1919-20				
December.....	1.2	0	.51	31.4
January.....	.8	.8	.77	47.3
February.....	1.2	.8	.89	51.2
March.....	59	.9	9.73	598
April.....	11	0	4.20	250
The year.....	59	0	1.35	978
1920-21				
December.....	22	0	2.32	143
January.....	106	1.5	16.3	1,000
February.....	18	2.0	6.28	349
March.....	2.9	.9	2.00	123
April.....	.9	.5	.85	50.6
May.....	.5	0	.08	4.9
The year.....	106	0	2.30	1,670

* Estimated.

Monthly discharge of Arroyo Mocho near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921-22				
November.....	0.9	0	0.09	5.4
December.....	.48	.9	5.80	357
January.....	.26	2.0	4.95	304
February.....	.543	2.0	61.1	3,390
March.....	.29	3.4	8.80	541
April.....	5.5	.8	2.53	151
May.....	.8	0	.46	28.3
The year.....	543	0	6.60	4,780
1922-23				
November.....	.5	0	.11	6.5
December.....	.74	0	8.31	511
January.....	.59	.9	6.01	370
February.....	.24	2.0	5.48	304
March.....	2.0	.5	1.00	61.5
April.....	.9	.5	2.72	162
May.....	.5	0	.12	7.4
The year.....	.74	0	1.96	1,420
1923-24				
January.....	.9	0	.09	5.5
February.....	.9	0	.35	20.1
The year.....	.9	0	.04	25.6

NOTE.—No flow during months for which no discharge is given.

ARROYO LAS POSITAS NEAR LIVERMORE, CALIF.

LOCATION.—At concrete bridge on Hayward-Tracy highway, on Valle de San Jose grant, 2 miles northwest of Livermore, Alameda County.

DRAINAGE AREA.—69.5 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1919; October 1, 1921, to September 30, 1922; October 1, 1923, to September 30, 1924.

GAGE.—Water-stage recorder on right bank just below highway bridge.

DISCHARGE MEASUREMENTS.—Made from highway bridge at gage or by wading.

CHANNEL AND CONTROL.—Gravel and sand; not permanent.

EXTREMES OF DISCHARGE.—1912-1924: Maximum mean daily discharge, 499 second-feet January 17, 1916; stream dry during a part of most years.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliot, chief engineer.

No flow during the year ending September 30, 1924.

Daily discharge, in second-feet, of Arroyo las Positas near Livermore, Calif., for the years ending September 30, 1912-1919 and 1922

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1912									
1	2.3	1.5	0.9	0.4	1.1	0.2	0.1	0.1	0.1
2	2.2	1.5	1.0	.7	.6	.2	.1	.1	.1
3	2.2	1.5	.9	.7	.7	.2	.1	.1	.1
4	2.2	1.5	1.4	.7	.5	.2	.1	.1	.1
5	2.2	1.5	2.2	.7	.5	.2	.1	.1	.1
6	2.2	1.5	3.0	.7	.5	.2	.1	.1	.1
7	2.2	1.5	2.8	.7	.5	.2	.2	.1	.1
8	2.2	1.6	1.8	.7	.5	.2	.1	.1	.1
9	2.2	1.5	1.5	.7	.4	.1	.1	.1	.1
10	2.2	1.5	1.7	1.5	.3	.1	.1	.1	.1
11	2.2	1.4	1.7	1.5	.3	.1	.1	.1	.1
12	2.2	1.4	2.2	1.3	.3	.2	.1	.1	.1
13	2.2	1.4	3.1	.8	.2	.2	.1	.1	.1
14	2.2	1.8	1.7	.8	.2	.1	.1	.1	.1
15	2.2	1.9	1.6	.6	.2	.1	.1	.1	.1
16	2.2	1.7	2.0	.7	.2	.1	.1	.1	.1
17	2.2	1.4	1.9	.7	.2	.1	.1	.1	.1
18	2.2	1.3	1.8	.7	.2	.1	.1	.1	.1
19	2.2	1.2	1.4	.6	.2	.1	.1	.1	.1
20	2.2	1.1	1.4	.6	.2	.1	.1	.1	.1
21	2.2	1.1	1.4	.7	.2	.2	.1	.1	.1
22	2.2	1.0	1.4	.7	.2	.5	.1	.1	.1
23	2.2	1.0	1.4	.6	.2	.6	.1	.1	.1
24	2.2	.9	1.4	.6	.2	.6	.1	.1	.1
25	2.2	.9	1.4	.6	.5	.2	.1	.1	.1
26	4.0	.9	1.4	.7	.2	.2	.1	.1	.1
27	3.6	1.0	1.3	.7	.2	.2	.1	.1	.1
28	2.8	.9	1.5	.7	.2	.2	.1	.1	.1
29	2.3	.9	1.4	.8	.2	.1	.1	.1	.1
30	2.2		1.4	.8	.2	.1	.1	.1	.1
31	2.2		1.1		.2		.1	.1	
Day	Oct.	Noy.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
1912-13									
1	0.1	0.1	0.1	0.3	0.4	0.3	0.3	0.1	
2	.1	.1	.1	.3	.5	.3	.3	.1	
3	.1	.1	.1	.3	.5	.3	.3	.1	
4	.1	.1	.1	.3	.5	.2	.3		
5	.1	.1	.1	.3	.5	.2	.4		
6	.1	.1	.1	.3	.5	.2	.4		
7	.1	.1	.1	.4	.6	.2	.3		
8	.1	.1	.1	.2	.7	.2	.3		
9	.1	.1	.1	.2	.6	.2	.3		
10	.1	.1	.1	.2	.5	.2	.2		
11	.1	.1	.1	.2	.4	.2	.2		
12	.1	.1	.1	.2	.3	.2	.2		
13	.1	.1	.1	.2	.3	.2	.2		
14	.1	.1	.1	.3	.4	.2	.2		
15	.1	.1	.1	.6	.3	.2	.2		
16	.1	.1	.1	1.4	.3	.2	.2		
17	.1	.1	.1	1.0	.2	.2	.2		
18	.1	.1	.1	1.0	.2	.2	.2		
19	.1	.1	.1	.7	.2	.4	.2		
20	.1	.1	.1	.4	.3	.3	.2		
21	.1	.1	.1	.5	.4	1.0	.2		
22	.1	.1	.1	.6	.4	.7	.1		
23	.1	.1	.1	.6	.4	.6	.1		
24	.1	.1	.1	.6	.3	.6	.1		
25	.1	.1	.2	.6	.3	.6	.1		
26	.1	.1	.2	.6	.3	.5	.1		
27	.1	.1	.2	.6	.3	.4	.1		
28	.1	.1	.2	.5	.3	.5	.1		
29	.1	.1	.2	.5		.4	.1		
30	.1	.1	.2	.3		.4	.1		
31	.1		.2	.4		.4			

Daily discharge, in second-feet, of Arroyo las Positas near Livermore, Calif., for the years ending September 30, 1912-1919 and 1922—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1913-14							
1.		7	2.7	1.3	1.0	0.6	0.5
2.		7.5	2.1	1.7	1.0	.6	.5
3.		2.1	1.7	2.1	1.0	.6	.5
4.		1.3	1.3	2.1	1.0	.6	.5
5.		.6	1.3	2.1	1.0	.6	.5
6.		.1	1.0	2.1	1.0	.6	.5
7.		2.1	.6	1.7	.6	.6	.5
8.		2.1	.5	1.3	.6	.6	.5
9.		1.0	.5	1.3	.6	.6	.5
10.		1.0	.5	1.3	.5	.6	.5
11.		1.0	.5	1.0	.6	.6	.5
12.		1.9	.5	1.0	1.3	.6	.5
13.		3.8	.5	1.0	1.3	.6	.5
14.		15	.5	1.0	1.3	.6	.5
15.		3.8	.5	1.0	1.2	.6	.5
16.		2.0	.5	1.0	.6	.6	.5
17.		28	.5	1.0	.6	.6	.5
18.		19	1.0	1.0	.6	.6	.5
19.		3.3	2.9	1.0	.6	.6	.5
20.		2.1	41	1.0	.6	.6	.5
21.		60	25	1.0	.6	.6	.5
22.		81	16	1.0	.6	.6	.5
23.		23	5	1.0	.6	.6	.5
24.		81	2.7	1.0	.6	.6	.5
25.	0.4	205	1.7	1.0	.6	.6	.5
26.		34	1.7	1.0	.6	.6	.5
27.	.9	11	1.7	1.0	.6	.6	.5
28.	1.3	5	1.7	1.0	.6	.6	.5
29.	1.7	2.7		1.0	.6	.6	.5
30.	1.7	2.7		1.0	.6	.6	.5
31.	15	2.7		1.0		.6	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1914-15									
1.	0.4	3.5	26	24	6.5	6.5	0.8	0.4	0.4
2.	.4	3.5	126	14	5.5	6.5	.8	.4	.4
3.	.4	3.5	31	12	5.5	6.5	.8	.4	.4
4.	.4	4.1	16	10	5	6.5	.8	.4	.4
5.	.4	4.1	10	10	4.7	13	.8	.4	.4
6.	.4	6.5	7	10	4.5	10	.8	.4	.4
7.	.4	4.1	56	10	4.3	8	.8	.4	.4
8.	.4	9	50	8	4.1	7.5	.8	.4	.4
9.	.4	7.5	82	8	4.1	7	.8	.4	.4
10.	.4	4.1	84	7	4.1	7.5	.8	.4	.4
11.	.4	4.6	41	7	4.1	11	.8	.4	.4
12.	.4	21	27	7	4.1	14	.8	.4	.4
13.	.4	11	13	7	4.1	9.5	.5	.4	.4
14.	.4	5.5	11	7	4.1	9.5	.5	.4	.4
15.	.4	5.6	11	7	4.1	8	.4	.4	.4
16.	.4	4.3	2.3	6	4.1	8	.4	.4	.4
17.	.4	4.1	26	6	4.1	8	.4	.4	.4
18.	.4	4.1	14	6	4.1	7.5	.3	.4	.4
19.	.4	4.1	7	6	4.1	7	.3	.4	.4
20.	.4	4.1	45	6	4.1	6.5	.3	.4	.4
21.	.4	4.1	16	6	4.1	6.5	.3	.4	.4
22.	.4	3.5	16	5	4.1	6.5	.3	.4	.4
23.	.4	3.5	44	5	4.1	6.5	.3	.4	.4
24.	.4	3.7	67	6	4.1	7	.3	.4	.4
25.	.4	3.8	30	6	4.1	7	.3	.4	.4
26.	.4	2.9	14	6	4.1	7	.3	.4	.4
27.	.4	3.5	9.5	6	4.1	7	.2	.4	.4
28.	.4	4.4	119	10	4.1	7	.2	.4	.4
29.	.4	6.5		8	4.1	7	.2	.4	.4
30.	.4	8		7	4.1	7	.2	.4	.4
31.	.4	20		8		7		.4	.4

Daily discharge, in second-feet, of Arroyo las Positas near Livermore, Calif., for the years ending September 30, 1912-1919 and 1922—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Dec.	Jan.	Feb.	Mar.	Apr.
1915-16						1915-16					
1	0.3	1.0	15	80	8	16	1.0	15	20	12	8
2	.4	1.0	12	34	7	17	1.0	499	20	11	8
3	.3	66	15	18	6	18	1.0	104	20	11	8
4	.4	143	198	20	6	19	1.0	33	20	11	7
5	.3	8	128	94	7	20	1.0	15	20	11	7
6	.4	6	50	25	8	21	1.0	12	20	11	7
7	.3	2.0	37	22	9	22	1.0	8	14	10	6
8	.4	46	32	15	10	23	1.0	48	12	9	6
9	.3	115	25	12	11	24	1.0	89	12	9	6
10	1.0	336	23	12	12	25	1.0	333	10	8	6
11	2.0	44	23	12	12	26	1.0	15	10	8	6
12	1.0	3.0	23	12	11	27	1.0	252	30	7	6
13	2.0	3.0	23	12	10	28	1.0	101	23	7	6
14	33	332	20	12	9	29	1.0	180	15	7	6
15	2.0	63	20	12	9	30	1.0	47	7	7	6
						31	1.0	23	7	7	6

Day	Jan.	Feb.	Day	Jan.	Feb.	Day	Jan.	Feb.
1916-17			1916-17			1916-17		
1	2.0	0.9	11	0.9	0.9	21	0.9	33
2	2.0	.9	12	.9	.9	22	.9	3.9
3	12	.9	13	1.1	.9	23	.9	3.9
4	7.5	.9	14	1.1	.8	24	.9	6
5	4.6	.9	15	1.2	.8	25	.9	6
6	1.5	.9	16	1.5	.8	26	.9	14
7	1.5	.9	17	1.4	.8	27	.9	6
8	1.2	.9	18	1.1	.8	28	.9	1.5
9	.8	.9	19	.9	1.5	29	.9	
10	.8	.9	20	.9	4.0	30	.9	
						31	.9	

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1917-18							1917-18						
1	0.4	0.4	0.4	0.5	0.5	0.2	16	0.4	0.4	0.5	0.5	0.3	0.1
2	.4	.4	.3	.5	.5	.2	17	.4	.4	.7	.5	.3	.1
3	.4	.4	.3	.6	.5	.2	18	.4	.4	.5	3.3	.2	.1
4	.4	.4	.3	.6	.4	.2	19	.4	.4	.7	25	.2	.1
5	.4	.4	.5	.6	.4	.2	20	.4	.4	.7	5	.2	.1
6	.4	.4	.5	.6	.4	.2	21	.4	.4	.9	1.5	.2	
7	.4	.4	.5	.7	.4	.2	22	.4	.4	.9	1.4	.2	
8	.4	.4	.5	.6	.4	.2	23	.4	.4	.9	1.2	.2	
9	.4	.4	.5	.5	.4	.2	24	.4	.4	.9	1.1	.2	
10	.4	.4	.4	1.5	.4	.2	25	.4	.4	.7	1.0	.2	
11	.4	.4	.4	.9	.3	.2	26	.4	.4	.5	.8	.2	
12	.4	.4	.4	2.3	.3	.1	27	.4	.4	.4	.6	.3	
13	.4	.4	.4	1.5	.3	.1	28	.4	.4	.4	.5	.2	
14	.4	.4	.4	.6	.3	.1	29	.4	.4	.4	.5	.2	
15	.4	.4	.4	.6	.3	.1	30	.4	.4	.4	.5	.2	
							31	.4	.4	.4	.5		

Day	Jan.	Feb.	Mar.	Day	Jan.	Feb.	Mar.	Day	Jan.	Feb.	Mar.
1918-19								1918-19			
1			21	11		89	0.5	21	1.5	0.9	0.8
2		0.5	18	12		15	.5	22	.9	.9	.6
3		.9	17	13		6	31	23		.9	.6
4		.9	2.0	14		1.5	166	24		.9	.5
5		.9	.9	15		.9	29	25		.9	.5
6		.9	.9	16		.9	2.0	26		52	.5
7		.9	.9	17		.9	1.2	27		30	.5
8		.9	.8	18	0.9	.9	1.1	28		21	.5
9		2.5	.8	19	9.5	.9	.9	29			.6
10		54	.6	20	5.5	.9	.8	30			.5
								31			.5

Daily discharge, in second-feet, of Arroyo las Positas near Livermore, Calif., for the years ending September 30, 1912-1919 and 1922—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Dec.	Jan.	Feb.	Mar.	Apr.
1921-22						1921-22					
1.....		14	0.2	1.5	0.5	16.....		.2	2.5	2.5	0.5
2.....		16	.2	.5	.5	17.....		.2	2.5	1.9	.5
3.....		4.0	.2	.5	.5	18.....		.2	2.5	.9	.5
4.....		.2	.2	.5	.5	19.....		.2	105	.9	.5
5.....		.2	.2	.5	.5	20.....		.2	75	.9	
6.....		47	.2	.5	.5	21.....	0.2	.2	16	.5	
7.....		27	.2	.5	.5	22.....	.2	.2	5	.5	
8.....		8.5	.2	.5	.5	23.....	.2	.2	1.5	.5	
9.....		.8	28	.5	.5	24.....	1.2	.2	1.5	.5	
10.....		.2	147	.5	.5	25.....	.9	.2	1.5	.5	
11.....		.2	121	9.5	.5	26.....	.9	.2	1.5	.5	
12.....		.2	11	2.3	.5	27.....	6	.2	3.1	.5	
13.....		.2	3.6	.9	.5	28.....	.5	.2	2.2	.5	
14.....		.2	2.9	.5	.5	29.....	.2	.2		.5	
15.....		.2	2.5	.5	.5	30.....	.5	.2		.5	
						31.....	.5	.2		.5	

NOTE.—No flow for year ending Sept. 30, 1924, for days for which no discharge is given except Oct. 1, 1919, to Sept. 30, 1921, for which there was no record, and for the following periods for which discharge was estimated to complete the monthly computations: May 4-21, 1913; September to November, 1915; May to December, 1916; March to June, 1917; May 21-31, 1918; and April, 1919.

Monthly discharge of Arroyo las Positas near Livermore, Calif., for the years ending September 30, 1912-1919 and 1922

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
January.....	4.0	2.2	2.33	143
February.....	1.9	.9	1.32	75.9
March.....	3.1	.9	1.65	101
April.....	1.5	.4	.76	45.2
May.....	1.1	.2	.35	21.5
June.....	.6	.1	.18	10.7
July.....	.2	.1	.13	8.0
August.....	.1	.1	.09	5.5
September.....	.1	.1	.10	6.0
The period.....				417
1912-13				
October.....	.1	.1	.08	4.9
November.....	.1	.1	.11	6.5
December.....	.2	.1	.15	9.2
January.....	1.4	.2	.46	28.3
February.....	.7	.2	.39	21.7
March.....	1.0	.2	.35	21.5
April.....	.4	.1	.19	11.3
May.....	.1	0	.02	1.2
The year.....	1.4	0	.14	105
1913-14				
December.....	15	0	0.69	42.4
January.....	205	.1	19.8	1,220
February.....	41	.5	4.15	230
March.....	2.1	1.0	1.22	75.0
April.....	1.3	.5	.76	45.2
May.....	.6	.6	.61	37.5
June.....	.5	.5	.45	26.8
The year.....	205	0	2.31	1,680

* Estimated.

Monthly discharge of Arroyo las Positas near Livermore, Calif., for the years ending September 30, 1912-1919 and 1922—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1914-15				
December	0.4	0.4	0.40	24.6
January	21	3.5	5.89	362
February	126	2.3	35.5	1,970
March	24	5	8.13	500
April	6.5	4.1	4.33	258
May	14	6.5	7.87	484
June	.8	.2	.51	30.3
July	.4	.4	.38	23.4
August	.4	.4	.40	24.6
September			.39	23.2
The year	126	0	5.11	3,700
1915-16				
October			.37	22.8
November			.36	21.4
December	33	.3	1.93	119
January	499	1.0	88.4	5,440
February	198	10	30.7	1,770
March	94	7	17.3	1,060
April	12	6	7.80	464
May			2.00	123
June			1.01	60.1
July			1.50	92.2
August			1.09	67.0
September			.94	55.9
The year	499		12.8	9,300
1916-17				
October			.94	57.8
November			.97	57.7
December			1.50	92.2
January	12	.8	1.79	110
February	33	.8	3.42	190
March			1.55	95.3
April			.77	45.8
May			.46	28.3
June			.15	8.9
The year	33	0	0.95	686
1917-18				
December	.4	.4	.35	21.5
January	.4	.4	.40	24.6
February	.9	.3	.52	28.9
March	25	.5	1.83	113
April	.5	.2	.31	18.4
May	.2		.11	6.8
The year	25	0	.29	213
1918-19				
January	9.5	0	.60	36.9
February	89	0	10.3	572
March	166	.5	9.74	599
April			.46	27.4
The year	166	0	1.71	1,240
1921-22				
December	6	0	.36	22.1
January	47	.2	3.89	239
February	147	.2	19.1	1,060
March	9.5	.5	1.02	62.7
April	.5	0	.29	17.3
The year	147	0	1.94	1,400

* Estimated.

NOTE.—No flow during months for which no discharge is given. No flow during the year ending September 30, 1924.

ARROYO DEL VALLE NEAR LIVERMORE, CALIF.

LOCATION.—At Cresta Blanca winery, 600 feet below highway bridge, on Valle de San Jose grant, $4\frac{1}{2}$ miles south of Livermore, Alameda County.

DRAINAGE AREA.—149 square miles (measured by Spring Valley Water Co.).

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on right bank 600 feet below highway bridge.

Previous to November, 1914, gage was at highway bridge.

DISCHARGE MEASUREMENTS.—Made from suspension gaging bridge just below gage or by wading.

CHANNEL AND CONTROL.—Gravel; not permanent.

EXTREMES OF DISCHARGE.—1912-1924: Maximum mean daily discharge recorded, 5,930 second-feet January 25, 1914; stream dry during a part of each year.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Station maintained and daily discharge and monthly totals in million gallons furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer.

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1912									
1.....	5.5	7.5	3.1	5.5	6.5	2.6	0.5	0.1	0.2
2.....	4.8	6.5	3.1	5	6.5	1.4	.5	.1	.2
3.....	4.7	5.5	3.3	5	4.9	1.0	.5	.1	.2
4.....	5	5	3.2	4.6	4.9	.7	.5	.1	.2
5.....	4.8	5	3.6	4.0	4.2	.6	.5	.1	.2
6.....	3.8	3.7	6.5	3.5	3.2	.5	.5	.1	.2
7.....	4.0	4.9	19	3.5	3.0	.5	.4	.1	.2
8.....	4.4	4.2	14	3.6	2.8	.5	.4	.1	.1
9.....	3.6	4.4	12	4.5	2.7	1.7	.4	.1	.1
10.....	4.1	4.5	8.5	5.5	2.7	2.2	.4	.1	.1
11.....	5	4.3	7	9	2.6	3.0	.4	.1	.1
12.....	4.8	4.1	11	10	2.4	2.4	.3	.1	.1
13.....	4.6	4.1	147	11	2.3	1.9	.3	.1	.1
14.....	4.0	4.3	84	9	2.3	1.9	.2	.1	.1
15.....	3.8	4.0	6.1	10	2.3	1.5	.4	.1	.1
16.....	3.8	4.2	84	5.5	2.3	1.2	.4	.1	.1
17.....	4.2	4.0	5	4.5	2.2	.9	.4	.1	.1
18.....	4.0	3.9	27	4.5	1.9	.8	.4	.2	.1
19.....	3.8	3.9	19	4.1	2.7	.7	.4	.2	.1
20.....	3.7	3.7	15	3.5	2.9	.7	.4	.2	.1
21.....	3.5	3.6	13	3.8	3.1	.3	.2	.2	.1
22.....	3.5	3.5	12	4.3	2.7	.3	.2	.2	-----
23.....	3.5	3.3	10	4.3	2.6	.3	.2	.2	-----
24.....	3.5	3.2	9.5	4.0	2.6	.4	.2	.2	-----
25.....	4.0	3.0	8	3.8	2.6	.5	.2	.2	-----
26.....	13	3.1	8	4.0	2.6	.4	.2	.2	-----
27.....	39	3.1	8	4.3	2.4	.3	.2	.2	-----
28.....	27	3.1	7	4.3	2.4	.3	.2	.2	-----
29.....	15	3.1	6	4.6	2.4	.3	.2	.2	-----
30.....	11	-----	6	5	2.6	.5	.2	.2	-----
31.....	9	-----	5.5	-----	2.6	-----	.2	.2	-----

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1912-13									
1		0.2	0.2	4.0	3.4	7.5	2.2	1.6	0.7
2		.2	.2	4.0	3.4	8.5	2.2	1.6	.4
3		.2	.2	4.0	3.4	5.5	2.2	1.6	.4
4	0.1	.2	.2	4.0	3.4	5.5	2.2	1.3	.4
5	.1	.2	.2	4.0	3.4	5.5	2.2	1.0	.4
6	.1	.2	.2	4.0	3.4	5.5	2.2	1.0	.4
7	.1	.2	.2	4.0	3.4	5.5	2.2	1.0	.3
8	.1	.2	.2	4.0	3.4	5.5	2.2	1.0	.3
9	.1	.2	.2	3.4	3.4	5.5	2.2	1.0	.3
10	.1	.2	.2	3.4	3.4	4.3	2.2	1.0	.3
11	.1	.2	.1	3.4	3.4	4.0	2.2	1.0	.3
12	.1	.2	.1	3.4	3.4	4.8	2.6	1.0	.2
13	.2	.2	.1	3.4	3.4	5.5	2.0	1.0	.1
14	.2	.2	.1	3.4	3.4	3.4	1.6	1.0	.2
15	.2	.2	.3	3.4	3.4	3.4	1.6	1.0	.2
16	.2	.2	.4	3.4	3.4	3.4	1.6	1.0	.2
17	.2	.2	1.0	3.4	3.4	3.4	1.6	1.0	.2
18	.2	.2	.49	3.4	4.0	3.4	1.6	1.0	.1
19	.2	.2	231	3.4	4.0	2.9	1.6	1.0	.1
20	.2	.2	2.6	3.4	4.0	2.8	1.0	1.0	.2
21	.2	.2	3.4	3.4	4.0	2.8	1.0	1.0	.2
22	.2	.2	15	3.4	4.3	2.8	1.0	1.0	.2
23	.2	.2	8.5	3.4	7	2.8	1.6	1.0	.3
24	.2	.2	8.5	3.4	9	2.5	1.6	1.0	.2
25	.2	.2	7	3.4	12	3.6	1.6	1.0	.3
26	.2	.2	7	3.4	12	2.8	1.6	1.0	.3
27	.2	.2	7	3.4	10	2.5	1.6	1.0	.2
28	.2	.2	7	3.4	10	2.2	1.6	1.0	.3
29	.2	.2	4.0		8.5	2.2	1.6	1.0	
30	.2	.2	5.5		8.5	2.2	1.6	.7	
31		.2	4.0		8.5		1.6		

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1913-14							
1		1,490	105	148	25	14	6.5
2		465	85	125	25	13	6
3		515	85	105	25	12	6
4		182	61	85	36	12	5.5
5		115	54	75	40	12	5.5
6			54	47	67	32	12
7			40	42	54	32	11
8			36	36	40	29	11
9			29	34	40	29	10
10			36	32	36	29	10
11			33	29	32	25	10
12			48	26	28	25	10
13			635	25	25	25	10
14			1,050	21	21	25	9.5
15			628	25	19	21	9.5
16			328	26	19	21	9
17			1,900	26	19	19	9
18			1,610	106	17	19	9
19			712	1,200	17	14	9
20			423	3,730	17	14	9
21			338	1,960	14	14	9
22			1,989	1,360	14	14	9
23			980	870	14	14	9
24			2,240	504	14	17	9
25			5,930	423	14	17	9
26			30	2,010	318	17	8.5
27			19	1,170	220	17	8.5
28			17	571	171	32	16
29			18	391		40	15
30			64	257		36	14
31			2,570	180		29	

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1914-15									
1.....		7	835	181	115	29	19	3.5	0.8
2.....		7	2,150	155	90	26	17	3.3	.8
3.....		8.5	1,360	132	77	32	18	3.2	.3
4.....		10	563	118	61	40	15	3.1	.2
5.....		12	298	104	48	170	14	2.9	.2
6.....		20	184	91	43	101	13	2.6	.2
7.....		34	115	84	48	76	12	2.6	.2
8.....		72	812	79	51	52	11	2.3	.2
9.....		116	1,680	70	48	38	10	2.2	.2
10.....		54	1,170	63	39	49	10	2.0	.2
11.....		40	665	63	31	69	9	1.9	.2
12.....		99	375	59	29	108	8	1.7	.2
13.....		72	285	55	28	83	7.5	1.5	.2
14.....		140	205	53	27	63	7	1.4	.2
15.....		82	156	51	26	52	7	1.2	.2
16.....		49	141	48	24	41	7	1.1	.2
17.....		36	399	45	19	57	6.5	1.1	.2
18.....	50	29	405	40	19	119	6	.9	.1
19.....	52	25	288	34	24	86	6	.8	.1
20.....	35	21	268	31	30	72	5.5	.6	.1
21.....	27	17	262	29	27	62	5.5	.6	.1
22.....	22	16	289	29	29	57	5	.6	.1
23.....	20	15	376	31	24	49	5	.5	.1
24.....	15	13	356	32	24	44	4.8	.5	.1
25.....	11	18	323	30	24	40	4.7	.5	.1
26.....	9	26	244	28	22	37	4.6	.5	.1
27.....	8	28	218	28	21	33	4.6	.5	.1
28.....	7.5	43	196	64	20	30	4.5	.4	.1
29.....	6.5	755		148	19	28	4.4	.3	.1
30.....	5.5	759		112	24	26	4.3	.3	.1
31.....	6.5	755		129		24		.3	.1
1915-16									
1.....			7.5	331	156	40	15		6
2.....			9	313	204	40	15		6
3.....			2,700	412	150	37	14		6
4.....			1,280	958	142	36	14		6
5.....			296	1,620	237	33	14		6
6.....			207	693	186	30	14		6
7.....			141	419	158	28	12		6
8.....			170	325	135	27	12		6
9.....			628	268	113	27	12		4.6
10.....			1,320	204	107	27	11		4.6
11.....			515	184	94	25	11		4.6
12.....			288	169	84	25	11		4.6
13.....		63	224	142	70	24	11		4.6
14.....		266	993	127	71	24	11		4.6
15.....		68	766	121	73	24	9.5		4.6
16.....		36	255	113	73	23	9.5		4.6
17.....		25	1,530	107	71	23	9.5		4.6
18.....		17	1,000	101	70	22	9.5		4.6
19.....		15	525	94	70	22	9.5		4.6
20.....		14	357	91	70	22	9.5		4.6
21.....		11	241	101	67	21	7.5		4.6
22.....		9.5	184	118	65	20	7.5		4.6
23.....		9.5	181	101	62	20	7.5		4.6
24.....		7.5	467	87	60	19	7.5		4.6
25.....		7.5	753	85	59	18	7.5		4.6
26.....		7.5	416	85	53	18	7.5		4.6
27.....		7.5	1,010	94	50	18	7.5		4.6
28.....		7.5	1,400	104	46	18	6		3.1
29.....		6	797	101	45	18	6		3.1
30.....		6	498		43	17	6		3.1
31.....		6	378		42		6		

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1916-17							
1.....		38	6.5	132	13	6	2.9
2.....		94	6.5	97	13	6	2.8
3.....		373	6	82	13	6	2.6
4.....		147	6	67	13	6	2.3
5.....		92	6	54	13	6	2.0
6.....		65	6	49	13	6	2.0
7.....		55	6	43	12	6	2.0
8.....		42	6	37	12	5	2.0
9.....		23	6	49	12	5	2.0
10.....		20	6	62	12	5	2.0
11.....		19	6	54	12	5	2.0
12.....		17	6	46	11	5	1.9
13.....		15	5.5	36	10	5	1.7
14.....		13	5.5	56	10	5	1.5
15.....		12	5	48	10	4.0	1.5
16.....		9	5	42	10	4.0	1.4
17.....		8	5	37	10	4.0	1.3
18.....		8	5	32	10	4.0	1.2
19.....		8	5	30	10	4.0	1.2
20.....		8	64	28	10	4.0	1.1
21.....		7.5	1,910	26	9.5	4.0	1.0
22.....		7.5	1,380	24	8.5	2.9	.9
23.....		7.5	390	22	8	2.9	.8
24.....	353	7.5	689	20	8	2.9	.7
25.....	90	7	2,440	19	8	2.9	.6
26.....	63	7	709	17	8	2.9	.5
27.....	46	7	313	16	8	2.9	.5
28.....	30	7	201	16	8	2.9	.4
29.....	30	6.5		16	8	2.9	.3
30.....	30	6.5		16	7.5	2.9	
31.....	30	6.5		16		2.9	

Day	Feb.	Mar.	Apr.	May	Day	Feb.	Mar.	Apr.	May
1917-18					1917-18				
1.....		7	9	1.5	16.....		33	3.3	1.2
2.....		6	8	1.5	17.....		23	2.4	1.1
3.....		6	7.5	1.5	18.....		23	2.7	1.1
4.....		6	6.5	1.5	19.....		103	2.6	1.1
5.....		5.5	6	1.5	20.....		168	2.4	1.1
6.....		5.5	6	1.3	21.....		79	2.1	1.1
7.....		5	6	1.3	22.....	14	46	1.7	1.1
8.....		5	5.5	1.3	23.....	17	33	1.5	1.0
9.....		5	5	1.3	24.....	41	28	1.5	1.0
10.....		6	4.8	1.3	25.....	37	20	1.5	1.0
11.....		37	4.5	1.3	26.....	16	15	1.5	1.0
12.....		200	4.8	1.2	27.....	10	13	1.5	1.0
13.....		240	3.9	1.2	28.....	7.5	12	1.5	1.0
14.....		100	3.6	1.2	29.....		10	1.5	1.0
15.....		51	3.4	1.2	30.....		8	1.5	1.0
					31.....		8		1.0

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1918-19							
1.....		3.9	5.5	137	27	12	3.9
2.....		3.9	5.5	108	26	12	3.1
3.....		3.9	5.5	135	25	11	2.3
4.....		3.9	5	87	24	11	1.6
5.....		3.9	5.5	65	23	11	.8
6.....		3.9	6	63	22	11	.5
7.....		3.9	6.5	104	22	11	
8.....		3.9	7	65	21	10	
9.....		3.9	21	48	20	10	
10.....		3.9	1,650	38	20	10	
11.....		3.9	2,440	35	19	10	
12.....		3.9	503	34	19	10	
13.....		3.9	201	150	19	10	
14.....		3.9	130	525	18	10	
15.....		3.9	100	556	18	10	
16.....	8	3.9	63	364	17	10	
17.....	8	3.9	54	242	17	9.5	
18.....	8	3.9	52	190	16	9.5	
19.....	8	4.3	48	142	16	9.5	
20.....	8	15	40	111	15	9.5	
21.....	11	33	34	77	15	9.5	
22.....	14	21	33	65	15	9	
23.....	12	15	38	59	15	8.5	
24.....	11	13	39	47	14	8.5	
25.....	11	11	35	45	14	8	
26.....	9	10	566	42	14	7.5	
27.....	6	8	402	39	13	7.5	
28.....	5	7.5	200	36	13	7	
29.....	4.3	6.5		33	13	6	
30.....	3.9	6		31	12	5.5	
31.....	3.9	6		28		4.6	

Day	Mar.	Apr.	May	Day	Mar.	Apr.	May	Day	Mar.	Apr.	May
1919-20				1919-20				1919-20			
1.....		26	5.5	11.....	9.5	12	3.4	21.....	48	14	1.5
2.....	12	22	5.5	12.....	7.5	11	3.1	22.....	249	11	1.4
3.....	17	19	5	13.....	7	9.5	2.9	23.....	161	9.5	1.2
4.....	14	17	5	14.....	6	7.5	2.8	24.....	86	8	1.1
5.....	11	16	4.6	15.....	4.8	19	2.6	25.....	62	7	.9
6.....	10	15	4.5	16.....	22	173	2.5	26.....	100	6.5	.8
7.....	9.5	15	4.3	17.....	39	68	2.2	27.....	86	6	.6
8.....	8.5	14	4.0	18.....	29	35	2.0	28.....	62	6	.5
9.....	8.5	13	3.9	19.....	23	26	1.9	29.....	50	6	.3
10.....	11	12	3.7	20.....	20	20	1.7	30.....	39	6	.2
								31.....	31		

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1920-21							
1.....		12	166	19	7.5	3.2	3.1
2.....		10	89	19	7.5	3.1	3.1
3.....		9	53	18	7	2.9	2.9
4.....		8	39	17	7	2.9	2.9
5.....		7	75	16	7	2.8	2.8
6.....		7	56	15	6.5	2.8	2.6
7.....		5	44	14	6.5	2.6	2.3
8.....		5	36	11	6.5	2.6	2.0
9.....		5	31	10	6	2.5	1.7
10.....		4.0	26	10	6	2.5	1.4
11.....		4.0	25	9	6	2.3	1.1
12.....		2.9	25	10	6	2.3	.8
13.....		2.9	25	13	6	2.2	.6
14.....		2.0	26	19	6	2.2	.5
15.....		2.0	36	18	6	2.0	-----
16.....		2.0	33	16	6	2.0	-----
17.....		56	33	15	6	2.0	-----
18.....		808	37	14	6	2.0	-----
19.....		763	35	13	5.5	2.0	-----
20.....		424	30	11	5	4.0	-----
21.....		26	246	43	10	4.6	3.7
22.....		35	129	47	11	4.5	3.6
23.....		35	72	46	15	4.0	3.6
24.....		237	54	31	15	3.9	3.6
25.....		91	48	28	14	3.7	3.6
26.....		39	39	25	12	3.6	3.4
27.....		24	42	21	9.5	3.6	3.4
28.....		19	63	20	8.5	3.4	3.4
29.....		15	49	-----	8	3.4	3.2
30.....		14	550	8	3.2	3.2	3.2
31.....		13	317	8	-----	3.2	-----
Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1921-22							
1.....		67	4.6	80	55	10	2.3
2.....		96	6	67	43	9.5	2.3
3.....		68	6	61	36	9.5	2.2
4.....		52	6.5	57	34	9	2.2
5.....		46	7.5	62	31	8.5	2.2
6.....		67	14	50	28	8	2.2
7.....		151	23	47	26	7.5	2.2
8.....		93	36	38	26	7.5	2.0
9.....		44	1,940	34	24	7	1.9
10.....		28	3,320	34	22	6.5	1.9
11.....		19	2,180	72	21	6.5	1.5
12.....		15	802	76	23	6	1.2
13.....		12	413	134	29	6	.9
14.....		10	254	146	24	5.5	.8
15.....		10	166	117	20	5.5	.8
16.....		9	131	130	19	5	.8
17.....		7	112	101	17	5	.6
18.....		6	133	71	16	4.8	.6
19.....		5	273	58	16	4.6	.5
20.....		4.8	749	52	15	4.3	.5
21.....		4.6	489	49	14	4.2	.5
22.....		4.5	471	45	13	4.0	.5
23.....		4.3	231	40	12	3.9	.3
24.....		4.2	168	37	12	3.9	.3
25.....		274	4.0	153	33	12	3.7
26.....		289	4.0	121	28	11	3.6
27.....		448	4.0	122	26	11	3.2
28.....		258	4.0	104	27	11	2.9
29.....		110	4.0	-----	35	10	2.6
30.....		94	4.0	-----	39	10	2.3
31.....		67	4.3	49	-----	2.3	-----

Daily discharge, in second-feet, of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1922-23							
1		58	72	17	8	7	1.1
2		47	60	16	13	6.5	1.1
3		33	50	15	26	6	1.1
4		31	44	14	24	5.5	.9
5		28	40	13	55	5	.9
6		23	37	13	84	4.8	.8
7		20	31	13	67	4.3	.6
8		19	31	12	51	3.9	.6
9		17	28	11	42	3.6	.5
10		76	13	26	11	47	3.4
11		97	12	38	11	46	3.1
12	541	9.5	126	10	38	2.9	
13	770	6	226	10	31	2.8	
14	267	6	129	10	26	2.6	
15	129	6	102	10	23	2.3	
16	72	6.5	88	10	18	2.3	
17	135	8.5	74	10	15	2.3	
18	97	8.5	68	10	15	2.3	
19	70	8.5	62	8.5	14	2.3	
20	47	8.5	56	8	13	2.5	
21	34	8.5	46	6.5	13	2.5	
22	28	8.5	40	6	13	2.8	
23	26	96	38	6	11	2.6	
24	25	431	32	5.5	11	2.3	
25	24	448	30	5.5	10	2.2	
26	24	185	25	5	9.5	2.0	
27	24	117	22	4.8	9	1.7	
28	97	102	19	4.5	8.5	1.5	
29	80	86		4.0	7.5	1.4	
30	53	94		4.0	7	1.2	
31	52	82		4.0		1.1	

Day	May	Day	May	Day	May
1923-24					
1		11		21	0.2
2		12		22	.2
3		13		23	.2
4		14		24	.2
5		15		25	.2
6		16	0.5	26	.2
7		17	.5	27	
8		18	.3	28	
9		19	.2	29	
10		20	.2	30	
				31	

NOTE.—No flow on days for which no discharge is given except Sept. 22 to Nov. 3, 1912, for which discharge was less than 0.05 second-foot, and September, October, and November, 1915, for which mean monthly discharge was estimated. Discharge measured over weir May 16, 19, and 26, 1924. Discharge interpolated May 17-18 and 20-25, 1924.

ALAMEDA CREEK BASIN

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Monthly discharge of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
January.....	39	3.5	7.08	435
February.....	7.5	3.0	4.18	240
March.....	147	3.1	20.3	1,250
April.....	11	3.5	5.27	314
May.....	6.5	1.9	3.01	185
June.....	3.0	.3	1.01	60.1
July.....	.5	.2	.35	21.5
August.....	.2	.1	.17	10.5
September.....	.2		.11	6.5
The period.....	147			2,520
1912-13				
October.....			.05	3.1
November.....	0.2		.16	9.5
December.....	.2	.2	.19	11.7
January.....	231	.1	11.7	719
February.....	4.0	3.4	3.58	199
March.....	12	3.4	5.29	325
April.....	8.5	2.2	4.08	243
May.....	2.6	1.6	1.81	111
June.....	1.6	.7	1.10	65.5
July.....	.7	0	.26	16.0
The year.....	231	0	2.35	1,700
1913-14				
December.....	2,570	0	88.6	5,450
January.....	5,930	29	851	52,300
February.....	3,730	21	415	23,000
March.....	148	14	40.0	2,460
April.....	40	14	22.1	1,320
May.....	14	6.5	9.64	593
June.....	6.5	2.6	4.16	243
The year.....	5,930	0	118	85,400
1914-15				
December.....	52	0	8.90	547
January.....	759	7	109	6,700
February.....	2,150	115	522	29,000
March.....	181	28	71.5	4,400
April.....	115	19	37.2	2,210
May.....	170	24	57.9	3,560
June.....	19	4.3	8.55	509
July.....	3.5	.3	1.45	89.2
August.....	.3	.1	.14	8.6
September.....			.06	3.6
The year.....	2,150	0	64.9	47,000
1915-16				
October.....			.03	1.8
November.....			.003	.2
December.....	266	0	19.1	1,170
January.....	2,700	7.5	630	33,700
February.....	1,620	85	264	15,200
March.....	237	42	94.3	5,800
April.....	40	17	24.8	1,480
May.....	15	6	10.1	621
June.....	6	3.1	4.90	292
The year.....	2,700	0	87.2	63,300
1916-17				
December.....	353	0	21.7	1,330
January.....	373	6.5	36.9	2,270
February.....	2,440	5	293	16,300
March.....	132	16	41.6	2,560
April.....	13	7.5	10.4	619
May.....	6	2.9	4.34	267
June.....	2.9	0	1.44	85.7
The year.....	2,440	0	32.3	23,400

• Estimated.

Monthly discharge of Arroyo del Valle near Livermore, Calif., for the years ending September 30, 1912-1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1917-18				
February	41	0	5.10	283
March	240	5	42.1	2,590
April	9	1.5	3.78	225
May	1.5	1.0	1.19	73.2
The year	240	0	4.38	3,170
1918-19				
December	14	0	4.19	258
January	33	3.9	7.30	449
February	2,440	5	239	13,300
March	556	28	120	7,380
April	27	12	18.1	1,080
May	12	4.6	9.33	574
June	3.9	0	.40	23.8
The year	2,440	0	31.8	23,100
1919-20				
March	249	0	40.1	2,470
April	173	6	21.0	1,250
May	5.5	0	2.57	158
The year	249	0	5.34	3,880
1920-21				
December	237	0	17.7	1,090
January	808	2.0	121	7,440
February	166	20	42.2	2,340
March	19	8	13.1	806
April	7.5	3.2	5.47	325
May	4.0	2.0	2.87	176
June	3.1	0	.93	55.3
The year	808	0	16.9	12,200
1921-22				
December	448	0	49.7	3,060
January	151	4.0	27.6	1,700
February	3,320	4.6	444	24,700
March	146	25	61.3	3,770
April	55	10	21.4	1,270
May	10	2.3	5.55	341
June	2.3	0	1.04	61.9
The year	3,320	0	48.1	34,900
1922-23				
December	770	0	89.3	5,490
January	448	6	65.4	4,020
February	226	19	58.6	3,250
March	17	4.0	9.29	571
April	84	7	25.2	1,500
May	7	1.1	3.11	191
June	1.1	0	.28	16.7
The year	770	0	20.8	15,000
1923-24				
May	0.5	0	0.08	4.9
The year	.5	0	.0007	4.9

NOTE.—No flow during months for which no discharge is given.

SPRING VALLEY WATER CO.'S AQUEDUCT NEAR SUNOL, CALIF.

LOCATION.—In sec. 12, T. 4 S., R. 1 W., at Brightside weirs, $2\frac{1}{2}$ miles west of Sunol, Alameda County.

RECORDS AVAILABLE.—April 6, 1903, to September 30, 1924.

GAGE.—Water-stage recorder in pool above the weirs.

DISCHARGE.—Computed from gage-height record showing head over four rectangular bronze weirs, each having a 30-inch crest.

EXTREMES OF DISCHARGE.—1903-1924: Maximum mean daily discharge reported, 47 second-feet March 21, 1914.

ACCURACY.—The weirs were very carefully installed and much care is exercised in their maintenance. There is no velocity of approach.

COOPERATION.—Records showing million gallons per day furnished by Spring Valley Water Co. through G. A. M. Elliott, chief engineer. Daily discharge converted into second-feet and monthly discharge computed by engineers of United States Geological Survey.

Spring Valley Water Co.'s aqueduct diverts from Alameda Creek by pumping and infiltration at the water temple at Sunol. Water is stored in reservoirs in San Francisco County and used for public purposes in San Francisco.

Daily discharge, in second-feet, of Spring Valley Water Co.'s aqueduct near Sunol, Calif., for the year ending September 30, 1924

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		33	35	34	34	34	33	33	32	33	27
2.....		33	35	32	33	34	33	33	33	33	33
3.....		32	35	32	33	34	33	34	32	33	33
4.....		32	34	33	33	34	33	34	34	33	34
5.....		32	34	32	33	35	33	33	32	33	33
6.....		32	34	33	33	34	30	34	33	33	33
7.....		32	34	33	33	34	33	35	32	33	33
8.....		32	34	33	32	33	33	33	34	33	33
9.....	33	33	34	32	33	34	34	34	33	15	33
10.....		33	34	33	34	33	33	34	35	13	33
11.....		34	34	34	33	30	34	32	33	33	33
12.....		34	34	20	33	33	33	33	34	33	33
13.....		34	34	28	33	34	34	32	33	32	35
14.....		34	34	32	33	33	34	34	33	34	31
15.....		34	34	32	32	33	33	34	33	33	29
16.....		34	34	32	34	33	33	34	33	33	32
17.....	33	34	34	32	33	33	33	33	34	33	33
18.....	33	33	34	31	32	34	32	34	33	33	33
19.....	32	33	34	31	32	33	32	32	33	25	33
20.....	32	33	34	31	32	33	33	30	34	32	29
21.....	32	33	34	33	32	32	32	29	33	33	33
22.....	32	33	34	33	33	32	33	34	34	31	33
23.....	32	34	34	33	34	31	32	33	33	15	33
24.....	33	34	34	33	32	33	32	32	33	31	33
25.....	33	34	34	33	33	34	33	27	33	31	33
26.....	33	34	34	33	33	33	33	30	33	33	33
27.....	33	33	34	32	33	33	33	33	33	33	34
28.....	33	33	34	33	33	33	26	35	33	32	32
29.....	33	33	34	33	33	34	10	23	33	33	33
30.....	33	33	34		33	33	35	33	25	28	12
31.....		34	34		33		34		33	14	

NOTE.—Braced figures show estimated mean discharge for period indicated. See monthly table or estimated discharge for October. Estimated discharge based on Belmont pump records.

Monthly discharge of Spring Valley Water Co.'s aqueduct near Sunol, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			* 32.4	1,990
November.....	33	32	32.8	1,950
December.....	34	32	33.2	2,040
January.....	35	34	34.1	2,100
February.....	34	20	31.9	1,880
March.....	34	32	32.9	2,020
April.....	35	30	33.2	1,980
May.....	35	10	32.0	1,970
June.....	35	27	32.8	1,950
July.....	34	25	32.8	2,020
August.....	34	13	29.9	1,840
September.....	34	12	31.8	1,890
The year.....			32.5	23,600

* Estimated.

KERN RIVER BAISIN

KERN RIVER NEAR KERNVILLE, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 14, T. 23 S., R. 32 E., at base of Fairview Mountain, 1 mile below intake dam of Kern River No. 3 canal in Tulare County, in Kern National Forest, 1 mile above Tobias Creek and 15 miles north of Kernville, Kern County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on left bank. Datum lowered 5 feet February 20, 1922.

DISCHARGE MEASUREMENTS.—Made from cable 90 feet below recorder or by wading.

CHANNEL AND CONTROL.—Coarse gravel and boulders; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.50 feet 12.01 to 4 a. m. May 11 (discharge, 780 second-feet); no flow July 31 to September 30.

1912-1924: Maximum stage recorded, 8.8 feet at 4 p. m. January 17, 1916 (discharge, 9,690 second-feet); no flow July 31 to September 30, 1924.

DIVERSIONS.—Kern River No. 3 canal diverts water for power about 1 mile above station. The water is returned to the river at the power house about 8 miles below station.

REGULATION.—Complete regulation by the canal at stages below capacity of canal.

ACCURACY.—Stage-discharge relation not changed during year. Rating curve well defined. Water-stage recorder record excellent except October 13-15, November 10-15, and February 7. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge interpolated for days of no gage-height record. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co. through H. W. Dennis, chief civil engineer.

Discharge measurements of Kern River near Kernville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 26.....	2.74	4.7	Apr. 26.....	2.73	6.7	Apr. 28.....	2.70	4.4
Apr. 10.....	3.14	19	Do.....	2.68	5.2			

Daily discharge, in second-feet, of Kern River near Kernville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	7	6	7	6.5	5.5	2.9	3.7	79	4.2	4.1
2.....	6.5	7.5	6.5	5.5	4.4	2.9	3.6	129	4.7	4.2
3.....	6.5	7	7.5	9	3.7	2.9	3.7	139	4.9	4.4
4.....	7.5	6	7	6	3.7	3.9	4.2	161	4.7	4.2
5.....	7.5	6	7.5	6	3.6	2.5	4.2	131	5.5	3.9
6.....	7	6	8.5	5.5	3.6	2.7	6	125	5.5	4.2
7.....	6	6	9.5	5	4.0	2.2	6	208	4.4	4.1
8.....	6	6	7.5	5	4.4	2.3	6.5	298	4.4	4.1
9.....	6.5	6	4.4	5	4.4	2.3	9	349	4.2	4.1
10.....	6	6	6.5	6	4.2	2.3	22	376	4.2	4.1
11.....	6	6	9	5.5	4.2	2.1	79	274	4.2	4.1
12.....	6	6	9	6	4.1	2.2	5	96	4.1	4.1
13.....	6	6.5	7.5	6	4.7	2.1	4.9	33	3.9	4.2
14.....	6	6.5	6.5	5.5	4.4	4.1	6.5	8	4.1	4.4
15.....	6	6.5	6	5.5	4.1	2.6	5.5	9	4.1	4.4
16.....	6	6.5	5	5.5	4.1	2.6	4.7	59	3.6	4.4
17.....	5.5	6.5	5	5.5	3.9	2.9	5	106	3.7	4.9
18.....	5.5	7	6	5.5	3.9	3.0	4.9	78	3.7	4.4
19.....	6	7.5	6	5.5	4.1	3.0	4.7	84	3.0	4.4
20.....	6	8	5.5	5.5	4.2	3.2	5	64	3.6	4.4
21.....	6.5	7	6	8.5	4.4	3.4	6.5	22	3.6	3.6
22.....	6	7	8.5	6.5	4.2	3.9	39	9	3.6	2.1
23.....	6	7.5	7	5.5	4.4	3.4	44	5.5	3.6	1.9
24.....	6	7.5	6.5	5.5	4.2	3.2	5	5	3.6	1.9
25.....	6	7.5	6	5.5	4.2	3.2	5	4.7	3.6	1.9
26.....	6	6.5	6	5.5	4.2	3.6	4.9	4.7	3.6	2.0
27.....	6	7.5	6	5.5	4.1	4.9	4.9	4.4	3.6	1.6
28.....	6	7.5	5.5	5.5	3.9	3.7	4.7	4.2	3.6	.7
29.....	5.5	7.5	6	5.5	3.2	3.7	4.9	4.4	3.7	.2
30.....	6	7.5	6	5.5	3.4	6.5	4.4	4.4	4.1	.1
31.....	6.5	7.5	6	5.5	3.2	8.2	4.2	4.2		

NOTE.—No flow July 31 to Sept. 30.

Monthly discharge of Kern River near Kernville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	7.5	5.5	6.19	381
November.....	8	6	6.75	402
December.....	9.5	4.4	6.67	410
January.....	9	5	5.77	355
February.....	5.5	3.2	4.14	238
March.....	4.9	2.1	3.04	187
April.....	79	3.6	10.6	631
May.....	376	4.2	92.9	5,710
June.....	5.5	3.0	4.04	240
July.....	4.9	0	3.26	200
The year.....	376	0	12.1	8,750

NOTE.—No flow during August and September.

Combined daily discharge, in second-feet, of Kern River and Kern River No. 3 Canal near Kernville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	248	224	197	150	160	189	232	663	344	141	96	81
2.....	242	226	180	136	174	193	236	713	327	148	93	81
3.....	238	225	182	160	155	197	245	723	345	158	93	84
4.....	230	220	181	208	155	190	250	755	365	162	93	87
5.....	230	212	174	188	162	180	218	725	366	162	87	87
6.....	221	208	218	180	162	189	260	730	336	158	87	84
7.....	229	204	192	179	166	192	292	813	368	155	87	81
8.....	252	204	194	179	178	192	320	903	281	155	87	81
9.....	256	216	148	163	210	184	369	964	263	148	87	81
10.....	260	224	132	172	202	180	402	940	236	148	84	84
11.....	254	216	153	172	186	180	479	670	218	148	87	84
12.....	248	216	171	172	182	176	485	711	210	144	87	84
13.....	242	216	186	164	191	172	515	671	202	138	87	84
14.....	236	216	188	164	194	178	570	650	170	127	87	81
15.....	230	212	184	160	186	181	496	654	198	124	90	81
16.....	224	208	179	164	182	173	415	706	178	118	93	81
17.....	224	204	175	164	178	165	405	742	178	116	90	78
18.....	220	205	172	164	182	169	405	692	178	112	87	81
19.....	216	206	176	160	186	169	405	676	151	112	87	78
20.....	216	206	172	156	186	177	405	633	155	112	87	80
21.....	212	205	160	148	186	169	406	568	148	112	87	82
22.....	212	197	152	154	186	174	449	533	152	110	84	85
23.....	212	198	147	150	182	189	454	508	152	110	84	90
24.....	212	202	160	150	182	183	425	485	152	110	84	92
25.....	212	202	157	142	178	189	425	465	152	107	84	94
26.....	212	196	157	142	182	218	425	465	148	107	81	96
27.....	212	190	150	156	182	207	425	454	148	116	81	96
28.....	212	190	156	164	186	227	405	414	144	115	81	93
29.....	208	190	172	150	193	202	425	384	141	102	81	93
30.....	208	194	172	150	-----	205	528	384	141	99	78	93
31.....	212	-----	146	150	-----	217	-----	374	-----	99	78	-----

Combined monthly discharge of Kern River and Kern River No. 3 Canal near Kernville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	260	208	227	14,000
November.....	226	190	208	12,400
December.....	218	132	170	10,500
January.....	208	136	162	9,960
February.....	210	155	180	10,400
March.....	227	165	188	11,600
April.....	570	218	392	23,300
May.....	964	374	638	39,200
June.....	366	141	216	12,900
July.....	162	99	128	7,870
August.....	96	78	86.4	5,310
September.....	96	78	85.3	5,080
The year.....	964	78	224	163,000

KERN RIVER NEAR BAKERSFIELD, CALIF.

LOCATION.—In sec. 2, T. 29 S., R. 28 E., at mouth of lower canyon, 5 miles northeast of Bakersfield, Kern County.

DRAINAGE AREA.—2,345 square miles.

RECORDS AVAILABLE.—January 1, 1894, to June 30, 1907, and March 1, 1908, to September 30, 1924.

GAGE.—Water-stage recorder at footbridge.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Shifting sand.

EXTREMES OF DISCHARGE.—1896-1924: Maximum discharge, 18,287 second-feet, January 26, 1914; minimum discharge, 73.5 second-feet in September, 1924.

DIVERSIONS.—Several small diversions on main river and South Fork for irrigation. Water diverted near Kernville for development of power is returned to river above station.

REGULATION.—No information.

COOPERATION.—Complete record, except run-off in acre-feet, furnished by Kern County Land Co., through A. K. Warren, engineer.

Daily discharge, in second-feet, of Kern River, near Bakersfield, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	291	232	225	243	230	237	312	502	400	148	105	88.5
2	263	252	235	218	234	251	324	595	373	146	109	89.5
3	272	252	234	202	231	262	336	682	356	144	106	89.0
4	269	250	233	196	220	274	342	734	349	152	97.4	87.0
5	266	257	226	221	224	263	345	772	352	156	94.5	83.7
6	257	256	215	242	218	265	330	759	363	160	96.2	95.8
7	250	260	215	215	230	263	347	734	345	161	95.7	88.2
8	244	260	219	223	229	261	381	760	321	150	98.5	90.3
9	261	255	234	241	239	263	392	892	297	147	98.1	91.0
10	268	262	228	234	236	262	407	991	269	146	96.2	92.3
11	271	264	207	226	246	252	485	977	251	146	102	94.6
12	274	256	201	231	241	260	536	908	241	143	93.1	92.7
13	272	243	220	223	250	240	608	817	227	142	91.9	90.4
14	264	240	248	216	260	239	598	755	221	139	93.0	89.0
15	252	244	253	219	247	226	615	682	203	140	93.9	84.0
16	246	238	242	212	243	229	599	622	180	122	96.4	81.7
17	248	238	239	208	236	230	541	629	175	116	94.9	84.7
18	253	230	229	207	233	224	510	696	178	117	93.4	82.9
19	252	227	230	213	239	222	501	759	188	117	96.2	83.9
20	247	238	226	209	242	220	513	724	184	117	101	85.4
21	238	246	216	211	236	231	540	710	177	114	103	95.9
22	225	254	199	210	235	239	604	685	164	113	102	94.8
23	231	241	191	216	244	230	600	648	161	123	99.7	97.4
24	233	234	194	219	245	258	604	592	166	122	98.0	98.6
25	238	230	231	216	238	276	595	538	165	130	88.7	99.1
26	238	227	232	220	239	268	522	514	162	133	87.8	102
27	233	224	229	232	245	332	491	499	162	130	89.5	102
28	236	212	227	244	256	314	479	512	160	127	87.6	104
29	236	203	222	265	241	331	477	492	154	127	84.3	103
30	236	210	229	238	-----	303	454	438	149	115	85.0	99.7
31	232	-----	241	226	-----	298	-----	417	-----	104	87.2	-----

Monthly discharge of Kern River, near Bakersfield, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	293	218	252	15,500
November	271	200	241	14,300
December	258	187	225	13,800
January	274	192	222	13,600
February	264	209	238	13,700
March	367	206	259	15,900
April	655	298	480	28,600
May	1,073	414	679	41,800
June	414	145	236	14,000
July	165	97.9	134	8,240
August	113	83.6	95.7	5,880
September	111	73.5	92.3	5,490
The year	1,073	73.5	263	191,000

NOTE.—Maximum and minimum discharge are absolute values determined from the water-stage recorder graph. Run-off in acre-feet computed by U. S. Geological Survey.

KERN RIVER NO. 3 CANAL NEAR KERNVILLE, CALIF.

LOCATION.—In sec. 14, T. 23 S., R. 32 E., opposite the gaging station on Kern River 1 mile below intake and 15 miles above Kernville, Kern County.

RECORDS AVAILABLE.—March 7, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in a stilling well on canal bank between tunnels 1 and 4, installed February 22, 1922.

DISCHARGE MEASUREMENTS.—Made from a plank across canal a short distance below intake.

CHANNEL AND CONTROL.—Canal consists of concrete-lined covered canal, tunnels and siphons. Control is slope and cross section of covered concrete canal.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge recorded during year, 647 second-feet, May 16; dry part of May 10 and 11.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record good from October 1 to April 6 and fair April 7 to September 30. No record October 11–15, April 19–25, May 13–15, 18–23, August 27–28, and September 20–25. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge interpolated on days of no gage-height record. Records good.

COOPERATION.—Gage-height record and results of some discharge measurements furnished by Southern California Edison Co.

Kern River No. 3 canal diverts from left bank at Kern River in sec. 12, T. 23 S., R. 32 E. The water is used for power at Kern River No. 3 plant of the Southern California Edison Co. in sec. 9, T. 25 S., R. 33 E.

Discharge measurements of Kern River No. 3 Canal near Kernville, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 26.....	3.90	206	Feb. 13.....	4.00	217	Apr. 26.....	6.20	420
Do.....	3.87	204	Apr. 6.....	4.40	251	Apr. 28.....	6.00	403
Do.....	3.87	204	Apr. 10.....	5.83	378	Aug. 8.....	2.28	91
Feb. 8.....	3.81	212	Apr. 26.....	6.20	414			
Feb. 13.....	4.02	219	Do.....	6.20	426			

Daily discharge, in second-feet, of Kern River No. 3 Canal near Kernville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	241	218	190	144	154	186	228	584	340	137	96	81
2.....	236	218	174	130	170	190	232	584	322	144	93	81
3.....	232	218	174	151	151	194	241	584	340	154	93	84
4.....	223	214	174	202	151	186	246	594	360	158	93	87
5.....	223	206	166	182	158	178	214	594	360	158	87	87
6.....	214	202	210	174	158	186	254	605	331	154	87	84
7.....	223	198	182	174	162	190	286	606	304	161	87	81
8.....	246	198	186	174	174	190	313	605	277	151	87	81
9.....	250	210	144	158	206	182	360	615	259	144	87	81
10.....	254	218	126	166	198	178	380	564	232	144	84	84
11.....	248	210	144	166	182	178	400	396	214	144	87	84
12.....	242	210	162	166	178	174	480	615	206	140	87	84
13.....	236	210	178	158	186	170	510	638	198	134	87	84
14.....	230	210	182	158	190	174	563	642	166	123	87	84
15.....	224	206	178	164	182	178	490	645	194	120	90	81
16.....	218	202	174	158	178	170	410	647	174	114	93	81
17.....	218	198	170	158	174	162	400	636	174	111	90	78
18.....	214	198	166	158	176	166	400	614	174	108	87	81
19.....	210	198	170	154	182	166	400	592	148	108	87	78
20.....	210	198	166	151	182	174	400	569	151	108	87	80

Daily discharge, in second-feet, of Kern River No. 3 Canal near Kernville, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21	206	198	154	140	182	166	400	546	144	108	87	82
22	206	190	144	148	182	170	410	524	148	108	84	86
23	206	190	140	144	178	186	410	502	148	108	84	90
24	206	194	154	144	178	190	420	480	148	108	84	92
25	206	194	151	137	174	186	420	460	148	105	84	94
26	206	190	151	137	178	214	420	460	144	105	81	96
27	206	182	144	151	178	202	420	450	144	114	81	96
28	206	182	151	158	182	223	400	410	140	114	81	93
29	202	182	166	144	190	198	420	380	137	102	81	93
30	202	186	166	144		202	521	380	137	99	78	93
31	206		140	144		214		370		99	78	

Monthly discharge of Kern River No. 3 Canal near Kernville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	254	202	221	13,600
November	218	182	201	12,000
December	210	126	164	10,100
January	202	130	156	9,590
February	206	151	176	10,100
March	223	162	185	11,400
April	563	214	382	22,700
May	647	370	545	33,500
June	360	137	212	12,600
July	158	99	125	7,690
August	96	78	86.4	5,310
September	96	78	85.4	5,080
The year	647	78	212	154,000

SOUTH FORK OF KERN RIVER NEAR ONYX, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 24, T. 25 S., R. 35 E., on Rankin ranch, three-fourths of a mile north of Kernville-Walker Pass Road and 5 miles northeast of Onyx, Kern County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 12, 1911, to August 31, 1914; January 23, 1919, to September 30, 1924.

GAGE.—Water-stage recorder at same site as United States Geological Survey gage used in 1914.

DISCHARGE MEASUREMENTS.—Made from cable 60 feet below gage or by wading.

CHANNEL AND CONTROL.—Sand and fine gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 128 second-feet April 11; minimum mean daily discharge, 1 second-foot May 28 to September 30.

1911-1914; 1919-1924: Maximum stage recorded, 7.1 feet January 25, 1914 (discharge, 2,360 second-feet); minimum mean daily discharge recorded, 1 second-foot May 28 to September 30, 1924.

DIVERSIONS.—Three small irrigation ditches head above the station.

ACCURACY.—Records good.

COOPERATION.—Mean daily discharge record furnished by city of Los Angeles.

Daily discharge, in second-feet, of South Fork of Kern River near Onyx, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1	21	27	31	22	29	34	38	28
2	22	28	29	20	33	37	41	26
3	22	30	24	24	32	35	43	27
4	23	29	26	34	31	35	45	26
5	23	28	25	29	33	33	45	25
6	23	27	25	27	35	35	43	24
7	23	27	29	27	38	37	56	23
8	26	27	31	27	39	40	65	22
9	26	29	22	26	45	38	88	21
10	28	34	20	2	29	39	112	21
11	28	33	21	26	40	39	128	19
12	27	32	24	26	34	38	122	18
13	26	30	28	25	34	37	100	16
14	25	30	31	25	31	37	89	15
15	25	33	39	25	28	38	80	14
16	25	33	28	27	31	36	61	13
17	25	30	28	27	29	34	54	12
18	25	29	28	28	30	35	51	11
19	25	29	31	27	32	33	49	10
20	25	29	29	26	32	35	48	9
21	24	32	23	27	32	37	46	8
22	24	30	22	28	34	32	45	7
23	24	29	23	27	32	32	42	6
24	25	29	30	27	32	32	36	5
25	23	32	29	28	29	30	33	4
26	24	32	29	28	30	40	30	3
27	26	29	27	31	32	45	28	2
28	26	27	23	35	33	45	27	1
29	26	27	27	31	34	42	27	1
30	26	29	32	30	-----	36	28	1
31	26	-----	23	29	-----	37	-----	1

NOTE.—See table of monthly discharge for estimated flow from June to September.

Monthly discharge of South Fork of Kern River near Onyx, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	28	21	24.7	1,520
November	34	27	29.7	1,770
December	32	20	26.7	1,640
January	35	20	27.3	1,680
February	45	28	32.9	1,890
March	45	30	36.5	2,240
April	128	27	56.7	3,370
May	28	* 1	13.5	830
June	-----	-----	* 1.0	59.5
July	-----	-----	* 1.0	61.5
August	-----	-----	* 1.0	61.5
September	-----	-----	* 1.0	59.5
The year	128	* 1	20.9	15,200

* Estimated.

TULARE LAKE BASIN

DEER CREEK AT HOT SPRINGS, CALIF.

LOCATION.—Below footbridge at forest supervisor's headquarters in Sequoia National Forest, half a mile below Hot Springs, Tulare County. Tyler Creek enters $2\frac{1}{2}$ miles below station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 7, 1910, to September 30, 1924.

GAGE.—Vertical staff fastened to an alder tree on left bank, 30 feet below footbridge; read by employees of United States Forest Service.

DISCHARGE MEASUREMENTS.—Made from highway bridge, 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Sand, gravel, and boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage not recorded during year, probably occurred in April; minimum stage recorded, 0.28 foot August 10 and September 30 (discharge, 1.1 second-foot).

1910-1924: Maximum stage recorded, 2.9 feet at 10.30 a. m. January 24, 1914 (rev. sed discharge, determined from extension of rating curve, 420 second-foot); minimum stage recorded, 0.30 foot August 5-12, 1920 (discharge, 0.6 second-foot).

DIVERSIONS.—Water is diverted for irrigation above station.

REGULATION.—No information.

ACCURACY.—Stage-discharge relation changed slightly from that of last year.

Rating curves fairly well defined. Staff gage read to hundredths once a day except October 13 to January 31 and April 1-30, when observer was not available. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record furnished by United States Forest Service.

Discharge measurements of Deer Creek at Hot Springs, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Oct. 27-----	<i>Feet</i> 0.44	<i>Sec.-ft.</i> 2.6	Apr. 23-----	<i>Feet</i> 0.65	<i>Sec.-ft.</i> 6.5	Sept. 19-----	<i>Feet</i> 0.32	<i>Sec.-ft.</i> 1.3
Apr. 23-----	.66	7.2	Sept. 19-----	.33	1.7			

Daily discharge, in second-feet, of Deer Creek at Hot Springs, Calif., for the year ending September 30, 1924

Day	Oct.	Feb.	Mar.	May	June	July	Aug.	Sept.
1-----	2.8	3.6	2.9	2.6	2.4	1.7	1.2	1.7
2-----	2.8	3.4	3.8	2.4	2.6	1.7	1.2	1.7
3-----	2.8	3.4	3.8	2.4	2.4	1.6	1.1	1.6
4-----	3.2	3.4	4.9	2.4	2.4	1.6	1.1	1.6
5-----	3.2	3.4	3.8	2.6	2.1	1.7	1.2	1.4
6-----	3.2	3.1	3.8	2.6	2.1	1.7	1.3	1.4
7-----	4.0	3.3	3.4	2.4	2.1	1.9	1.2	1.4
8-----	5	3.3	3.4	2.4	2.1	1.9	1.1	1.2
9-----	4.0	5	3.1	2.4	2.6	1.9	1.1	1.2
10-----	4.0	5	3.1	2.4	2.4	1.9	1.1	1.4
11-----	4.0	4.7	3.1	2.4	2.4	2.1	1.2	1.4
12-----	3.6	3.4	3.1	2.9	2.1	2.1	1.2	1.4
13-----		3.3	3.1	2.6	2.1	2.1	1.4	1.2
14-----		3.4	2.9	2.6	1.9	1.9	1.2	1.2
15-----		3.1	3.0	2.6	1.9	1.9	1.2	1.2
16-----		3.4	2.9	2.6	2.1	1.9	1.4	1.6
17-----		3.6	3.1	2.4	2.1	1.7	1.4	1.6
18-----		3.1	2.9	2.4	1.9	1.9	1.6	1.4
19-----		3.1	2.8	2.1	1.7	1.9	1.7	1.4
20-----		2.9	3.4	2.1	1.7	2.1	1.7	1.4
21-----		2.9	3.0	2.1	1.6	2.1	1.6	1.6
22-----		2.9	3.1	2.1	1.4	1.7	1.7	1.6
23-----			3.0	4.0	1.9	1.2	1.7	1.4
24-----			2.9	3.4	2.1	1.2	1.6	1.4
25-----			2.9	3.4	2.1	1.2	1.4	1.4
26-----			2.9	7.5	2.1	1.2	1.2	1.4
27-----			2.9	7	2.1	1.4	1.2	1.4
28-----			2.9	5.5	2.1	1.4	1.4	1.2
29-----			2.9	5	2.1	1.6	1.6	1.2
30-----				4.7	2.1	1.7	1.4	1.1
31-----				5.5	2.1		1.7	

NOTE.—No record Oct. 13 to Jan. 31 and Apr. 1-30.

Monthly discharge of Deer Creek at Hot Springs, Calif., for the year ending September 30, 1924

Month	Discharge in second-foot			Run-off in acre-foot
	Maximum	Minimum	Mean	
February.....	5	2.9	3.35	193
March.....	7.5	2.8	3.82	235
May.....	2.9	1.9	2.33	143
June.....	2.6	1.2	1.90	113
July.....	2.1	1.2	1.73	106
August.....	1.7	1.1	1.39	85.5
September.....	1.7	1.1	1.40	83.3

NOTE.—No record Oct. 13 to Jan. 31 and Apr. 1-30.

TULE RIVER NEAR PORTERVILLE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 25, T. 21 S., R. 28 E., below highway bridge near McFarland ranch, 1 mile above mouth of South Fork and 6 miles east of Porterville, Tulare County.

DRAINAGE AREA.—266 square miles.

RECORDS AVAILABLE.—May 1, 1901, to September 30, 1924.

GAGE.—Vertical staff in four sections on right bank 75 feet below bridge; read by G. B. Kieffer.

DISCHARGE MEASUREMENTS.—Made from bridge above gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shift slightly during high water. Left bank low and wooded; subject to overflow above a stage of about 6 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.55 feet at 6 a. m. April 11 (discharge, 255 second-foot); minimum stage recorded, -0.05 foot at 4 p. m. September 17 (discharge, 0.1 second-foot).

1901-1924: Maximum stage recorded, 11 feet at 11.30 a. m. January 17, 1916 (discharge, determined from extension of rating curve, about 6,780 second-foot); minimum discharge 0.05 second-foot September 2-13, 1919.

DIVERSIONS.—Several small irrigation ditches divert water above station.

REGULATION.—Power is developed on Middle Fork and on North and South Forks of Middle Fork.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve fairly well defined. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Tule River near Porterville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Oct. 24.....	Feet 0.72	Sec.-ft. 12	Feb. 6.....	Feet 1.02	Sec.-ft. 28	Apr. 30.....	Feet 1.45	Sec.-ft. 63
Do.....	.72	14	Apr. 22.....	1.65	79	Sept. 17.....	-.05	.1

Daily discharge, in second-feet, of Tule River near Porterville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Déc.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	22	23	31	39	23	67	61	6.5	0.4	0.2	0.2
2	11	21.	28	30	39	39	91	67	4.5	.4	.2	.2
3	9.5	20	23	31	36	48	82	66	3.4	.4	.2	.2
4	8.5	19	23	30	36	34	96	67	2.9	.4	.2	.2
5	8.5	18	22	30	37	26	91	64	2.0	.4	.2	.2
6	9.5	17	22	32	39	33	96	55	1.4	.4	.2	.2
7	20	16	22	31	33	31	112	50	1.0	.4	.2	.2
8	20	16	24	30	34	31	132	55	.9	.4	.2	.2
9	21	17	26	31	40	33	170	52	.8	.3	.2	.2
10	22	21	24	28	69	32	192	46	.8	.3	.2	.2
11	18	22	24	28	48	28	240	47	.8	.3	.2	.2
12	17	22	26	28	41	26	192	45	.8	.3	.2	.2
13	15	22	28	30	40	26	150	45	.8	.3	.2	.2
14	15	21	28	32	37	26	150	40	.7	.2	.2	.2
15	15	20	28	32	36	23	150	32	.7	.3	.2	.2
16	13	20	27	32	36	22	98	29	.7	.3	.2	.2
17	12	18	28	32	33	21	78	26	.7	.3	.2	.2
18	11	18	26	31	32	18	71	22	.7	.3	.2	.2
19	11	18	26	30	32	21	76	21	.7	.3	.2	.2
20	10	18	31	30	26	28	91	21	.6	.3	.2	.2
21	10	17	28	30	24	42	88	19	.6	.3	.2	.2
22	9	17	28	30	22	45	86	18	.6	.3	.2	.2
23	9	17	28	28	22	52	89	17	.5	.2	.2	.2
24	11	17	28	28	22	52	86	16	.5	.2	.2	.2
25	14	18	27	26	21	50	78	15	.5	.2	.2	.2
26	13	20	27	26	22	52	68	13	.5	.2	.2	.2
27	13	20	27	28	24	141	65	13	.5	.2	.2	.2
28	14	22	27	49	26	104	60	10	.5	.2	.2	.2
29	14	23	27	43	24	81	52	8.5	.4	.2	.2	.2
30	15	23	28	39	-----	72	55	7.5	.4	.2	.2	.2
31	16	-----	29	34	-----	64	-----	7	-----	.2	.2	-----

Monthly discharge of Tule River near Porterville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	22	8.5	13.5	830
November	23	16	19.3	1,150
December	31	22	26.1	1,600
January	49	26	31.3	1,920
February	69	21	33.4	1,920
March	141	18	43.0	2,640
April	240	52	105	6,230
May	67	7	34.0	2,080
June	6.5	.4	1.21	72
July	.4	.2	.29	17.8
August	.2	.2	.20	12.3
September	.2	.2	.20	11.9
The year	240	.2	25.5	18,500

SOUTH FORK OF TULE RIVER NEAR PORTERVILLE, CALIF.

LOCATION.—Opposite Indian School in Tule Indian Reservation, 2 miles below mouth of Rock Creek, 8 miles above junction with Tule River, and 14 miles southeast of Porterville, Tulare County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 10, 1910, to June 30, 1922; January 1, 1923, to September 30, 1924.

GAGE.—Vertical staff on right bank 30 feet above pump house installed July 18, 1916; read by employees of Indian Service.

DISCHARGE MEASUREMENTS.—Made from cable $1\frac{1}{2}$ miles below gage or by wading.

CHANNEL AND CONTROL.—Rough; boulders and gravel; shift slightly during high water. Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.72 feet at 8 a. m. April 11 (discharge, 50 second-feet); dry June 27 to September 30.

1910-1924: Maximum stage recorded, 8 feet at 8 a. m. January 26, 1914 (discharge, determined from extension of rating curve, about 2,750 second-feet); no flow from June 27 to September 30, 1924.

DIVERSIONS.—Several small irrigation ditches, having a total capacity of about 12 second-feet, divert water above the station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly from that of last year.

Rating curves fairly well defined. Staff gage read to half-tenths twice daily. Gage not read October 7 to February 5 and May 25 to September 30.

Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record furnished by United States Indian Service.

Discharge measurements of South Fork of Tule River near Porterville, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 28.....	1.04	6.2	Apr. 30.....	1.32	18
Feb. 6.....	1.20	10	Sept. 18.....		0

Daily discharge, in second-feet, of South Fork of Tule River near Porterville, Calif., for the year ending September 30, 1924

Day	Oct.	Feb.	Mar.	Apr.	May	Day	Oct.	Feb.	Mar.	Apr.	May
1.....	8		8	22	22	16.....		11	9	30	8
2.....	8		14	35	21	17.....		11	9	30	7
3.....	8		15	32	19	18.....		11	9	28	6.5
4.....	8		16	39	17	19.....		10	9	26	6
5.....	8		16	40	16	20.....		10	9	26	5.5
6.....	8	11	14	44	15	21.....		10	12	26	5
7.....		11	14	47	13	22.....		9.5	11	26	5
8.....		11	12	41	11	23.....		9	23	28	5
9.....		16	12	38	11	24.....		9	24	29	5
10.....		26	11	44	10	25.....		8.5	15	26	
11.....		17	10	46	10	26.....		8	17	24	
12.....		14	10	39	9	27.....		8	41	22	
13.....		12	10	29	10	28.....		8	48	21	
14.....		11	9.5	34	11	29.....		8	30	21	
15.....		11	9	39	9.5	30.....			22	22	
						31.....			22		

NOTE.—No record Oct. 7 to Feb. 5 and May 25 to Sept. 30. Stream probably dry June 27 to Sept. 30.

Monthly discharge of South Fork of Tule River near Porterville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February 6-29.....	26	8	11.3	538
March.....	48	8	15.8	972
April.....	47	21	31.8	1,890
May 1-24.....	22	5	10.7	509
The period.....				3,910

NOTE.—No record Oct. 7 to Feb. 5 and May 25 to Sept. 30.

KAWEAH RIVER NEAR THREE RIVERS, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 27, T. 17 S., R. 28 E., at H. C. Nice's ranch $1\frac{1}{4}$ miles southwest of Three Rivers, Tulare County. South Fork enters three-fourths mile and North Fork 3 miles above station.

DRAINAGE AREA.—520 square miles.

RECORDS AVAILABLE.—April 29, 1903, to September 30, 1924.

GAGE.—Vertical staff gage in four sections on left bank a few feet above cable and one-fourth mile back of observer's house; read by H. C. Nice.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.90 feet at 7 a. m. May 1 (discharge, 1,200 second-feet); minimum stage recorded, 4.45 feet August 29 to September 1 (discharge, 9.5 second-feet).

1903-1924: Maximum stage recorded, 13.5 feet at 11 a. m. January 17, 1916 (discharge, from extension of rating curve, about 14,700 second-feet); minimum stage recorded, that of August 29 to September 1, 1924.

DIVERSIONS.—Several small ditches divert water for local irrigation and domestic use above station.

REGULATION.—Power is developed on the Middle and East Forks, but effect on discharge at the station is thought to be small.

ACCURACY.—Stage-discharge relation changed at extremely low water. Rating curve well defined. Staff gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Kaweah River near Three Rivers, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 28.....	4.79	52	May 1.....	6.31	660	Sept. 1.....	4.49	10
Feb. 5.....	4.84	70	July 22.....	4.60	26	Sept. 13.....	4.48	11
Apr. 22.....	6.38	696	Aug. 5.....	4.55	18	Sept. 14.....	4.50	12

Daily discharge, in second-feet, of Kaweah River near Three Rivers, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	123	68	56	56	77	91	153	940	204	39	18	9.5
2.....	110	72	64	56	72	123	170	820	222	36	18	13
3.....	96	72	64	77	77	123	193	860	179	44	18	13
4.....	96	72	64	96	68	123	229	900	160	36	18	13
5.....	96	84	62	96	84	123	240	900	153	36	13	13
6.....	91	68	62	68	77	123	280	860	153	36	13	13
7.....	91	68	62	68	84	123	370	940	129	33	13	13
8.....	118	62	62	77	77	123	395	900	129	30	13	13
9.....	118	62	62	68	91	118	450	900	96	30	13	18
10.....	101	62	56	68	147	110	570	940	101	30	13	13
11.....	110	68	56	68	129	110	675	710	101	30	13	13
12.....	96	72	52	56	123	110	570	640	96	30	13	12
13.....	96	72	56	62	123	129	570	570	96	26	13	12
14.....	91	72	68	68	123	96	540	510	77	23	13	12
15.....	84	77	72	62	118	96	395	605	77	23	13	12
16.....	84	68	62	68	101	96	322	675	62	23	13	12
17.....	84	68	68	68	96	96	322	640	62	23	13	12
18.....	77	68	62	62	96	91	450	640	68	23	18	12
19.....	72	68	62	72	96	91	510	570	62	23	18	12
20.....	72	62	62	52	96	91	570	510	62	23	18	13

Daily discharge, in second-feet, of Kaweah River near Three Rivers, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	72	62	72	62	96	110	605	450	52	18	18	13
22.....	72	62	68	62	84	96	780	422	52	23	16	13
23.....	72	62	68	62	84	123	710	322	44	23	13	13
24.....	72	62	62	68	72	129	480	322	44	18	13	13
25.....	72	56	62	68	72	129	395	280	44	18	13	13
26.....	72	49	62	56	84	138	395	280	44	18	13	13
27.....	72	62	62	68	84	240	422	240	44	18	13	13
28.....	72	62	62	110	91	179	395	240	44	18	12	13
29.....	72	62	72	91	96	153	540	240	44	18	9.5	13
30.....	62	56	68	84	-----	129	640	215	44	18	9.5	13
31.....	68	-----	68	84	-----	138	-----	204	-----	18	9.5	-----

- *Monthly discharge of Kaweah River near Three Rivers, Calif., for the year ending September 30, 1924*

[Drainage area, 520 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October.....	123	62	86.6	0.167	0.19	5,320
November.....	84	49	66.0	.127	.14	3,930
December.....	72	52	63.2	.122	.14	3,890
January.....	110	52	70.4	.135	.16	4,230
February.....	147	68	93.7	.180	.19	5,390
March.....	240	91	121	.233	.27	7,440
April.....	780	153	445	.856	.96	26,500
May.....	940	204	589	1.13	1.30	36,209
June.....	222	44	91.5	.176	.20	5,440
July.....	44	18	26.0	.050	.06	1,600
August.....	18	9.5	14.0	.027	.03	861
September.....	13	9.5	12.6	.024	.03	750
The year.....	940	9.5	140	2.69	3.67	102,000

NORTH FORK OF KAWEAH RIVER AT KAWEAH, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 2, T. 17 S., R. 28 E., in Sequoia National Forest, at highway bridge half a mile north of Kaweah, Tulare County, and 2 miles above junction with Kaweah River. Manikin Creek enters one-fourth mile below gage and Sheep Creek $2\frac{1}{2}$ miles above.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 12, 1910, to September 30, 1924.

GAGE.—Staff gage in two sections on right bank; low-water section is inclined and fastened to abutment of bridge; upper section is vertical and fastened to sycamore tree 20 feet below bridge. Gage read by T. T. Gross.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Solid rock and sand; fairly permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.98 feet from floodmarks on night of April 11 (discharge, 182 second-feet); minimum discharge, practically dry at numerous periods during July, August, and September.

1910-1924: Maximum stage recorded, 10.2 feet at 7 p. m. January 25, 1914 (discharge, from extension of rating curve, above 7,400 second-feet); minimum discharge, that of July, August, and September, 1924.

DIVERSIONS.—About 20 second-feet is diverted by several small ditches for irrigation above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation apparently permanent since 1920. Rating curve well defined. Staff gage read to hundredths once daily; extra readings made during high stages and storms. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of North Fork of Kaweah River at Kaweah, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 29.....	0.60	7.3	May 1.....	1.21	48
Feb. 4.....	.82	17	Sept. 15.....	— .30	.1
Apr. 21.....	1.32	63			

Daily discharge, in second-feet, of North Fork of Kaweah River at Kaweah, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	11	11	9.5	13	15	15	37	43	7.5	0.9	-----	-----
2.....	11	12	9.5	13	16	20	32	41	7.5	.9	-----	-----
3.....	10	12	10	17	16	18	47	38	7	.4	-----	-----
4.....	11	11	10	20	15	19	55	43	6.5	.4	0.1	-----
5.....	10	11	10	17	15	18	60	47	6	.4	.1	-----
6.....	10	11	9.5	17	15	17	81	33	5	.4	.1	-----
7.....	11	10	10	16	15	17	114	32	4.2	.3	.1	-----
8.....	16	10	11	15	15	17	106	25	4.4	.3	.1	-----
9.....	14	10	11	16	19	17	120	27	4.6	.3	.1	0.1
10.....	13	10	9.5	14	33	17	157	26	5	.3	.1	.1
11.....	13	12	10	16	19	17	160	23	4.8	.2	.1	.1
12.....	13	12	9.5	15	18	17	149	20	4.6	.2	.1	.1
13.....	12	12	10	15	17	17	140	20	4.6	.4	.1	.1
14.....	12	12	14	14	19	16	88	19	4.6	.6	.1	.1
15.....	11	11	13	14	17	15	89	19	4.6	.7	.1	.1
16.....	11	10	13	12	16	15	70	18	4.6	.7	.1	.1
17.....	11	10	13	12	16	14	64	20	4.6	.7	.1	.1
18.....	11	10	13	14	16	15	68	20	4.6	.5	.1	.1
19.....	11	10	14	14	16	14	62	19	4.4	.4	.1	.1
20.....	10	10	16	13	16	14	64	18	4.0	.2	-----	.1
21.....	10	10	14	14	16	17	70	15	3.0	.1	-----	.1
22.....	10	10	13	14	16	19	67	15	2.0	.1	-----	-----
23.....	11	10	13	14	15	21	62	15	1.4	.1	-----	-----
24.....	11	10	13	14	15	22	60	12	1.4	.1	-----	-----
25.....	10	10	13	12	14	21	56	11	1.2	.1	-----	-----
26.....	10	9.5	14	14	14	28	49	11	1.3	-----	-----	-----
27.....	9.5	9.5	13	13	14	58	45	10	1.3	-----	-----	-----
28.....	10	9.5	12	37	14	38	43	10	1.3	-----	-----	-----
29.....	9	9.5	13	19	14	36	43	9	1.2	-----	-----	-----
30.....	9	10	14	16	-----	32	44	8	1.0	-----	-----	-----
31.....	9.5	15	15	15	-----	29	-----	7.5	-----	-----	-----	-----

NOTE.—Practically no flow July 26 to Aug. 3, Aug. 20 to Sept. 8, and Sept. 22-30.

Monthly discharge of North Fork of Kaweah River at Kaweah, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	16	9	11.0	676
November.....	12	9.5	10.5	625
December.....	16	9.5	12.0	738
January.....	37	12	15.5	953
February.....	33	14	16.4	943
March.....	58	14	21.0	1,290
April.....	160	32	76.7	4,560
May.....	47	7.5	21.9	1,350
June.....	7.5	1.0	3.94	234
July.....	.9	0	.31	19.1
August.....	.1	0	.05	3.1
September.....	.1	0	.04	2.4
The year.....	160	0	15.7	11,400

SOUTH FORK OF KAWEAH RIVER NEAR THREE RIVERS, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 8, T. 18 S., R. 29 E., on Mehrten ranch, 500 feet above mouth of Cinnamon Creek, $4\frac{1}{2}$ miles southeast of Three Rivers, Tulare County, and 5 miles above junction with Kaweah River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 18, 1911, to September 30, 1924, when the station was discontinued.

GAGE.—Vertical staff fastened to large boulders on right bank; read by D. N. Mehrten.

DISCHARGE MEASUREMENTS.—Made from cable 300 feet above gage or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; rough and permanent. Banks subject to overflow at extremely high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.34 feet at 10 a. m. May 1 (discharge, 140 second-foot); minimum stage recorded, 1.28 feet August 30 (discharge, 0.7 second-foot).

1911-1924: Maximum stage recorded, 6.3 feet at 7.45 a. m. January 17, 1916 (discharge, from extension of rating curve, about 1,880 second-foot); minimum stage recorded, that of August 30, 1924.

DIVERSIONS.—Two small ditches divert water for irrigation above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of South Fork of Kaweah River near Three Rivers, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 29.....	1.89	6.7	Sept. 14.....	1.31	0.7
May 1.....	3.34	134	Do.....	1.30	.7

TULARE LAKE BASIN

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Daily discharge, in second-feet, of South Fork of Kaweah River near Three Rivers, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	11	10	9.5	9	9.5	14	27	127	27	2.8	1.0	0.7
2.....	10	10	9.5	9.5	9.5	26	30	116	26	2.5	1.0	.8
3.....	9.5	11	9.5	10	9.5	16	30	116	24	2.5	1.0	.8
4.....	9.5	10	9.5	10	9	16	46	106	22	2.5	1.0	.9
5.....	9.5	10	9.5	10	9	16	43	106	22	2.5	1.0	.9
6.....	10	9.5	9	10	9	15	37	98	19	2.3	1.0	.8
7.....	10	8	9	10	9	16	42	90	18	2.0	1.0	.8
8.....	14	7	9	9	9	16	44	106	18	1.8	1.0	.7
9.....	13	7	9	8	22	15	52	116	17	1.7	.9	.7
10.....	12	7.5	9	7.5	19	14	65	106	16	1.6	.9	.7
11.....	11	8	9	8	15	14	76	98	14	1.4	.9	.7
12.....	10	9	9	9	14	14	76	90	13	1.4	.9	.8
13.....	9.5	9	9	8	14	14	78	84	12	1.3	.9	.8
14.....	9	9.5	8	8	13	14	56	78	12	1.3	.9	.8
15.....	9	9.5	9	8	12	14	49	106	11	1.3	.9	.8
16.....	8	9.5	9	8	11	14	47	90	11	1.2	.9	.9
17.....	8	9.5	9	8	11	14	49	76	10	1.2	.9	.9
18.....	8	9.5	9	8	11	15	52	65	10	1.2	1.0	.9
19.....	9	9.5	11	8	11	16	58	65	9	1.2	1.0	.9
20.....	11	9.5	9.5	8	11	16	74	62	6	1.2	1.0	.9
21.....	10	9.5	9	8	11	16	84	58	4.7	1.2	.9	.9
22.....	9	9.5	9	7.5	12	11	98	55	4.4	1.2	.9	.9
23.....	8	9.5	9	7.5	11	16	90	50	4.4	1.1	.9	.9
24.....	7.5	9.5	8.5	7.5	11	21	66	43	4.4	1.1	.8	.9
25.....	7.5	9	7.5	7.5	11	14	62	39	4.4	1.1	.8	.9
26.....	7.5	9	7.5	7.5	10	21	64	36	4.4	1.1	.8	.9
27.....	7.5	9	7.5	8	10	35	74	32	4.4	1.1	.8	.9
28.....	7.5	9	7.5	16	10	27	90	31	4.4	1.0	.7	.8
29.....	7	9.5	7.5	11	14	24	106	30	3.7	1.0	.7	.8
30.....	7	9.5	7.5	10	-----	24	127	29	3.0	1.0	.7	.8
31.....	7	-----	10	9.5	-----	25	-----	28	-----	1.0	.7	-----

Monthly discharge of South Fork of Kaweah River near Three Rivers, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	14	7	9.24	568
November.....	11	7	9.18	546
December.....	11	7.5	8.85	544
January.....	16	7.5	8.84	544
February.....	22	9	11.6	667
March.....	35	11	17.5	1,080
April.....	127	27	63.1	3,750
May.....	127	28	75.2	4,620
June.....	27	3.0	12.0	714
July.....	2.8	1.0	1.51	92.8
August.....	1.0	.7	.90	55.3
September.....	.9	.7	.83	49.4
The year.....	127	.7	18.2	13,200

KINGS RIVER NEAR HUME, CALIF.

LOCATION.—Near west line of sec. 35, T. 12 S., R. 28 E., $1\frac{1}{2}$ miles below junction of South and Middle Forks of Kings River and $3\frac{3}{4}$ miles north of Hume, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 28, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in masonry well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet below gage or by wading.

CHANNEL AND CONTROL.—Channel, boulders and gravel; rough and steep; control, large boulders and gravel; shifts during high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.15 feet at 12.30 a. m. May 9 (discharge, 3,410 second-feet); minimum stage, 0.82 foot September 29 and 30 (discharge, 63 second-feet).

1921-1924: Maximum stage, from water-stage recorder, 8.67 feet at midnight June 4, 1922 (discharge, 11,700 second-feet); minimum stage that of September 29 and 30, 1924.

REGULATION.—Small storage at Lake Hume, on Tenmile Creek.

DIVERSIONS.—Hume Lumber Co. diverts a small amount of water at Lake Hume to float lumber to Sanger.

ACCURACY.—Stage-discharge relation changed at high water of May 9. Rating curves fairly well defined below 1,500 second-feet and well defined above. Water-stage recorder record excellent except October 1-19, when clock was out for repairs, and January 17-23 and April 24-30, when clock stopped. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge interpolated for days of no gage-height record. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by city of Los Angeles.

Discharge measurements of Kings River near Hume, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	1.80	296	May 4.....	3.91	1,760	July 28.....	1.32	175
May 4.....	4.17	2,080	Do.....	4.36	2,490			

Daily discharge, in second-feet, of Kings River near Hume, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	296	192	125	90	140	162	244	1,800	830	320	155	87
2.....	296	192	111	90	140	196	260	1,970	890	332	149	89
3.....	296	192	117	138	135	162	304	1,970	950	340	146	89
4.....	296	174	113	121	132	171	308	2,030	985	378	138	89
5.....	296	171	109	117	135	162	304	1,860	920	348	135	91
6.....	292	165	113	115	142	168	356	1,920	860	340	132	89
7.....	288	159	125	115	148	171	485	2,330	770	324	128	89
8.....	285	162	113	113	150	159	540	2,520	600	304	122	89
9.....	281	162	80	111	220	162	658	2,590	590	238	118	89
10.....	277	171	82	117	184	162	851	2,270	540	280	118	85
11.....	274	171	92	115	171	159	1,000	1,920	500	268	120	83
12.....	270	171	102	111	168	153	1,120	1,820	470	260	120	81
13.....	266	168	115	109	174	156	1,290	1,490	445	240	115	79
14.....	263	165	113	111	180	159	1,200	1,400	430	230	115	77
15.....	259	159	109	107	174	165	886	1,670	405	226	115	77
16.....	255	148	104	109	171	142	767	1,870	396	219	113	75
17.....	251	148	104	120	165	156	748	1,820	387	208	111	75
18.....	248	148	104	131	165	156	851	1,720	369	202	109	74
19.....	244	148	109	143	165	156	1,080	1,720	352	198	109	72
20.....	240	148	102	155	168	168	1,160	1,620	340	194	109	72
21.....	232	140	96	166	165	153	1,380	1,580	336	191	105	72
22.....	228	135	90	178	162	171	1,470	1,440	336	188	101	70
23.....	232	138	99	169	156	188	1,200	1,280	332	188	101	69
24.....	224	138	107	200	148	200	1,050	1,200	332	180	97	69
25.....	212	142	105	145	158	204	940	1,280	328	184	96	69
26.....	204	125	107	130	148	252	920	1,240	324	188	91	69
27.....	200	123	98	150	150	244	920	1,090	316	180	89	68
28.....	196	125	94	162	165	236	820	985	316	180	87	64
29.....	188	125	105	138	166	232	1,150	985	312	174	87	63
30.....	180	132	100	135	-----	252	1,530	950	312	164	87	63
31.....	188	-----	93	138	-----	264	-----	860	-----	158	87	-----

Monthly discharge of Kings River near Hume, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	296	180	250	15,400
November.....	192	123	155	9,220
December.....	125	80	104	6,400
January.....	200	90	131	8,060
February.....	220	132	160	9,200
March.....	264	142	182	11,200
April.....	1,530	244	858	51,100
May.....	2,590	860	1,650	101,000
June.....	985	312	611	30,400
July.....	378	158	241	14,800
August.....	155	87	113	6,950
September.....	91	63	77.6	4,620
The year.....	2,590	63	370	268,000

KINGS RIVER AT PIEDRA,¹ CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 8, T. 13 S., R. 24 E., half a mile below new highway bridge at Piedra, near mouth of canyon, and 12 miles northeast of Sanger, Fresno County.

DRAINAGE AREA.—1,740 square miles.

RECORDS AVAILABLE.—September 3, 1895, to September 30, 1924.

GAGE.—Water-stage recorder on left bank in wooden well at the Weather Bureau gage.

DISCHARGE MEASUREMENTS.—Made from cable 500 feet below gage.

CHANNEL AND CONTROL.—Gravel and small boulders; shift during high water. Banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 9.07 feet at 8 a. m. May 9 (discharge, 5,210 second-feet); minimum discharge, 68 second-feet September 29 and 30.

1895-1924: Maximum stage recorded, 21.8 feet during night of January 25, 1914 (discharge, from extension of rating curve, about 59,700 second-feet); minimum discharge, that of September 29 and 30, 1924.

DIVERSIONS.—There is a small diversion from the reservoir on Tenmile Creek at Hume, through a flume which is used to float lumber to Sanger.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly April 15. Rating curves very well defined. Water-stage recorder record excellent except August 6 to September 30 when water was below intake pipe. Staff gage read to hundredths once or twice a week during this period. Daily discharge ascertained by applying mean daily gage height to rating table and interpolating for days on which gage was not read. Records excellent.

Discharge measurements of Kings River at Piedra, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 30.....	4.17	376	Apr. 30.....	7.18	2,690	Aug. 9.....	3.76	108
Dec. 13.....	3.97	172	May 2.....	8.06	3,730	Aug. 24.....	3.70	104
Feb. 8.....	4.12	277	May 6.....	7.74	3,460	Do.....	3.70	103
Do.....	4.10	259	Do.....	7.45	3,070	Aug. 29.....	3.65	83
Apr. 1.....	4.45	468	May 8.....	8.89	4,950	Sept. 9.....	3.66	84
Do.....	4.44	448	Do.....	8.77	4,730	Sept. 17.....	3.61	74
Apr. 18.....	5.88	1,450	July 17.....	3.97	177	Sept. 29.....	3.60	74
Apr. 20.....	6.60	2,110	Aug. 1.....	3.85	136			

¹ Formerly called Kings River near Sanger, Calif.

Daily discharge, in second-feet, of Kings River at Piedra, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	468	289	218	190	256	300	456	2,940	902	281	135	80
2	432	294	212	190	256	336	432	3,170	902	281	132	80
3	426	300	190	170	250	402	480	3,290	935	287	132	81
4	402	300	201	256	245	342	578	3,410	1,000	293	129	82
5	378	284	196	245	245	336	590	3,170	1,000	329	129	87
6	372	272	190	245	245	312	645	2,940	935	311	124	85
7	366	267	201	245	256	330	900	3,530	870	299	119	84
8	432	262	228	245	272	342	1,050	3,930	740	287	114	83
9	444	272	212	234	306	324	1,330	3,930	642	275	109	82
10	456	278	166	218	390	312	1,550	3,790	578	257	106	81
11	450	300	144	223	348	312	1,920	3,050	521	245	104	80
12	450	306	166	223	324	300	2,020	2,880	485	228	101	79
13	432	294	174	223	312	284	2,170	2,400	455	223	102	78
14	402	289	190	218	324	284	2,470	2,150	431	212	104	77
15	378	284	201	212	330	289	1,800	2,300	413	201	105	76
16	360	272	196	196	312	300	1,330	2,610	395	190	106	75
17	354	262	196	206	300	267	1,220	2,560	383	182	105	74
18	348	256	190	206	289	272	1,250	2,450	377	174	104	74
19	336	267	190	206	294	267	1,520	2,300	359	170	102	73
20	324	245	206	201	300	272	1,850	2,150	341	166	101	72
21	306	240	196	196	300	289	1,950	2,050	323	162	101	72
22	300	234	178	190	300	278	1,850	1,850	317	158	100	71
23	306	228	170	190	289	318	2,400	1,700	317	154	98	71
24	318	228	174	186	284	342	1,900	1,480	305	150	93	70
25	306	228	190	212	272	360	1,610	1,610	305	150	92	70
26	300	223	201	223	272	396	1,440	1,520	305	147	90	70
27	294	212	201	223	272	545	1,400	1,360	299	147	88	69
28	289	206	186	360	267	480	1,440	1,180	287	147	87	69
29	284	201	178	318	289	432	1,660	1,100	287	147	82	68
30	278	206	190	272	-----	414	2,250	1,070	287	141	82	68
31	278	-----	206	256	-----	444	-----	1,000	-----	138	81	-----

Monthly discharge of Kings River at Piedra, Calif., for the year ending September 30, 1924

[Drainage area, 1,740 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	468	278	364	0.209	0.24	22,400
November	306	201	260	.149	.17	15,600
December	228	144	192	.110	.13	11,800
January	360	170	225	.129	.15	13,800
February	390	245	290	.167	.18	16,700
March	545	267	338	.194	.22	20,800
April	2,470	432	1,460	.389	.94	86,900
May	3,930	1,000	2,420	1.39	1.60	149,000
June	1,000	287	523	.301	.34	31,100
July	329	138	211	.121	.14	13,000
August	135	81	105	.060	.07	6,460
September	87	68	76.0	.044	.05	4,520
The year	3,930	68	539	.310	4.23	392,000

NORTH FORK OF KINGS RIVER BELOW MEADOW BROOK, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 1, T. 10 S., R. 28 E., half a mile below Meadow Brook and half a mile above Fleming Creek, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1921, to September 30, 1924.

GAGE.—Water-stage recorder on left bank above series of rapids and falls between Meadow Brook and Fleming Creek.

DISCHARGE MEASUREMENTS.—Made from cable above gage or by wading.

CHANNEL AND CONTROL.—Bed and control are solid rock. Control is solid rock in form of a saddle at head of a series of rapids and falls.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.89 feet at 6.30 p. m. May 8 (discharge, 379 second-feet); minimum stage, 1.38 feet September 12-14 (discharge, 0.3 second-foot).

1921-1924: Maximum stage recorded, 5.02 feet at 8 p. m. June 4, 1922 (discharge, 870 second-feet); minimum stage that of September 12-14, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ICE.—Float frozen in ice in well December 23 to January 6, January 16-18, 25-26, February 2-5, and March 5-10. Stage-discharge relation slightly affected by ice March 26-27.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table except March 25 and 26 for which it was estimated, because of ice, from discharge measurements. Discharge interpolated during periods when float well was frozen. Records excellent.

COOPERATION.—Gage-height record and results of discharge measurements furnished by San Joaquin Light & Power Corporation.

Eighty-seven discharge measurements were made at the station during the year.

Daily discharge, in second-feet, of North Fork of Kings River below Meadow Brook, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	5.5	2.5	1.8	1.8	7	5.5	156	32	3.6	0.6	0.3
2	10	5.5	1.8	1.9	2.0	6	6	177	31	3.8	.5	.3
3	10	5.5	2.4	1.9	2.2	5.5	7	193	32	4.4	.5	.3
4	8.5	4.4	1.9	1.9	2.4	6	7	187	32	3.8	.5	.4
5	8	4.7	1.7	1.9	2.6	6	8	166	29	3.6	.4	.4
6	7.5	4.4	2.0	1.9	2.9	6	11	209	26	3.6	.4	.4
7	8.5	3.8	2.5	1.9	2.9	6	19	246	21	3.3	.4	.4
8	13	4.7	1.9	1.9	2.9	6	30	262	19	3.1	.4	.4
9	14	4.7	1.0	1.9	3.1	6	50	262	16	3.1	.4	.4
10	13	5.5	1.1	2.0	2.9	6	67	212	13	2.9	.4	.4
11	13	5.5	1.0	2.2	3.1	6	81	174	11	2.7	.4	.3
12	13	3.8	1.4	2.4	3.4	5.5	81	147	10	2.2	.4	.3
13	11	5.5	1.6	2.2	3.8	5.5	90	118	8.5	2.2	.4	.3
14	10	3.8	1.7	1.9	4.4	5.5	75	124	7.5	2	.3	.3
15	9.5	3.8	1.8	1.7	5	7	44	156	7	1.9	.3	.3
16	8.5	3.4	1.7	1.7	5.5	5.5	35	159	6.5	1.8	.3	.3
17	9.5	3.4	1.7	1.7	5.5	5.5	37	144	6	1.7	.3	.3
18	8.5	3.4	1.7	1.8	5.5	4.7	58	142	6	1.6	.3	.3
19	8	3.4	1.8	1.8	6	3.8	78	129	5.5	1.4	.4	.3
20	7.5	3.3	1.8	1.7	6	3.8	81	116	5.5	1.2	.4	.3
21	7	2.7	1.8	1.6	5.5	3.6	95	103	5	1.2	.4	.4
22	7.5	2.7	1.7	1.4	5.5	3.6	114	102	4.7	1.1	.4	.4
23	7.5	2.9	1.7	1.4	4.4	3.8	105	90	5	1	.4	.4
24	6	3.1	1.7	1.4	4.1	4.4	79	107	4.7	.9	.4	.4
25	6	2.4	1.7	1.5	4.1	4.4	58	103	4.7	.8	.4	.4
26	6	2.4	1.7	1.5	4.1	4.5	50	78	4.1	.7	.3	.4
27	5.5	2.0	1.7	1.6	4.7	4.9	45	58	4.1	.7	.3	.5
28	5.5	2.4	1.8	1.7	6	5.5	63	47	3.8	.6	.3	.5
29	5	2.4	1.8	1.6	7	5.5	79	44	3.6	.6	.3	.5
30	4.7	3.1	1.8	1.6	-----	5.5	116	41	3.6	.6	.2	.5
31	5	-----	1.8	1.7	-----	5.5	-----	36	-----	.6	.3	-----

Monthly discharge of North Fork of Kings River below Meadow Brook, Calif., for the year ending September 30, 1924.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	14	4.7	8.67	533
November.....	5.5	2.0	3.80	226
December.....	2.5	1.0	1.75	108
January.....	2.4	1.4	1.78	109
February.....	7	1.8	4.11	236
March.....	7	3.6	5.31	326
April.....	116	5.5	55.8	3,320
May.....	262	36	138	8,480
June.....	32	3.6	12.3	732
July.....	4.4	.6	2.02	124
August.....	.6	.3	.38	23.4
September.....	.5	.3	.37	22.0
The year.....	262	.3	19.6	14,200

NORTH FORK OF KINGS RIVER NEAR CLIFF CAMP, CALIF.

LOCATION.—In N. $\frac{1}{2}$ sec. 12, T. 11 S., R. 27 E., at Cliff Camp Bridge, 1 mile west of Cliff Camp, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 25, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in masonry well and sheet metal shelter on right bank just below bridge since November 24, 1922.

DISCHARGE MEASUREMENTS.—Made from cable 500 feet below gage or by wading 300 feet above gage.

CHANNEL AND CONTROL.—Channel is solid rock, very steep and rough. Gage is in a deep pool. Control is solid rock and permanent. A series of rapids occur just below control.

EXTREMES OF DISCHARGE.—Maximum stage during the year, from water-stage recorder, 7.75 feet at 9 p. m. May 8 (discharge, 1,340 second-feet); minimum stage from water-stage recorder, 2.14 feet September 9–11 (discharge, 1.3 second-feet.)

1921–1924: Maximum stage recorded, 10.6 feet at 8 p. m.

June 4, 1922 (discharge, 6,030 second-feet); minimum stage, that of September 9–11, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ICE.—Stage-discharge relation slightly affected by ice January 1–31.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record excellent except for period January 1 and 2 when float was frozen in well. Daily discharge ascertained by applying mean daily gage height to rating table except January 1–31 for which it was estimated from discharge measurements because of ice at the control. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by the San Joaquin Light & Power Corporation.

Seventy-two discharge measurements were made during the year.

Daily discharge, in second-feet, of North Fork of Kings River near Cliff Camp, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	18	14	10	19	37	51	682	97	9.5	2.3	1.5
2	34	23	11	12	16	46	62	760	90	9.5	2.3	1.5
3	30	24	13	14	16	39	83	760	88	10	2.2	1.6
4	26	22	12	14	17	39	90	740	83	10	2.1	1.5
5	23	22	11	14	18	33	103	648	75	9	2.0	1.6
6	21	20	12	13	22	38	137	720	67	8	2.0	1.5
7	34	20	16	12	24	40	199	840	61	8.5	1.9	1.3
8	45	23	11	12	25	35	266	860	53	7.5	1.8	1.6
9	57	22	6	12	32	35	317	840	46	7.5	1.8	1.3
10	56	24	7	13	28	36	390	720	41	7	1.8	1.3
11	58	24	8.5	12	30	36	452	595	36	6.5	1.8	1.3
12	56	23	9.5	12	29	31	440	525	32	6	1.8	1.4
13	43	24	11	11	32	33	495	452	28	5.5	1.7	1.4
14	35	25	12	11	34	39	495	452	25	5.5	1.6	1.4
15	32	22	11	11	31	44	304	495	23	5	1.6	1.4
16	30	20	10	12	29	33	233	480	22	4.7	1.5	1.5
17	80	18	10	10	27	34	235	440	20	4.4	1.6	1.5
18	28	18	11	10	30	30	317	402	20	4.4	1.6	1.5
19	26	18	13	9	32	26	402	352	19	4.4	1.8	1.5
20	24	18	10	8	30	31	452	310	17	4.2	2.0	1.5
21	23	16	10	8.5	32	31	480	274	16	4.2	2.2	1.6
22	23	15	9	9	27	29	525	255	15	3.9	2.2	1.6
23	25	16	8	9	28	29	480	235	14	3.6	2.0	1.7
24	22	17	9	8	24	34	352	235	14	3.5	1.8	1.8
25	20	15	10	8.5	24	34	306	274	13	3.3	1.8	1.8
26	20	13	11	9.5	24	34	302	212	12	2.9	1.8	2.0
27	20	14	8.5	12	27	36	297	184	12	2.8	1.7	2.1
28	20	13	8.5	14	34	38	317	147	11	2.6	1.5	2.1
29	19	14	9	15	38	37	440	131	11	2.4	1.5	2.1
30	18	18	9	15	47	47	595	123	10	2.4	1.5	2.1
31	20	8	20	20	54	54	111	111	2.3	1.5	1.5	2.1

Monthly discharge of North Fork of Kings River near Cliff Camp, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	58	18	30.7	1,890
November	25	13	19.3	1,150
December	16	6	10.2	627
January	20	8	11.6	713
February	38	16	26.9	1,550
March	54	26	36.0	2,210
April	595	51	321	19,100
May	860	111	460	28,300
June	97	10	35.7	2,120
July	10	2.3	5.52	339
August	2.3	1.5	1.83	113
September	2.1	1.3	1.60	95.2
The year	860	1.3	80.2	58,200

NORTH FORK OF KINGS RIVER ABOVE DINKEY CREEK, CALIF.

LOCATION.—In sec. 10, T. 12 S., R. 26 E., 200 feet above mouth of Dinkey Creek, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 26, 1919, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and metal shelter on left bank at the road crossing about 200 feet above mouth of Dinkey Creek.

DISCHARGE MEASUREMENTS.—Made from cable about 2 miles below gage or by wading 1 mile above gage in 1924 to 1926. Measurements made below gage are reduced by amount of flow of Dinkey Creek.

CHANNEL AND CONTROL.—Channel is solid rock, boulders, and gravel and is permanent. Control is a rapid over boulders and solid rock. Channel is very steep with numerous falls and rapids.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 8.43 feet at 11.45 p. m. May 8 (discharge, 1,530 second-feet); minimum discharge about 4 second-feet August 29 to September 1.

1919-1924: Maximum stage recorded, 12.18 feet at 9.30 p. m. June 4, 1922 (discharge, 6,080 second-feet); minimum discharge, about 4 second-feet August 29 to September 1, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve based on measurements made 1924 to 1926, well defined below 4,000 second-feet and extended above. Water-stage recorder record excellent, except December 8-16 and May 14 to June 6, when the clock was stopped. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge estimated from flow of Kings River near Sanger or North Fork of Kings River at Cliff Camp for periods when clock was stopped. Records good.

COOPERATION.—Gage-height record furnished by San Joaquin Light & Power Corporation.

The following discharge measurements were made:

June 17, 1924: Gage height, 4.35 feet; discharge, 26 second-feet.

June 17, 1924: Gage height, 4.35 feet; discharge, 26 second-feet.

July 25, 1924: Gage height, 3.75 feet; discharge, 6.8 second-feet.

Daily discharge, in second-feet, of North Fork of Kings River above Dinkey Creek, Calif., for the year ending September 30, 1924.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	35	27	21	35	50	81	820	110	14	6	4.0
2	47	35	22	17	33	64	71	920	105	13	6	4.3
3	46	36	21	28	31	61	112	920	100	13	6	4.6
4	42	36	22	32	30	61	124	920	95	13	6	4.9
5	39	33	20	29	30	54	127	795	85	13	6	5
6	37	30	21	29	34	57	181	820	70	13	5.5	5
7	45	29	23	27	38	59	253	970	62	12	5.5	5
8	66	30	22	26	40	56	304	1,020	57	11	5.5	5
9	65	33	22	24	57	53	392	995	54	11	5.5	5
10	67	33	22	26	52	51	490	895	48	11	5.5	5
11	68	42	21	26	48	50	570	695	45	10	5.5	5
12	67	39	21	24	48	48	550	670	39	10	5.5	5
13	60	36	21	23	48	47	610	530	36	10	5.5	4.9
14	50	36	20	22	49	51	630	550	33	9.5	5.5	4.9
15	46	36	20	21	48	55	334	610	29	9.5	5	5
16	43	32	20	21	43	51	271	590	27	9	5	5
17	41	30	20	21	41	49	256	530	26	9	5	5
18	41	28	20	20	43	44	352	490	25	8.5	5.5	5
19	38	29	22	20	46	46	470	430	24	8.5	5.5	5
20	36	29	23	20	45	47	550	390	23	8.5	5.5	5
21	34	29	20	19	45	45	550	330	21	8.5	6	5
22	33	26	19	20	44	40	660	305	20	8	6	5.5
23	34	25	18	20	43	51	630	285	19	8	6	5.5
24	35	26	19	19	40	55	430	285	18	7.5	5.5	5.5
25	32	22	19	19	39	55	304	330	17	7.5	5.5	5.5
26	31	23	20	20	38	70	353	245	17	7	5.5	5.5
27	31	22	20	32	40	71	353	215	16	7	5	6
28	29	22	18	46	44	61	342	165	16	6.5	4.8	5.5
29	29	22	19	33	51	54	510	150	15	6	4.0	5.5
30	27	24	21	32	-----	63	720	140	14	6	4.0	5.5
31	31	-----	20	33	-----	67	-----	125	-----	6	4.0	-----

Monthly discharge of North Fork of Kings River above Dinkey Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	67	27	43.1	2,650
November.....	42	22	30.3	1,800
December.....	27	18	20.7	1,270
January.....	46	17	24.8	1,520
February.....	57	30	42.2	2,430
March.....	71	44	54.6	3,360
April.....	720	71	389	23,100
May.....	1,020	125	552	33,000
June.....	110	14	42.2	2,510
July.....	14	6	9.50	584
August.....	6	4.0	5.40	332
September.....	6	4.0	5.09	303
The year.....	1,020	4.0	102	73,800

HELMS CREEK AT SAND MEADOW, CALIF.

LOCATION.—In sec. 1, T. 10 S., R. 27 E., at lower end of Sand Meadow, half a mile below crossing of trail from Deer Meadow to Long Meadow, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder on right bank in masonry well and sheet metal shelter.

DISCHARGE MEASUREMENTS.—Made from cable at the gage or by wading 400 feet below gage.

CHANNEL AND CONTROL.—One channel at all stages; bed of stream, sand and gravel; banks low and will be overflowed at high stages for a short distance. Control is a solid rock outcrop 50 feet below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.81 feet at 7.30 p. m. May 2 (discharge, 243 second-feet); minimum stage, from water-stage recorder, 1.72 feet August 1 and 27 (discharge, 1.1 second-feet).

DIVERSIONS.—None.

REGULATION.—None.

ICE.—Ice formed at gage pool and on control seriously affecting stage-discharge relation from December 10 to April 11.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table, except for period of ice effect, which was estimated from discharge measurements and by comparison with flow at other stations. Records good.

COOPERATION.—Gage-height record and the results of measurements furnished by the San Joaquin Light & Power Corporation.

Eighty-three discharge measurements were made during the year.

Daily discharge, in second-foot, of Helms Creek at Sand Meadow, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	4.4	3.7	3.0	3.6	6	8.5	136	11	2.1	1.2	1.4
2	7.6	4.7	3.8	3.1	3.7	6	8.5	145	9.5	2.2	1.2	1.5
3	6.5	5	3.8	3.1	3.8	6	9	145	9	2.4	1.4	1.5
4	5.5	5	3.5	3.1	3.9	6	9	121	8	2.2	1.4	1.5
5	5	4.4	3.5	3.1	3.9	6	10	106	7	2.2	1.4	1.5
6	5	4.7	3.7	3.2	3.9	6	12	117	6.5	2.1	1.4	1.5
7	7.5	4.2	3.5	3.2	3.9	5	25	121	6	2.1	1.4	1.5
8	8.5	5	3.5	3.1	3.9	5.5	35	121	5.5	2.1	1.4	1.5
9	9	5	2.1	3.1	3.9	6	60	113	5.5	2.1	1.4	1.5
10	9.5	5	2.5	3.0	3.9	6.5	75	100	5.5	2.1	1.5	1.5
11	11	5.5	3	2.9	3.9	6.5	95	86	5	2.1	1.5	1.5
12	11	5	3.4	2.9	3.9	6.5	98	70	4.7	2.1	1.4	1.5
13	8.5	5	3.4	2.8	4.2	6.5	98	74	4.4	2.1	1.4	1.5
14	7.5	5	3.6	2.8	4.8	12	75	68	4.2	1.9	1.4	1.5
15	7	5	3.2	2.8	4.8	11	50	70	4.0	1.9	1.4	1.5
16	6.5	4.4	2.6	3.0	4.9	11	37	66	3.8	1.8	1.4	1.5
17	7.5	4.2	2.6	2.8	5	8	42	60	3.8	1.8	1.5	1.5
18	6	4.2	2.6	2.9	5	9	56	51	3.6	1.8	1.5	1.5
19	6	4.2	2.6	2.9	5	10	80	44	3.6	1.8	1.5	1.5
20	5.5	4.2	2.7	2.9	5.5	10	88	39	3.6	1.8	1.6	1.6
21	5	4	2.7	2.8	5.5	10	98	33	3.4	1.8	1.6	1.6
22	5.5	4.2	2.7	2.8	6	9.5	102	30	3.2	1.6	1.5	1.6
23	5	4.2	2.8	2.8	6	9.5	74	27	3.0	1.6	1.4	1.6
24	4.7	4.2	2.8	3.2	6	9.5	58	27	2.8	1.6	1.4	1.6
25	4.7	4	2.8	2.9	6	9	52	24	2.8	1.6	1.2	1.8
26	4.4	4	2.8	2.9	6	9	58	20	2.8	1.5	1.2	1.8
27	4.4	3.8	2.8	3.0	6	9	61	18	2.6	1.5	1.2	1.8
28	4.2	4	2.9	3.1	6	8.5	65	16	2.4	1.5	1.2	1.8
29	4.2	3.8	3.0	3.2	6	8.5	95	15	2.2	1.4	1.2	1.8
30	4.2	4.2	3.0	3.4	-----	8.5	132	13	2.1	1.4	1.4	1.8
31	4.7	-----	3.0	3.5	-----	8.5	-----	12	-----	1.4	1.4	-----

Monthly discharge of Helms Creek at Sand Meadow, Calif., for the year ending September 30, 1924

Month	Discharge in second-foot			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	11	4.2	6.42	395
November	5.5	3.8	4.48	267
December	3.8	2.1	3.05	188
January	3.5	2.8	3.01	185
February	6	3.6	4.79	276
March	12	5	8.03	494
April	132	8.5	58.9	3,500
May	145	12	67.4	4,140
June	11	2.1	4.72	281
July	2.4	1.4	1.86	114
August	1.6	1.2	1.39	85.5
September	1.8	1.4	1.67	93.4
The year	145	1.2	13.8	10,000

DINKY CREEK AT DINKY MEADOW, CALIF.

LOCATION.—In sec. 21, T. 10 S., R. 26 E., at lower end of Dinkey Meadow, Fresno County, half a mile above Bear Creek and 10 miles southeast of Ockenden.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 27, 1921, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 600 feet below old concrete weir at the cattle trail at lower end of Dinkey Meadow. Previous to October 10, 1923, record is from a water-stage recorder at left end of the concrete weir.

DISCHARGE MEASUREMENTS.—Made from cable 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed of stream is solid rock, boulders, and gravel.

Control is a solid rock outcrop with two small natural crevices with a free fall on downstream side of several feet; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.00 feet at 6.30 p. m. April 10 (discharge, 300 second-feet); minimum stage, 0.55 foot at 9 p. m. August 30 (discharge, 0.4 second-foot):

ICE.—Stage-discharge relation affected by ice January 1 to February 6.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent except January 1 to February 6 when ice affected flow. Rating curve well defined. Water-stage recorder record excellent. Gage-height record of no value January 1-5 as float was frozen in well. Daily discharge ascertained by applying mean daily gage height to rating table except January 1 to February 6 for which it was estimated because of ice from discharge measurements. Records good.

COOPERATION.—Gage-height record and results of measurements furnished by the San Joaquin Light & Power Corporation.

Seventy-two discharge measurements were made during the year.

Daily discharge, in second-feet, of Dinkey Creek at Dinkey Meadow, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	10	11	6.5	7	14	22	31	194	19	2.5	0.6	0.4
2.....	9	11	5	7	12	26	33	192	17	2.3	.6	.4
3.....	7.5	11	5.5	7	12	26	43	197	16	2.4	.6	.5
4.....	7	10	4.8	7	13	24	44	174	15	2.3	.6	.5
5.....	6.5	8.5	4.6	7	15	23	56	153	13	2.2	.6	.6
6.....	6.5	8	5	7	18	28	95	155	12	2.1	.6	.5
7.....	14	7	8.5	8	19	31	131	163	12	2.0	.5	.5
8.....	20	11	5	7	22	26	160	162	11	1.9	.5	.6
9.....	20	11	4.2	7	28	25	184	152	10	1.7	.5	.6
10.....	18	14	4.2	7	24	24	204	135	10	1.7	.5	.6
11.....	17	16	5	6	22	23	215	116	9	1.6	.5	.5
12.....	16	15	6.5	5.5	22	21	196	110	8	1.6	.5	.5
13.....	13	14	6	5	23	21	186	116	7.5	1.5	.5	.5
14.....	11	12	5.5	5	25	23	164	99	7	1.4	.5	.5
15.....	10	11	5.5	5	22	25	104	100	6	1.4	.4	.4
16.....	9.5	10	6	4.8	19	20	84	99	6	1.3	.4	.4
17.....	9.5	9	5	4.2	19	20	90	89	5	1.2	.5	.4
18.....	8.5	9	4.8	4.2	20	19	122	80	5	1.2	.6	.5
19.....	7.5	9.5	6	4.2	21	18	155	69	4.8	1.2	.6	.5
20.....	7	9.5	4.8	4.2	21	19	155	60	4.4	1.2	.8	.5
21.....	7	9.5	5.5	4.6	21	20	163	52	3.8	1.2	.8	.5
22.....	7	10	5	4.6	19	21	164	47	3.5	1.1	.8	.6
23.....	7.5	9	4.8	4.6	18	22	149	45	3.4	1.1	.7	.6
24.....	7	7	5	4.8	17	23	125	42	3.3	1.0	.6	.6
25.....	6.5	7	6	5	17	22	114	37	3.3	.9	.6	.7
26.....	6	7	5.5	8	17	31	110	34	3.2	.8	.5	.8
27.....	6	6.5	5	16	18	28	104	31	3.1	.8	.4	.8
28.....	6	5.5	5	14	21	22	105	28	2.9	.8	.4	.8
29.....	6	6	5	11	24	24	142	25	2.8	.7	.4	.7
30.....	6	8	4.8	12	-----	28	182	23	2.6	.6	.4	.7
31.....	9.5	-----	7	15	-----	32	-----	21	-----	.6	.4	-----

Monthly discharge of Dinkey Creek at Dinkey Meadow, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	20	6	9.74	599
November.....	16	5.5	9.77	581
December.....	8.5	4.2	5.39	331
January.....	16	4.2	7.05	433
February.....	28	12	19.4	1,120
March.....	32	18	23.8	1,460
April.....	215	31	127	7,560
May.....	197	21	96.5	5,930
June.....	19	2.6	7.65	455
July.....	2.5	.6	1.43	87.9
August.....	.8	.4	.55	33.8
September.....	.8	.4	.56	33.3
The year.....	215	.4	25.7	18,600

DINKEY CREEK AT MOUTH, CALIF.

LOCATION.—In sec. 3, T. 12 S., R. 26 E., half a mile above mouth of creek, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 6, 1920, to September 30, 1924.

GAGE.—Water-stage recorder on right bank.

DISCHARGE MEASUREMENTS.—Made from a suspension footbridge at gage or by wading.

CHANNEL AND CONTROL.—Channel is solid rock, large boulders, and sand. Control formed by large boulders in the channel.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.70 feet at 11.30 p. m. April 10 (discharge, 615 second-feet); minimum stage, 3.16 feet August 31 (discharge, 1.6 second-feet).

1920-1924: Maximum stage, from water-stage recorder, 10.48 feet at 3.45 p. m. April 6, 1923 (discharge, 3,500 second-feet); minimum stage, that of August 31, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Water-stage recorder record excellent except November 10-16 and May 8 and 9 when clock was stopped. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge estimated from flow of Dinkey Creek at Dinkey Meadow and North Fork of Kings River near Cliff Camp for periods of no record. Record good.

COOPERATION.—Gage-height record and results of measurements furnished by San Joaquin Light & Power Corporation.

Discharge measurements of Dinkey Creek at mouth, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 8.....	3.89	22	Jan. 12.....	3.90	22	June 17.....	3.72	10
Dec. 17.....	3.86	18	Jan. 29.....	4.11	32	Do.....	3.72	13
Dec. 29.....	3.83	18	Apr. 27.....	5.44	214	July 26.....	3.30	3.0
Dec. 31.....	3.68	12	Apr. 28.....	5.30	183			

Daily discharge, in second-feet, of Dinkey Creek at mouth, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.	23	29	21	20	39	50	73	360	37	6	2.5	1.7
2.	23	29	18	16	37	64	63	345	34	5.5	2.5	1.7
3.	22	29	18	29	31	54	99	366	31	5.5	2.5	1.7
4.	20	26	17	31	34	63	100	333	28	5.5	2.5	1.8
5.	20	24	18	28	34	48	111	280	26	5	2.5	1.9
6.	20	22	18	27	39	60	165	275	24	4.8	2.5	1.9
7.	34	20	21	25	42	69	258	275	23	4.6	2.4	1.9
8.	46	22	22	24	46	62	298	262	22	4.4	2.3	1.8
9.	45	35	12	21	68	59	360	248	21	4.2	2.2	1.8
10.	44	35	16	26	61	56	405	235	21	4.0	2.2	1.9
11.	45	33	16	24	52	54	424	209	20	3.9	2.2	1.9
12.	39	31	18	23	48	48	387	199	18	3.8	2.3	1.9
13.	33	29	19	23	51	48	381	209	18	3.8	2.2	1.8
14.	28	26	20	18	50	51	369	185	16	3.7	2.1	1.8
15.	26	26	20	20	54	57	240	176	15	3.7	2.0	1.8
16.	25	25	18	21	45	48	180	172	14	3.6	2.1	1.8
17.	24	24	18	20	41	48	178	161	13	3.5	2.1	1.8
18.	23	24	18	20	45	38	223	142	13	3.5	2.2	1.8
19.	22	23	21	20	47	43	290	128	13	3.4	2.4	1.8
20.	20	23	19	20	47	48	306	114	12	3.4	2.9	1.8
21.	20	22	16	20	47	41	300	99	11	3.4	2.8	2.0
22.	20	21	17	20	44	47	324	89	9.5	3.4	2.9	2.1
23.	21	21	18	20	41	49	315	83	9	3.4	2.8	2.1
24.	21	21	20	18	38	54	245	81	8	3.3	2.4	2.1
25.	20	20	19	19	38	51	242	70	8	3.1	2.4	2.2
26.	20	20	20	20	40	64	228	64	7.5	3.1	2.2	2.4
27.	20	20	15	32	39	63	215	59	7	2.9	2.1	2.5
28.	19	18	16	55	44	58	203	53	7	2.8	1.9	2.5
29.	19	18	18	36	50	49	255	48	7	2.7	1.7	2.4
30.	18	20	20	34	-----	60	333	45	6	2.7	1.7	2.3
31.	21	-----	16	38	-----	71	-----	41	-----	2.5	1.6	-----

Monthly discharge of Dinkey Creek at mouth, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.	46	18	25.8	1,590
November.	36	18	24.6	1,460
December.	22	12	18.2	1,120
January.	55	16	24.8	1,520
February.	68	31	44.8	2,580
March.	71	38	54.0	3,320
April.	424	63	252	15,000
May.	366	41	174	10,700
June.	37	6	16.6	988
July.	6	2.5	3.84	236
August.	2.9	1.6	2.29	141
September.	2.5	1.7	1.96	117
The year.	424	1.6	53.5	38,800

DEER CREEK BELOW EAST FORK, CALIF.

LOCATION.—In sec. 6, T. 11 S., R., 27 E., 200 feet below mouth of East Fork, Fresno County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1923, to September 30, 1924.

GAGE.—Water-stage recorder on right bank.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Channel is solid rock. Control is solid rock with a few crevices at the head of a series of rapids and falls. A long deep pool at the gage. Banks are high and rocky; channel straight.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.10 feet at 8 p. m. April 30 (discharge, 132 second-feet); minimum stage, 3.95 feet August 24 to September 19 and September 23 and 24 (discharge, 0.3 second-foot).

DIVERSIONS.—None.

REGULATION.—None.

ICE.—Seriously affected by ice on control and by float frozen in well December 1 to February 19.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Water-stage recorder record excellent except for period December 1 to February 19 when float was frozen in well and ice on control affected flow. Daily discharge ascertained by applying mean daily gage height to rating table except during frozen period for which it was estimated from discharge measurements. Daily discharge not complete for period October 1 to February 19; monthly discharge estimated from discharge measurements. Records good.

COOPERATION.—Gage-height record and the results of measurements furnished by San Joaquin Light & Power Corporation.

Sixty-five discharge measurements were made in 1923 and 1924.

Daily discharge, in second-feet, of Deer Creek below East Fork, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0					9	24	59	4.5	0.9	0.4	0.3
2	3.5					12	19	61	3.5	.9	.4	.3
3	3.0					23	21	57	3.5	.9	.4	.3
4	2.0					10	19	47	3.5	.7	.4	.3
5			3.2		5.5	21	17	42	3.0	.7	.4	.3
6						31	24	42	3.0	.7	.4	.3
7						14	36	40	3.0	.7	.4	.3
8		4.5				10	47	39	3.0	.7	.4	.3
9			1.9			9	57	35	3.0	.7	.4	.3
10				3.3		9	68	30	3.0	.7	.4	.3
11					5.5	10	66	25	3.0	.6	.4	.3
12	6.5					9.5	60	24	2.5	.6	.4	.3
13		4.5	2.9			9	60	25	2.0	.6	.4	.3
14					10	9.5	50	22	2.0	.6	.4	.3
15				3.0		10	30	20	1.7	.6	.4	.3
16						9.5	28	18	1.7	.6	.4	.3
17						8	29	17	1.7	.6	.4	.3
18				3.3		8.5	42	14	1.5	.5	.4	.3
19		3.5	2.6		10	9.5	53	13	1.5	.5	.4	.3
20					13	8	50	13	1.3	.5	.4	.4
21		3.0			13	8.5	53	11	1.3	.5	.4	.3
22		3.5				10	9.5	51	1.1	.5	.4	.4
23		3.0			8.5	20	44	10	1.1	.5	.4	.3
24		3.0			12	24	40	9	1.1	.5	.3	.3
25		3.5		3.0	13	23	38	8.5	1.1	.4	.3	.4
26		4.0			8	24	36	8.5	1.1	.4	.3	.4
27	3.0	4.0			8	30	35	7	.9	.4	.3	.4
28	4.5	4.0			10	32	40	6.5	.9	.4	.3	.4
29		3.5		3.6	10	34	53	6	.9	.4	.3	.4
30		3.0				30	64	5	.9	.4	.3	.4
31						30		4.5		.4	.3	

NOTE.—Daily-discharge record not complete for October to February. See monthly table for estimated mean discharge.

Monthly discharge of Deer Creek below East Fork, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			* 5.0	307
November.....			* 4.0	238
December.....			* 3.0	184
January.....			* 3.5	215
February.....			* 8.21	472
March.....	34	8	16.3	1,000
April.....	68	17	41.8	2,490
May.....	61	4.5	23.5	1,440
June.....	4.5	.9	2.08	124
July.....	.9	.4	.58	35.7
August.....	.4	.3	.37	22.8
September.....	.4	.3	.33	19.6
The year.....	68	.3	9.03	6,550

* Estimated.

SAN JOAQUIN RIVER BASIN

SAN JOAQUIN RIVER AND TRIBUTARIES ABOVE FRESNO RIVER

SOUTH FORK OF SAN JOAQUIN RIVER NEAR LAKE FLORENCE, CALIF.

LOCATION.—In sec. 36, T. 7 S., R. 27 E., Fresno County, 2 miles northwest of Lake Florence and 6 miles above mouth of Bear Creek. Elevation about 7,200 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 29, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank.

DISCHARGE MEASUREMENTS.—Made from cable one-third mile above gage or by wading.

CHANNEL AND CONTROL.—Solid granite and boulders at gage. In January, 1924, the old natural control, which was not permanent, was replaced by a concrete control; one channel; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 12.1 feet at 9 p. m. May 8 (discharge, 1,310 second-feet); minimum discharge, estimated 7 second-feet on December 9.

1921-1924: Maximum stage, from water-stage recorder, 13.75 feet at 10 p. m. June 4, 1922 (discharge, 3,460 second-feet); minimum stage, 5.6 feet (estimated) at time of measurement, November 3, 1922 (discharge, 3.6 second-feet).

ICE.—Stage-discharge relation seriously affected by ice November 18 to January 22 and February 10-26.

DIVERSIONS.—About 1½ second-feet of water was at times pumped for camp and construction purposes during the year.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent until January 23. Rating curves well defined October 1-24, October 27 to November 17, and January 23 to September 30. Water-stage recorder record excellent except when affected by ice. Daily discharge ascertained by applying mean daily gage height to rating table, except during ice-affected period, for which it was ascertained by comparison with near-by stations or interpolation between discharge measurements. Records good to January 22 and excellent thereafter.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by the Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of South Fork of San Joaquin River near Lake Florence, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 24.....	8.50	45	Jan. 26.....	8.18	8.3	May 6.....	10.59	451
Do.....	8.21	39	Jan. 28.....	8.21	11	May 7.....	10.98	548
Oct. 25.....	8.16	41	Jan. 29.....	8.22	11	May 8.....	12.08	1,400
Oct. 27.....	8.26	43	Jan. 30.....	8.24	10	May 10.....	11.53	843
Oct. 29.....	7.93	42	Feb. 15.....	8.40	19	May 11.....	11.30	804
Nov. 10.....	7.62	30	Feb. 17.....	8.35	18	May 12.....	10.82	546
Nov. 12.....	6.74	25	Feb. 18.....	8.38	18	May 13.....	10.48	381
Nov. 14.....	6.23	21	Feb. 19.....	8.34	16	May 14.....	10.39	378
Dec. 4.....	7.74	20	Feb. 20.....	8.34	18	May 16.....	11.25	761
Do.....	7.90	24	Feb. 21.....	8.34	15	May 21.....	10.67	486
Dec. 5.....	7.85	25	Feb. 22.....	8.29	14	June 6.....	10.06	290
Dec. 6.....	7.74	22	Feb. 23.....	8.29	13	June 15.....	9.28	112
Dec. 7.....	7.93	25	Feb. 25.....	8.28	13	June 21.....	9.22	105
Dec. 9.....	7.18	7.5	Feb. 26.....	8.24	11	June 23.....	9.24	107
Dec. 10.....	6.33	7.9	Feb. 27.....	8.27	13	June 24.....	9.28	114
Do.....	6.42	9.2	Feb. 28.....	8.39	17	July 6.....	9.42	132
Dec. 11.....	6.94	14	Feb. 29.....	8.30	14	July 15.....	9.18	84
Do.....	6.58	12	Mar. 10.....	8.38	17	July 21.....	9.12	88
Dec. 12.....	6.54	11	Mar. 11.....	8.38	18	Do.....	9.12	88
Dec. 13.....	7.04	13	Mar. 25.....	8.50	24	July 25.....	9.14	88
Dec. 14.....	7.30	14	Mar. 26.....	8.48	23	July 28.....	9.12	85
Dec. 15.....	7.61	16	Mar. 28.....	8.63	32	Aug. 8.....	8.88	54
Dec. 16.....	7.39	15	Mar. 29.....	8.64	32	Aug. 14.....	8.94	64
Dec. 17.....	7.42	13	Mar. 31.....	8.73	41	Aug. 22.....	8.66	36
Dec. 21.....	7.31	13	Apr. 17.....	9.12	85	Aug. 23.....	8.67	39
Do.....	7.36	16	Apr. 18.....	9.18	93	Aug. 25.....	8.70	42
Dec. 22.....	6.92	13	Apr. 19.....	9.56	152	Aug. 26.....	8.75	45
Dec. 23.....	6.80	10	Apr. 21.....	9.87	225	Sept. 16.....	8.54	31
Dec. 26.....	6.60	11	Apr. 22.....	10.14	252	Sept. 20.....	8.46	25
Dec. 27.....	6.91	13	Apr. 23.....	9.94	270	Do.....	8.46	23
Dec. 28.....	6.78	13	Apr. 24.....	9.61	186	Sept. 22.....	8.42	20
Dec. 29.....	6.60	11	Apr. 25.....	9.54	158	Sept. 23.....	8.40	21
Dec. 31.....	7.70	11	Apr. 26.....	9.30	105	Sept. 24.....	8.37	20
Jan. 17.....	-----	11	May 4.....	10.72	502			
Jan. 18.....	-----	9.8	May 5.....	10.60	464			

Daily discharge, in second-feet, of South Fork of San Joaquin River near Lake Florence, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	78	35	20		14	19	31	436	269	119	64	41
2.....	86	31	20		13	22	30	538	296	127	61	40
3.....	81	32	22		14	17	38	585	314	129	58	39
4.....	70	30	22		13	20	38	580	323	131	57	38
5.....	63	30	25		14	18	35	525	302	122	57	38
6.....	59	28	22		14	20	46	600	281	119	56	39
7.....	61	28	25		16	21	64	810	232	116	56	39
8.....	67	39	16		16	19	88	900	192	113	54	38
9.....	71	36	7.5	11	18	19	106	900	167	107	51	35
10.....	70	33	8.5		20	19	131	870	147	104	50	34
11.....	71	36	13		26	19	188	725	133	102	52	32
12.....	68	28	11		26	15	183	600	122	98	53	31
13.....	60	30	13		26	17	238	446	116	92	56	31
14.....	59	26	14		23	18	235	468	108	89	57	30
15.....	58	26	16		20	19	145	590	104	85	55	30
16.....	55	24	15		20	14	107	670	101	84	53	30
17.....	59	22	13	11	20	18	96	698	96	82	49	28
18.....	56	23	13	10	20	15	114	670	88	80	45	27
19.....	53	22	13	10	20	15	153	610	84	77	44	26
20.....	51	20	14	10	18	20	200	600	87	79	42	24
21.....	49	21	14	9.5	18	16	235	552	91	79	40	22
22.....	49	16	13	9.5	16	19	311	493	95	77	41	22
23.....	47	18	10	9.5	15	19	266	450	95	80	41	20
24.....	41	23	10	9.5	16	22	188	478	98	77	42	19
25.....	43	20	10	9.5	16	24	149	457	101	79	40	18
26.....	44	17	11	9	17	25	139	415	100	80	41	16
27.....	41	17	13	9.5	19	27	143	359	100	77	42	15
28.....	36	18	13	10	21	28	149	320	102	76	42	14
29.....	33	20	11	12	21	27	205	332	108	73	42	14
30.....	34	22	11	12	-----	30	338	305	112	70	43	14
31.....	42	-----	11	13	-----	33	-----	269	-----	67	42	-----

NOTE.—Braced figures show estimated mean discharge for period indicated.

Monthly discharge of South Fork of San Joaquin River near Lake Florence, Calif., for the year ending September 30, 1924.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	86	33	56.6	3,480
November.....	39	16	25.7	1,530
December.....	25	7.5	14.5	892
January.....	13	9	10.6	652
February.....	26	13	18.3	1,050
March.....	33	14	20.5	1,260
April.....	338	30	146	8,690
May.....	900	269	556	34,200
June.....	323	84	152	9,040
July.....	131	67	93.2	5,730
August.....	64	40	49.2	3,030
September.....	41	14	28.1	1,670
The year.....	900	7.5	98.2	71,200

SOUTH FORK OF SAN JOAQUIN RIVER NEAR HOFFMAN MEADOW, CALIF.

LOCATION.—In sec. 8, T. 6 S., R. 26 E., unsurveyed, Fresno County, about 2 miles above Hoffman Creek and 3 miles east of Hoffman Meadow. Elevation about 5,100 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 17, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in masonry well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cables located 100 feet and 150 feet below gage.

CHANNEL AND CONTROL.—One channel at bottom of 2,000-foot canyon; rough; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 12.25 feet at 12.30 a. m. May 9 (discharge, 2,290 second-feet); minimum stage, 5.38 feet at 11 a. m. December 9 (discharge, 18 second-feet).

1921-1924: Maximum stage, from water-stage recorder, 15.21 feet at 2 a. m. June 5, 1922 (discharge, 5,930 second-feet); minimum stage, 5.31 feet at 3.35 p. m. November 18, 1921 (discharge, 15 second-feet).

ICE.—Stage-discharge relation affected by ice or float frozen in well January 2-28.

DIVERSIONS.—Practically none.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record excellent except when affected by ice. Daily discharge ascertained by applying mean daily gage height to rating table October 1 to January 1 and January 29 to September 30; estimated from discharge measurements and records of near-by streams during ice-affected period. Records excellent.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of South Fork of San Joaquin River near Hoffman Meadow, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 15	7.17	150	Jan. 9	6.32	49	Apr. 6	7.12	142
Oct. 17	7.18	152	Jan. 10	6.26	58	Apr. 7	7.54	193
Oct. 19	7.07	137	Jan. 11	6.20	54	Apr. 8	7.85	234
Oct. 21	6.98	136	Feb. 7	6.32	71	Apr. 9	8.10	281
Nov. 5	6.89	133	Feb. 10	6.26	69	Apr. 29	8.80	429
Nov. 7	6.55	83	Feb. 11	5.94	48	Apr. 30	9.36	602
Nov. 26	6.26	69	Feb. 12	6.20	60	May 31	9.15	517
Nov. 28	6.06	53	Mar. 4	6.44	74	June 17	7.54	194
Dec. 17	6.08	56	Mar. 5	6.36	75	June 29	7.56	186
Do	6.00	51	Mar. 6	6.39	71	July 18	6.99	127
Dec. 18	6.10	55	Mar. 7	6.49	74	Aug. 3	6.66	91
Jan. 6		58	Mar. 8	6.42	77	Aug. 31	6.34	67
Jan. 7		57	Apr. 5	6.88	115	Sept. 30	5.70	32
Jan. 8		61						

Daily discharge, in second-feet, of South Fork of San Joaquin River near Hoffman Meadow, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	110	69	48	59	76	108	875	503	204	105	69
2	182	115	52	45	60	78	99	1,100	533	211	102	69
3	178	115	64	60	59	66	120	1,190	580	226	97	67
4	166	110	64	65	61	73	126	1,190	598	226	95	67
5	156	103	63	58	64	70	118	1,020	564	218	93	66
6	147	98	68	58	67	73	146	1,020	518	204	92	67
7	159	93	73	57	71	77	190	1,370	430	197	91	68
8	162	96	66	61	76	72	242	1,610	358	197	89	66
9	180	102	37	49	82	72	284	1,720	311	186	85	64
10	182	102	47	58	68	73	320	1,640	284	177	83	61
11	177	105	51	54	66	72	417	1,400	258	174	83	58
12	172	105	62		78	67	417	1,220	242	170	84	56
13	160	102	65		82	67	488	900	226	163	88	54
14	148	106	64		84	70	533	850	211	151	89	53
15	144	96	61		82	74	345	1,130	204	146	89	53
16	141	91	55		78	68	275	1,340	197	142	86	52
17	146	87	58		76	67	258	1,340	197	139	83	51
18	142	88	58	50	77	66	275	1,220	184	135	79	49
19	138	90	59		78	64	338	1,160	175	130	75	48
20	132	88	42		79	77	430	1,130	169	130	74	46
21	127	83	53		78	66	488	1,050	172	132	71	44
22	128	76	55		70	72	615	950	180	130	67	43
23	132	81	59		73	75	590	790	183	132	69	41
24	121	86	60		63	78	444	790	186	132	69	40
25	118	73	55		69	84	399	830	187	128	68	38
26	116	69	55		73	90	358	790	186	132	67	37
27	114	64	46		73	91	358	670	182	129	68	36
28	111	67	53		78	93	348	659	182	125	69	34
29	107	68	58	49	79	89	458	598	190	123	68	34
30	104	83	50	52		103	690	580	197	115	69	33
31	108		49	56		115		518		111	70	

NOTE.—Braced figures show estimated mean discharge for period indicated.

Monthly discharge of South Fork of San Joaquin River near Hoffman Meadow, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	182	104	144	8,850
November.....	115	64	91.9	5,470
December.....	78	37	57.3	3,520
January.....	65	52.3	52.3	3,220
February.....	84	59	72.5	4,170
March.....	115	64	76.7	4,720
April.....	690	99	342	20,400
May.....	1,720	518	1,050	64,600
June.....	598	169	286	17,000
July.....	226	111	159	9,780
August.....	105	67	81.2	4,990
September.....	69	33	52.1	3,100
The year.....	1,720	33	206	150,000

SAN JOAQUIN RIVER ABOVE BIG CREEK, CALIF.

LOCATION.—In sec. 11, T. 8 S., R. 24 E., Fresno County, 3 miles above mouth of Big Creek and 7 miles below mouth of Chiquito Creek. Elevation about 2,500 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 25, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet below gage.

CHANNEL AND CONTROL.—Rough; boulder, gravel, and sand bottom; practically permanent. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 13 feet at 5 a. m. May 9 (discharge, 4,560 second-feet); minimum stage, 6.65 feet at 6 p. m. September 30 (discharge, 84 second-feet).

1922-1924: Maximum stage, from water-stage recorder, 17.34 feet at 1 a. m. June 5, 1922 (discharge, 18,000 second-feet); minimum stage, that of September 30, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERIONS.—Practically none.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly about December 1. Rating curves well defined. Water-stage recorder record excellent except May 4 and June 27 to July 1. Daily discharge ascertained by applying mean daily gage height to rating table, except May 4 and June 27 to July 1, for which it was estimated. Records excellent.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of San Joaquin River above Big Creek, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 10.....	8.34	526	May 3.....	12.28	3,630	June 19.....	7.88	348
Oct. 29.....	7.61	255	May 5.....	11.64	2,390	June 24.....	7.88	374
Nov. 1.....	7.69	299	May 7.....	11.90	2,820	July 2.....	7.96	376
Dec. 12.....	7.18	151	May 8.....	12.15	3,410	July 15.....	7.58	267
Jan. 22.....	7.20	171	May 9.....	12.93	3,870	July 23.....	7.47	214
Feb. 6.....	7.52	202	May 10.....	12.74	4,040	Aug. 9.....	7.18	174
Feb. 14.....	7.81	303	May 19.....	11.40	2,620	Aug. 16.....	7.18	166
Mar. 3.....	7.74	310	May 22.....	10.94	2,050	Aug. 23.....	7.00	125
Apr. 1.....	8.11	430	May 27.....	9.90	1,280	Aug. 30.....	7.04	131
Apr. 9.....	9.78	1,250	June 4.....	9.48	1,070	Sept. 6.....	6.99	138
Apr. 15.....	9.88	1,310	June 5.....	9.38	1,020	Sept. 20.....	6.82	101
Apr. 22.....	10.83	1,810	June 17.....	7.98	342	Sept. 27.....	6.71	91
May 1.....	11.35	2,570						

Daily discharge, in second-feet, of San Joaquin River above Big Creek, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	486	304	210	157	228	304	429	2,700	895	360	189	134
2.....	474	301	177	151	232	314	380	2,900	945	366	183	132
3.....	462	310	163	195	225	292	454	3,120	996	376	177	130
4.....	434	304	183	220	215	278	494	2,780	1,050	373	173	130
5.....	403	286	177	195	228	272	443	2,450	995	366	165	128
6.....	386	274	173	193	240	265	510	2,300	920	356	165	128
7.....	482	265	189	193	260	275	795	2,900	820	345	165	130
8.....	514	271	205	193	298	278	1,080	3,240	695	331	168	130
9.....	535	301	165	191	408	268	1,260	3,500	598	320	159	130
10.....	540	298	120	193	362	270	1,390	3,300	534	301	155	127
11.....	545	316	127	191	286	272	1,740	3,000	486	292	151	121
12.....	540	310	159	191	272	265	1,740	2,800	458	292	153	116
13.....	494	304	185	187	295	252	1,840	2,000	432	283	159	112
14.....	438	304	191	185	320	260	1,920	1,840	415	265	163	112
15.....	410	298	185	177	331	280	1,360	2,200	394	250	165	111
16.....	403	274	177	183	310	283	995	2,600	376	245	161	111
17.....	458	253	169	177	289	258	945	2,700	373	240	157	111
18.....	434	245	169	171	283	250	1,020	2,550	359	232	153	109
19.....	392	245	177	169	289	248	1,290	2,450	338	228	147	107
20.....	368	245	179	165	295	268	1,600	2,300	320	225	142	105
21.....	350	245	153	165	289	272	1,670	2,080	314	228	139	104
22.....	340	238	145	167	280	265	1,920	1,920	328	230	134	101
23.....	340	225	153	165	262	292	1,920	1,600	342	230	132	99
24.....	328	232	173	163	252	317	1,390	1,500	338	232	132	96
25.....	301	235	173	163	240	324	1,230	1,530	342	232	133	95
26.....	295	218	173	171	248	387	1,200	1,460	342	228	133	94
27.....	292	208	169	265	252	404	1,200	1,290	342	232	133	91
28.....	283	196	144	298	270	370	1,170	1,140	342	225	133	89
29.....	280	202	167	232	301	359	1,500	1,110	348	215	134	87
30.....	274	220	185	212	-----	376	2,120	1,050	354	208	134	85
31.....	286	-----	169	215	-----	426	-----	945	-----	197	136	-----

Monthly discharge of San Joaquin River above Big Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	545	274	405	24,900
November.....	316	196	264	15,700
December.....	210	120	170	10,500
January.....	298	151	190	11,700
February.....	408	215	278	16,000
March.....	426	248	298	18,300
April.....	2,120	380	1,230	73,200
May.....	3,500	945	2,240	138,000
June.....	1,050	314	526	31,300
July.....	376	197	274	16,800
August.....	189	132	152	9,350
September.....	134	85	112	6,660
The year.....	3,500	85	513	372,000

SAN JOAQUIN RIVER NEAR FRIANT, CALIF.

LOCATION.—In NE $\frac{1}{4}$ sec. 5, T. 11 S., R. 21 E., $1\frac{1}{2}$ miles northeast of Friant, Fresno County.

DRAINAGE AREA.—1,640 square miles at old location 2 miles upstream.

RECORDS AVAILABLE.—October 18, 1907, to September 30, 1924.

GAGE.—Water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 300 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of sand and gravel. Control is a solid rock dike about 500 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 9.6 feet May 9 (discharge, 6,120 second-feet); minimum stage, 2.20 feet from 9 a. m. to 2 p. m. September 15 (discharge, 44 second-feet).

1907-1924: Maximum stage recorded, 21.72 feet at 11.30 p. m. January 25, 1914 (discharge, from extension of rating curve, about 46,200 second-feet); minimum stage, that of September 15, 1924.

DIVERSIONS.—None.

REGULATION.—Storage is developed for power at Huntington Lake on Big Creek, at Crane Valley Reservoir on North Fork Creek, and a small amount on Stevenson Creek at Shaver. Operation of power plant at Kerkhoffs causes considerable diurnal fluctuation.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 40 and 16,000 second-feet and extended above. Water-stage recorder record excellent except for periods January 30 to February 2, May 8-10, June 4-6, and August 20-24, when clock was stopped. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge for periods of no gage-height record estimated from records of flow at Big Creek station. Records excellent.

Discharge measurements of San Joaquin River near Friant, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 30.....	4.89	911	Apr. 2.....	2.76	112	Aug. 26.....	2.69	103
Oct. 31.....	3.52	310	Apr. 21.....	6.10	1,590	Sept. 8.....	2.55	78
Feb. 2.....	2.76	111	May 3.....	8.94	4,840	Sept. 27.....	2.69	106
Feb. 8.....	2.80	113	May 5.....	7.20	2,480	Sept. 28.....	2.52	77
Do.....	2.72	90	May 7.....	7.50	2,750	Sept. 29.....	2.30	51
Feb. 9.....	3.69	346	Aug. 25.....	2.43	66			
Mar. 30.....	4.16	521	Do.....	2.40	65			

Daily discharge, in second-feet, of San Joaquin River near Friant, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	878	530	534	361	400	379	419	2,800	965	341	371	80
2.....	878	466	432	715	390	283	386	3,080	932	365	410	269
3.....	932	463	564	410	308	414	468	3,440	975	465	202	262
4.....	960	490	331	391	334	546	549	2,960		345	212	303
5.....	905	666	379	456	407	452	535	2,820	1,100	396	293	303
6.....	690	613	466	482	340	373	544	2,530		415	260	248
7.....	715	636	568	470	340	331	768	3,020	1,070	315	256	182
8.....	768	640	564	478	394	376	919	3,300	475	400	264	104
9.....	878	622	426	510	486	276	1,340	3,900	1,330	425	322	182
10.....	795	626	600	526	388	302	1,720	3,800	802	415	214	209
11.....	795	482	468	506	397	414	1,740	3,260	568	395	164	496
12.....	905	554	449	498	494	370	2,100	3,040	568	315	332	320
13.....	878	595	468	361	452	367	2,000	2,620	566	320	268	224
14.....	828	613	404	510	428	373	2,290	2,120	516	275	308	121
15.....	878	768	518	498	460	382	2,220	2,220	318	430	304	54

Daily discharge, in second-feet, of San Joaquin River near Friant, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	850	608	474	382	438	302	1,560	2,710	486	345	294	131
17.....	828	631	349	510	343	404	1,540	2,920	563	375	160	260
18.....	795	482	302	435	407	435	1,180	2,860	648	325	148	244
19.....	795	577	538	428	446	421	1,120	2,610	578	330	316	227
20.....	828	640	442	452	432	400	1,560	2,600	375	255		234
21.....	665	640	438	316	428	410	1,680	2,460	290	230	270	214
22.....	768	518	626	300	382	397	2,020	2,190	376	350		144
23.....	795	449	331	438	346	285	2,260	2,060	306	335		276
24.....	604	414	349	379	358	316	2,040	1,720	645	270		258
25.....	604	577	292	352	298	414	1,610	1,570	365	310		212
26.....	828	665	428	331	376	474	1,620	1,580	506	230	260	177
27.....	828	424	432	302	382	932	1,500	1,660	336	270	270	182
28.....	665	376	449	367	370	572	1,180	1,450	475	210	287	146
29.....	640	290	506	522	385	559	1,140	1,220	260	310	348	107
30.....	595	559	319	450		690	2,020	985	475	295	284	208
31.....	577		522	420		352		1,220		325	160	

NOTE.—Braced figures show estimated mean discharge for the period indicated.

Monthly discharge of San Joaquin River near Friant, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	960	577	785	48,300
November.....	768	290	554	33,000
December.....	626	292	450	27,700
January.....	715	300	437	26,900
February.....	494	298	393	22,600
March.....	932	276	419	25,800
April.....	2,290	386	1,400	83,300
May.....	3,900	985	2,480	152,000
June.....	1,330	260	635	37,800
July.....	425	210	335	20,600
August.....	410	99	264	16,200
September.....	496	54	213	12,700
The year.....	3,900	54	698	507,000

SAN JOAQUIN RIVER NEAR NEWMAN, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 3, T. 7 S., R. 9 E., at drawbridge on Hills Ferry Road, 300 feet below mouth of Merced River and $3\frac{1}{2}$ miles northeast of Newman, Stanislaus County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 29, 1912, to September 30, 1924.

GAGE.—Vertical staff fastened to upstream side of downstream support of draw span, 60 feet below bridge, in middle of stream. Gage read by Rasmus Lorensen.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Sand and small gravel; shift during high water. Banks subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.15 feet at 5 p. m. April 13 (discharge, 1,770 second-feet); minimum stage, 0.88 foot August 9 and 10 (discharge, 15 second-feet).

1912-1924: Maximum stage recorded, 18 feet at 9 a. m. January 27, 1914 (discharge, 20,700 second-feet); minimum stage recorded, that of August 9 and 10, 1924.

DIVERSIONS.—Practically the entire low-water flow of main river and tributaries is diverted for irrigation; hence the low-water records show mainly the amount of return water.

REGULATION.—Storage is developed for power at Huntington Lake on Big Creek, at Crane Valley Reservoir on North Fork Creek, and a small amount on Stevenson Creek at Shaver.

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined. Staff gage read to quarter-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or by shifting-control method. Records good.

Discharge measurements of San Joaquin River near Newman, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 1.....	2.70	393	Apr. 8.....	3.06	609	Aug. 14.....	0.90	16
Feb. 6.....	2.96	595	May 16.....	2.71	453			
Mar. 10.....	2.04	246	Aug. 14.....	.90	16			

Daily discharge, in second-feet, of San Joaquin River near Newman, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	475	395	475	620	660	460	580	193	172	43	20	22
2.....	475	395	475	600	620	440	580	660	155	39	20	23
3.....	440	395	475	580	580	420	620	950	131	43	20	24
4.....	458	395	492	560	560	440	620	1,150	124	52	20	23
5.....	425	410	510	560	540	420	620	1,260	117	39	17	22
6.....	425	410	492	600	540	385	660	950	108	28	17	23
7.....	425	410	510	620	560	315	580	660	108	31	16	22
8.....	440	410	510	580	520	280	620	850	124	28	17	23
9.....	425	395	492	540	540	250	800	1,200	96	28	15	22
10.....	475	395	475	520	540	235	1,000	1,150	96	28	15	20
11.....	458	410	475	500	660	250	1,260	1,150	96	28	20	22
12.....	510	410	458	520	660	235	1,560	1,100	96	24	20	24
13.....	458	410	492	500	620	198	1,630	950	96	28	16	30
14.....	458	425	510	480	580	170	1,320	800	86	31	16	37
15.....	510	425	600	460	580	167	1,500	600	86	31	19	44
16.....	492	425	580	440	540	167	1,150	460	96	31	22	38
17.....	510	440	600	420	540	167	700	460	86	20	26	27
18.....	458	440	620	420	540	162	520	540	83	25	32	28
19.....	458	440	620	420	580	143	250	540	94	29	27	28
20.....	440	440	620	420	580	143	280	440	79	31	28	28
21.....	458	458	620	440	580	138	332	385	79	31	22	25
22.....	475	440	620	460	600	131	460	332	69	28	26	24
23.....	458	425	660	460	580	131	420	280	73	25	22	32
24.....	440	425	660	460	580	193	500	280	62	24	26	38
25.....	440	440	620	420	580	235	480	235	67	17	29	23
26.....	440	458	620	440	540	280	315	206	67	22	27	21
27.....	425	458	620	440	500	280	250	206	65	28	27	18
28.....	410	458	620	460	460	315	250	193	56	25	22	21
29.....	410	475	600	700	460	660	220	180	58	19	19	33
30.....	395	475	620	850	-----	620	206	188	51	17	17	35
31.....	395	-----	620	750	-----	600	-----	183	-----	19	20	-----

Monthly discharge of San Joaquin River near Newman, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	510	395	450	27, 700
November.....	475	395	426	25, 300
December.....	660	458	560	34, 400
January.....	850	420	524	32, 200
February.....	660	460	566	32, 600
March.....	660	131	291	17, 900
April.....	1, 630	206	676	40, 200
May.....	1, 260	180	604	37, 100
June.....	172	51	92. 5	5, 600
July.....	52	17	29. 1	1, 790
August.....	32	15	21. 3	1, 310
September.....	44	18	26. 7	1, 590
The year.....	1, 630	15	355	258, 000

SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.

LOCATION.—At Durham Ferry highway bridge, $3\frac{1}{2}$ miles northeast of Vernalis, San Joaquin County.

RECORDS AVAILABLE.—July 29 to November 19, 1922, and June 25, 1923, to September 30, 1924.

GAGE.—Water-stage recorder on right bank attached to bridge piling.

DISCHARGE MEASUREMENTS.—Made from bridge, or boat 500 feet below bridge.

CHANNEL AND CONTROL.—Shifting sand; control is cross section and slope of channel.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 10.01 feet at 11 p. m. October 15 (discharge, 4,550 second-feet); minimum stage, 2.87 feet at 11 p. m. September 30 (discharge, 384 second-feet).

DIVERSIONS.—Practically entire flow is diverted for irrigation from tributaries and main river above the station during low water. This record shows the amount of return water at low stages.

REGULATION.—See preceding paragraph.

ACCURACY.—Stage-discharge relation not permanent. Water-stage recorder record excellent. Daily discharge ascertained by shifting-control method in connection with two standard rating curves. Records good.

Discharge measurements of San Joaquin River near Vernalis, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 6.....	7. 50	2, 890	Jan. 29.....	5. 34	1, 360	July 15.....	3. 06	418
Oct. 14.....	9. 82	4, 480	Feb. 5.....	5. 24	1, 270	July 22.....	3. 10	390
Oct. 22.....	6. 94	1, 940	Mar. 12.....	4. 17	935	July 29.....	3. 12	407
Nov. 2.....	5. 46	1, 330	Apr. 8.....	4. 82	1, 330	Aug. 6.....	3. 02	425
Nov. 8.....	5. 38	1, 350	May 25.....	4. 47	989	Aug. 12.....	3. 02	420
Nov. 15.....	5. 30	1, 310	June 2.....	3. 87	746	Aug. 26.....	2. 98	428
Dec. 1.....	5. 41	1, 370	June 9.....	3. 52	575	Sept. 2.....	2. 95	401
Dec. 15.....	5. 82	1, 650	June 17.....	3. 42	568	Sept. 9.....	3. 00	451
Dec. 23.....	5. 88	1, 610	June 24.....	3. 30	512	Sept. 16.....	2. 94	421
Dec. 30.....	5. 96	1, 680	July 1.....	3. 15	485	Sept. 23.....	2. 96	421
Jan. 13.....	5. 46	1, 410	July 7.....	3. 09	426	Sept. 30.....	2. 94	409

Daily discharge, in second-feet, of San Joaquin River near Vernalis, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2,780	1,320	1,370	1,620	1,670	1,160	1,420	1,000	750	482	419	394
2.....	2,850	1,320	1,370	1,620	1,670	1,160	1,370	1,000	730	464	422	398
3.....	2,850	1,320	1,370	1,620	1,620	1,160	1,370	1,200	710	458	433	402
4.....	2,850	1,320	1,370	1,570	1,570	1,160	1,420	1,570	670	447	440	412
5.....	2,850	1,320	1,370	1,570	1,470	1,120	1,420	1,670	630	433	430	419
6.....	2,850	1,320	1,370	1,570	1,420	1,120	1,420	1,870	610	422	426	412
7.....	2,850	1,320	1,420	1,570	1,470	1,080	1,420	1,770	610	422	426	426
8.....	2,920	1,320	1,470	1,620	1,520	1,040	1,320	1,520	590	416	426	436
9.....	2,920	1,320	1,520	1,570	1,520	1,000	1,320	1,370	578	405	422	447
10.....	2,920	1,320	1,520	1,520	1,720	960	1,370	1,570	582	405	422	433
11.....	2,990	1,320	1,570	1,470	1,570	960	1,570	1,770	574	402	416	416
12.....	3,150	1,320	1,620	1,370	1,420	920	1,720	1,820	578	412	412	408
13.....	3,730	1,320	1,620	1,420	1,370	920	1,980	1,820	578	430	402	405
14.....	4,450	1,280	1,620	1,420	1,320	885	2,160	1,720	570	430	402	419
15.....	4,550	1,320	1,670	1,320	1,280	885	2,220	1,570	582	426	394	416
16.....	4,270	1,320	1,670	1,370	1,280	885	2,160	1,370	570	426	405	412
17.....	3,070	1,320	1,670	1,370	1,280	885	2,040	1,200	570	419	419	408
18.....	2,580	1,320	1,670	1,420	1,280	885	1,720	1,160	574	412	422	416
19.....	2,400	1,320	1,670	1,370	1,280	920	1,420	1,160	558	408	416	422
20.....	2,400	1,320	1,670	1,320	1,280	885	1,320	1,200	546	408	426	422
21.....	2,400	1,280	1,620	1,370	1,320	920	1,240	1,120	542	405	430	419
22.....	2,040	1,280	1,620	1,320	1,320	920	1,200	1,080	538	391	430	422
23.....	1,720	1,320	1,620	1,420	1,320	920	1,240	1,040	522	394	433	416
24.....	1,620	1,320	1,620	1,470	1,370	960	1,280	1,000	510	398	430	416
25.....	1,520	1,320	1,620	1,470	1,320	1,040	1,370	1,000	503	412	433	419
26.....	1,520	1,320	1,670	1,470	1,320	1,160	1,320	938	496	422	426	419
27.....	1,520	1,280	1,670	1,470	1,240	1,200	1,240	895	500	422	419	412
28.....	1,520	1,320	1,670	1,470	1,200	1,200	1,120	830	498	416	416	430
29.....	1,520	1,320	1,670	1,470	1,160	1,160	1,080	790	496	405	408	416
30.....	1,420	1,370	1,720	1,520	-----	1,240	1,040	770	489	408	402	402
31.....	1,320	-----	1,670	1,670	-----	1,370	-----	750	-----	412	405	-----

Monthly discharge of San Joaquin River near Vernalis, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	4,550	1,320	2,500	159,000
November.....	1,370	1,280	1,320	78,500
December.....	1,720	1,370	1,570	96,500
January.....	1,670	1,320	1,480	91,000
February.....	1,720	1,160	1,400	80,500
March.....	1,370	885	1,030	63,300
April.....	2,220	1,040	1,480	88,100
May.....	1,870	750	1,280	78,700
June.....	750	489	575	34,200
July.....	482	391	420	25,800
August.....	440	394	420	25,800
September.....	447	394	416	24,800
The year.....	4,550	391	1,170	846,000

BEAR CREEK NEAR VERMILION VALLEY, CALIF.

LOCATION.—In sec. 12, T. 7 S., R. 27 E., Fresno County, 2 miles above mouth and 4 miles by trail south of Vermilion Valley, from which it is separated by Bear Ridge. Elevation, about 7,300 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 29, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank, one-fourth mile below trail crossing.

DISCHARGE MEASUREMENTS.—Made from cable 400 feet above gage or by wading.
CHANNEL AND CONTROL.—Solid rock at gage and control; rough; permanent.

One channel at all stages; banks not subject to overflow. Stage of zero flow about 2.4 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.14 feet at 8.30 p. m. May 8 (discharge, 435 second-feet); minimum stage, 2.87 feet September 29 and 30 (discharge, 1.2 second-feet).

1921-1924: Maximum stage, from water-stage recorder, 5.97 feet at 8.30 p. m. June 4, 1922 (discharge, 920 second-feet); minimum stage, that of September 29 and 30, 1924.

ICE.—Stage-discharge relation seriously affected by ice or float frozen in well, November 26 to March 31.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record excellent except when stage-discharge relation was affected by ice. Daily discharge ascertained by applying mean daily gage height to rating table October 1 to November 25 and April 1 to September 30. Monthly means estimated from discharge measurements and comparison with records of near-by stations during period affected by ice. Records good.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Bear Creek near Vermilion Valley, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 5.....	3.36	19	Feb. 4.....		4.0	July 2.....	3.40	25
Oct. 8.....	3.30	15	Mar. 14.....		11	July 14.....	3.22	12
Oct. 11.....	3.40	22	Mar. 17.....	3.00	4.1	July 20.....	3.12	8.4
Nov. 2.....	3.13	8.0	Mar. 21.....	3.22	11	Do.....	3.13	7.5
Nov. 17.....	3.16	8.4	Apr. 12.....	3.76	64	Aug. 6.....	3.01	4.2
Nov. 23.....	3.10	6.9	Apr. 15.....	3.60	43	Sept. 8.....	2.92	1.3
Jan. 2.....		3.4	Apr. 16.....	3.52	34	Sept. 19.....	2.89	1.2
Jan. 15.....		4.0	May 27.....	3.98	88			
Feb. 2.....		3.5	June 20.....	3.36	22			

Daily discharge, in second-feet, of Bear Creek near Vermilion Valley, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1.....	26	13	11	152	88	20	4.4	1.9
2.....	26	13	13	186	100	23	4.7	1.9
3.....	24	13	13	202	109	26	4.4	1.9
4.....	22	11	14	193	109	24	4.4	1.9
5.....	21	11	13	168	97	22	4.1	1.9
6.....	19	11	18	182	87	20	3.8	1.9
7.....	20	10	24	223	72	18	3.8	1.9
8.....	24	12	37	280	58	18	3.8	1.9
9.....	24	11	49	283	49	16	3.5	1.9
10.....	24	12	62	264	42	15	3.5	1.9
11.....	24	13	79	238	36	14	3.5	1.9
12.....	21	11	79	191	32	13	3.5	1.9
13.....	19	13	85	150	30	12	3.3	1.9
14.....	18	11	72	162	27	11	3.3	1.7
15.....	17	11	47	209	25	10	3.3	1.7

Daily discharge, in second-feet, of Bear Creek near Vermilion Valley, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
16	17	10	35	241	25	10	3.1	1.7
17	18	10	32	233	23	9.5	3.1	1.5
18	18	9.5	42	209	21	8.5	3.1	1.5
19	17	9.5	59	206	20	7.5	3.1	1.4
20	16	9.5	76	197	19	7.5	3.1	1.4
21	16	9	82	180	19	7.5	2.9	1.4
22	17	9	100	152	20	7.5	2.7	1.4
23	16	9.5	90	117	20	7.5	2.5	1.4
24	14	9.5	79	126	21	7	2.5	1.4
25	14	8.5	66	131	21	7	2.3	1.3
26	14	8	62	128	20	6.5	2.1	1.3
27	14	7	62	110	19	6.5	2.1	1.3
28	13	7	71	98	19	6	1.9	1.3
29	11	7	98	105	19	6	1.9	1.2
30	12	8	128	98	19	5.5	1.9	1.2
31	12			88		5	1.9	

Monthly discharge of Bear Creek near Vermilion Valley, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	26	11	18.3	1,130
November	13	7	10.2	607
December			6.0	369
January			4.5	277
February			7.0	403
March			9.0	553
April	125	11	56.6	3,370
May	233	88	177	10,900
June	109	19	42.2	2,510
July	26	5	12.2	750
August	4.7	1.9	3.15	194
September	1.9	1.2	1.63	97
The year	233	1.2	29.2	21,200

• Estimated on basis of discharge measurements and comparison with records for near-by stations.

MONO CREEK NEAR VERMILION VALLEY, CALIF.

LOCATION.—In sec. 35, T. 6 S. R. 27, E., unsurveyed, Fresno County, 1 mile below lower end of Vermilion Valley and 6 miles below mouth of North Fork. Elevation about 7,400 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 25, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet above gage or by wading.

CHANNEL AND CONTROL.—Rocky and rough; small boulders on bottom; may shift slightly. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.47 feet at 11 p. m. May 8 (discharge 488 second-feet); minimum stage, 4.47 feet September 29 and 30 (discharge, 8 second-feet).

1921-1924: Maximum stage, from water-stage recorder, 8.18 feet at 11 p. m. June 6, 1922 (discharge, 1,390 second-feet); minimum stage, that of September 29 and 30, 1924.

ICE.—Stage-discharge relation affected by ice or float frozen in well, November 26 to March 15 and March 21 to April 1.

DIVERSIONS.—None.

REGULATIONS.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record excellent during open-water period. Daily discharge ascertained by applying mean daily gage height to rating table October 1 to November 25, March 16–20, and April 2 to September 30; estimated November 26–30, March 13–15, and April 1. Monthly mean discharge estimated December to March on basis of several discharge measurements and comparison with records of near-by streams. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Mono Creek near Vermilion Valley, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	4.93	35	Feb. 5.....	4.80	20	May 19.....	5.80	197
Oct. 7.....	4.96	42	Mar. 13.....	4.80	27	June 3.....	5.53	148
Oct. 9.....	4.96	42	Mar. 15.....	4.80	25	June 18.....	5.06	47
Oct. 11.....	5.00	47	Mar. 19.....	4.58	10	July 13.....	4.92	35
Nov. 2.....	4.74	23	Do.....	4.88	31	July 19.....	4.85	28
Nov. 17.....	4.76	21	Apr. 2.....	4.87	30	Do.....	4.85	29
Nov. 24.....	4.76	21	Apr. 11.....	5.35	96	July 31.....	4.78	23
Jan. 3.....	17	17	Apr. 13.....	5.44	116	Aug. 17.....	4.69	17
Jan. 4.....	18	18	Apr. 14.....	5.43	115	Sept. 6.....	4.64	15
Jan. 14.....	18	18	Apr. 15.....	5.36	113	Sept. 18.....	4.54	10
Feb. 3.....	20	20	May 2.....	5.84	238			

Daily discharge, in second-feet, of Mono Creek near Vermilion Valley, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	44	27		27	244	140	53	23	14
2.....	42	31		29	279	156	68	22	14
3.....	40	31		31	293	170	61	22	14
4.....	37	30		29	276	170	58	21	14
5.....	36	29		29	230	156	52	20	15
6.....	36	27		36	218	140	52	20	16
7.....	41	26		50	290	115	47	19	15
8.....	43	29		68	344	95	44	19	15
9.....	48	27		80	368	84	42	18	14
10.....	47	29		91	356	74	40	18	13
11.....	47	28		113	324	69	40	18	13
12.....	45	27		117	272	66	40	19	12
13.....	40	29	27	142	218	62	35	19	11
14.....	38	27	26	134	237	59	32	19	11
15.....	38	25	25	97	286	58	31	18	11
16.....	37	22	21	74	324	58	31	18	11
17.....	37	22	23	76	316	56	30	17	11
18.....	36	22	23	86	279	53	28	16	11
19.....	35	24	25	106	265	50	28	16	10
20.....	34	26	24	127	265	47	28	16	10
21.....	32	24		142	251	50	29	15	10
22.....	33	25		162	224	54	28	15	10
23.....	32	25		145	176	53	29	16	9.5
24.....	28	24		122	182	53	29	16	9
25.....	29	23		108	200	52	29	15	9
26.....	29	20		106	200	52	29	14	8.5
27.....	27	18		113	170	48	28	15	8.5
28.....	25	18		115	153	47	27	16	8.5
29.....	24	18		156	159	50	27	15	8
30.....	24	21		206	148	52	25	15	8
31.....	26				137		24	15	

Monthly discharge of Mono Creek near Vermilion Valley, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	48	24	35.8	2,200
November.....	31	18	25.1	1,490
December.....			* 17.0	1,050
January.....			* 16.0	984
February.....			* 22.0	1,270
March.....			* 25.0	1,540
April.....	206	27	97.2	5,780
May.....	368	137	248	15,200
June.....	170	47	79.6	4,740
July.....	61	24	36.6	2,250
August.....	23	14	17.6	1,080
September.....	16	8	11.5	684
The year.....	368	8	52.8	38,300

* Estimated from discharge measurements and comparison with records for near-by stations.

MIDDLE FORK OF SAN JOAQUIN RIVER AT MILLER BRIDGE, CALIF.

LOCATION.—In sec. 11, T. 5 S., R. 25 E., Madera County, one-fourth mile above site of the old Miller Bridge and 2 miles below North Fork of San Joaquin River. Elevation about 4,600 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 12, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 560 feet below gage.

CHANNEL AND CONTROL.—Rough; bedrock overlain with boulders and broken rock; permanent. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 14.26 feet at 9 p. m. May 8 (discharge, 1,720 second-feet); minimum stage, 9.02 feet at 6 p. m. September 29 (discharge, 31 second-feet).

1921-1924: Maximum stage, from water-stage recorder, 17.68 feet at 8 p. m. June 4, 1922 (revised discharge, 6,200 second-feet); minimum stage, 8.82 feet at 1.45 p. m. December 3, 1921 (discharge, 27 second-feet).

ICE.—Stage-discharge relation seriously affected by ice or float frozen in well, January 2-6 and 23-25.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record excellent except for period affected by ice and December 6-16, when recorder was removed to permit work of deepening well. Daily discharge ascertained by applying mean daily gage height to rating table October 1 to December 5, December 17 to January 1, January 8-22, January 26 to April 1, and May 1 to September 30; by use of discharge integrator April 2-30; estimated by comparison with records for near-by stations December 6-16, January 2-7 and 23-25. Records excellent.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Middle Fork of San Joaquin River at Miller Bridge, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 10.....	10.78	217	Jan. 12.....	9.60	68	Apr. 9.....	11.75	426
Oct. 11.....	10.88	239	Jan. 15.....	9.81	88	May 2.....	13.08	938
Oct. 13.....	10.78	206	Jan. 16.....	9.56	64	May 21.....	12.78	784
Oct. 14.....	10.69	195	Feb. 8.....	10.25	132	June 3.....	11.68	384
Oct. 15.....	10.72	209	Feb. 10.....	9.84	86	July 2.....	10.62	186
Nov. 1.....	10.01	106	Feb. 12.....	9.92	95	July 18.....	10.06	103
Nov. 2.....	9.92	103	Feb. 14.....	10.28	131	Do.....	10.06	105
Nov. 28.....	9.62	71	Mar. 4.....	9.90	98	Aug. 2.....	9.80	83
Nov. 29.....	9.61	68	Mar. 6.....	9.91	96	Aug. 15.....	9.73	76
Dec. 1.....	9.26	47	Mar. 7.....	9.91	98	Sept. 2.....	9.48	56
Dec. 3.....	9.55	62	Apr. 6.....	10.54	169	Sept. 19.....	9.25	45
Dec. 18.....	9.55	64	Apr. 7.....	11.58	393			

Daily discharge, in second-feet, of Middle Fork of San Joaquin River at Miller Bridge, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	216	115	57	58	91	118	143	1,140	362	178	83	56
2.....	200	121	59	60	87	121	146	1,230	400	182	81	55
3.....	186	120	72	75	80	98	182	1,200	425	175	77	54
4.....	178	109	67	75	86	112	162	1,050	412	170	74	54
5.....	168	102	65	73	90	96	155	875	338	166	70	56
6.....	189	100	70	73	97	101	218	980	350	168	77	59
7.....	219	95	75	73	102	110	349	1,110	305	162	76	59
8.....	224	105	65	73	129	95	437	1,230	257	153	71	58
9.....	230	104	50	72	141	103	464	1,290	237	144	68	53
10.....	232	110	45	74	109	104	550	1,230	218	140	64	49
11.....	245	111	55	72	101	104	676	1,140	218	141	68	46
12.....	237	109	65	71	112	93	658	990	206	139	76	45
13.....	213	116	70	71	129	94	754	675	206	129	80	45
14.....	197	110	70	71	133	105	640	750	198	122	79	44
15.....	200	103	65	74	130	121	422	930	190	120	73	45
16.....	213	91	65	66	112	91	338	1,050	187	116	68	44
17.....	222	88	65	63	109	100	335	1,050	178	112	64	43
18.....	197	89	63	67	114	87	425	1,050	168	109	59	42
19.....	181	87	65	64	123	101	591	1,020	157	105	56	49
20.....	168	87	61	63	116	110	659	990	156	110	54	30
21.....	158	79	55	59	114	104	734	850	163	112	51	38
22.....	156	78	56	61	96	108	781	750	175	114	52	36
23.....	144	83	71	61	98	102	651	590	175	117	56	34
24.....	128	83	64	61	81	118	470	590	172	118	58	33
25.....	126	72	62	60	93	121	412	570	172	115	59	34
26.....	121	69	63	60	92	130	484	535	166	118	59	32
27.....	116	62	45	82	100	130	462	462	157	114	60	32
28.....	111	70	68	84	123	138	513	438	160	106	62	31
29.....	105	77	70	80	129	138	756	438	168	100	63	31
30.....	104	78	56	80	-----	154	1,020	375	176	92	62	31
31.....	121	-----	54	88	-----	163	-----	350	-----	87	59	-----

Monthly discharge of Middle Fork of San Joaquin River at Miller Bridge, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	245	104	178	10,900
November.....	121	62	94.1	5,600
December.....	75	45	62.4	3,840
January.....	88	58	69.8	4,290
February.....	141	80	108	6,210
March.....	163	87	112	6,890
April.....	1,020	143	485	28,900
May.....	1,290	350	863	53,100
June.....	425	156	230	13,700
July.....	182	87	130	7,990
August.....	83	51	66.6	4,100
September.....	59	31	43.9	2,610
The year.....	1,290	31	204	148,000

NORTH FORK OF SAN JOAQUIN RIVER BELOW IRON CREEK, CALIF.

LOCATION.—In sec. 4, T. 4 S., R. 25 E., unsurveyed, Madera County, three-fourths mile below mouth of Iron Creek. Elevation about 6,800 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1920, to September 30, 1924. Record fragmentary October 1, 1920, to June 30, 1921.

GAGE.—Water-stage recorder in concrete well and house on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet above, or from foot-bridge 750 feet below gage.

CHANNEL AND CONTROL.—Cut through solid rock; rough; strewn with boulders and broken rock; permanent. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.09 feet at 7 p. m. May 8 (discharge, 574 second-feet); minimum stage, 3.45 feet at 10 a. m. November 27 (discharge, 3.6 second-feet).

1920-1924: Maximum stage, from water-stage recorder, 7.24 feet at 6 p. m. June 27, 1922 (discharge, 2,000 second-feet); minimum stage, 3.37 feet at 10.30 a. m. November 18, 1921 (discharge, 1.4 second-feet).

ICE.—Stage-discharge relation seriously affected by ice or float frozen in well, December 1-13 and December 27 to January 10.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record excellent except during period affected by ice. Daily discharge ascertained by applying mean daily gage height to rating table October 1 to November 30, December 14-26, and January 11 to September 30; estimated from discharge measurements and records of flow of near-by streams during periods affected by ice. Records excellent.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of North Fork of San Joaquin River below Iron Creek, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.....	4.34	53	Dec. 13.....	3.58	5.8	Mar. 23.....	3.96	21
Oct. 25.....	3.96	25	Dec. 21.....	3.56	5.4	Mar. 26.....	3.94	18
Oct. 27.....	3.88	19	Jan. 5.....	3.64	7.6	Mar. 29.....	3.93	19
Nov. 2.....	4.00	25	Jan. 6.....	3.67	8.1	Mar. 31.....	3.97	23
Nov. 7.....	3.84	17	Jan. 7.....	3.66	7.3	Apr. 28.....	4.62	82
Nov. 8.....	3.82	16	Jan. 9.....	3.64	7.2	Apr. 30.....	5.91	502
Nov. 9.....	3.90	19	Feb. 2.....	3.75	11	May 30.....	4.80	81
Nov. 10.....	3.89	19	Feb. 4.....	3.74	11	June 1.....	4.58	73
Nov. 22.....	3.85	16	Feb. 5.....	3.78	13	June 29.....	4.25	46
Nov. 23.....	3.79	14	Feb. 6.....	3.78	13	July 1.....	4.34	52
Nov. 24.....	3.78	15	Feb. 18.....	3.93	21	July 16.....	4.04	27
Nov. 25.....	3.74	10	Feb. 20.....	3.94	20	July 29.....	3.99	23
Nov. 26.....	3.71	9.2	Feb. 22.....	3.80	15	Aug. 1.....	3.88	16
Dec. 11.....	3.64	5.5	Feb. 24.....	4.04	27	Aug. 29.....	3.84	16
Dec. 12.....	3.59	5.5	Feb. 26.....	3.80	14	Sept. 1.....		

Daily discharge, in second-feet, of North Fork of San Joaquin River below Iron Creek, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	20	7	5	15	28	19	309	97	53	24	16
2	60	21	8	5	12	24	23	330	116	51	23	16
3	53	21	8	6.5	12	21	29	284	124	46	21	16
4	51	18	8	8	14	20	24	223	114	45	21	17
5	44	17	7	7.5	14	20	28	194	102	46	23	19
6	54	16	7	8	14	19	41	242	90	48	23	19
7	57	15	7	7	16	21	84	297	69	44	23	19
8	70	17	7	7	17	19	116	343	52	41	21	17
9	70	21	6	7	17	19	119	347	44	38	19	14
10	70	21	5.5	8.5	17	20	148	297	40	39	18	13
11	73	24	5.5	10	19	18	177	269	47	40	23	13
12	68	24	5.5	9.5	24	16	175	177	46	38	26	13
13	56	25	6	9	32	17	200	124	49	34	26	13
14	54	23	7	8	34	22	142	171	46	33	25	12
15	54	20	7	7.5	28	24	84	239	46	32	23	12
16	81	16	7	7	20	18	68	276	45	32	20	12
17	73	16	6.5	7	19	16	74	261	41	30	18	12
18	59	16	6	6.5	24	18	108	265	37	29	16	11
19	50	14	6	6	27	20	154	257	34	30	16	10
20	44	13	6	6.5	23	18	169	213	38	32	13	8.5
21	38	12	7	6	21	16	189	194	46	32	14	7.5
22	34	12	5.5	6	18	16	189	148	51	34	17	7
23	27	12	5	6	16	18	140	131	50	34	18	6.5
24	24	12	5.5	6	18	18	95	140	48	34	20	6
25	21	10	5.5	6	15	19	81	131	47	35	20	5.5
26	20	9.5	5	5.5	16	21	94	118	45	36	21	5
27	18	8.5	5	8.5	22	22	102	95	43	34	21	5
28	17	9	5	9	32	23	121	100	46	31	21	5
29	14	9	5	10	34	21	184	98	52	28	21	5
30	14	9.5	5	11	-----	21	272	77	55	25	20	5
31	16	-----	5	16	-----	23	-----	82	-----	24	18	-----

Monthly discharge of North Fork of San Joaquin River below Iron Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	81	14	47.0	2,890
November	25	8.5	16.0	952
December	8	5	6.18	380
January	16	5	7.56	465
February	34	12	20.3	1,170
March	28	16	19.9	1,220
April	272	19	115	6,840
May	347	77	207	12,700
June	124	34	58.7	3,490
July	53	24	36.4	2,240
August	26	13	20.4	1,250
September	19	5	11.3	672
The year	347	5	47.3	34,300

IRON CREEK AT MOUTH, CALIF.

LOCATION.—In sec. 3, T. 4 S., R. 25 E., Madera County, about 40 feet upstream from the falls where Iron Creek empties into North Fork of San Joaquin River. Elevation, about 7,100 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924, fragmentary.

GAGE.—Vertical staff gage on right bank, in pool between falls, established October 30, 1922.

DISCHARGE MEASUREMENTS.—Made from log 1,200 feet above gage or by wading at various sections.

CHANNEL AND CONTROL.—Rocky; practically permanent. One channel; banks not subject to overflow. Stream has very steep gradient.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.68 feet April 30 (discharge, 36 second-feet); minimum stage recorded, 5.65 feet September 29-30 (discharge, 0.2 second-foot).

1923-1924: Maximum stage recorded, 7.40 feet May 11 and 17, 1923 (discharge, 86 second-feet); minimum stage, that of September 29 and 30, 1924.

ICE.—Stage-discharge relation seriously affected by ice during December and January.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve fairly well defined. Staff gage read once or twice daily at irregular intervals. Daily discharge not prepared.

COOPERATION.—Results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Iron Creek at mouth, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3	6.20	8.4	Jan. 5	5.84	1.1	Apr. 27	6.34	16
Oct. 26	6.02	3.8	Jan. 7	5.87	1.1	Apr. 29	6.44	21
Oct. 27	5.98	3.2	Jan. 9	5.86	1.2	May 29	6.25	11
Nov. 2	6.05	4.1	Feb. 2	5.90	2.4	June 1	6.18	9.5
Nov. 8	5.92	2.8	Feb. 4	5.92	2.3	June 29	5.90	2.1
Nov. 9	5.97	3.3	Feb. 5	5.93	2.7	July 1	5.94	3.2
Nov. 10	5.96	3.1	Feb. 18	5.97	3.5	July 16	5.83	1.2
Nov. 23	5.92	2.5	Feb. 20	5.98	3.3	July 28	5.82	1.1
Nov. 24	5.88	1.8	Feb. 22	6.05	4.1	Aug. 1	5.80	.9
Nov. 25	6.00	3.5	Feb. 24	5.97	3.2	Aug. 29	5.76	.6
Nov. 26	5.98	3.3	Feb. 26	5.91	2.5	Sept. 1	5.74	.5
Dec. 3	5.88	1.6	Mar. 25	5.91	2.2	Sept. 30	5.67	.2
Dec. 12	5.88	1.0	Mar. 29	5.91	2.2			
Dec. 20	5.87	1.2	Mar. 31	6.00	3.4			

WEST FORK OF GRANITE CREEK NEAR TIMBER KNOB, CALIF.⁴

LOCATION.—In sec. 36, T. 4 S., R. 24 E., 1 mile above East Fork and 3 miles south of Timber Knob, Madera County. Elevation, about 7,000 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 1, 1922, to September 30, 1924.

GAGE.—Inclined staff gage on left bank, beginning October 25, 1923.

DISCHARGE MEASUREMENTS.—Made from cable 243 feet above gage, by wading, or from logs at various sections.

CHANNEL AND CONTROL.—Rough, rocky channel, boulder and gravel bottom; may shift slightly. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.25 feet at 6 p. m. April 21 (discharge, 237 second-feet); no flow during August and September.

1922-1924: Maximum stage recorded, 8.20 feet at 5.45 p. m. June 27, 1922 (discharge, 1,250 second-feet); minimum discharge, no flow during August and September, 1924.

⁴ This replaces the station three-fourths mile below known as "West Fork of Granite Creek near Cattle Mountain, Calif."

ICE.—Stage-discharge relation seriously affected by ice December 2 to April 9.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve well defined. Gage-height record not sufficient for ascertaining daily discharge. Mean monthly discharge estimated from discharge measurements, scattered staff-gage readings, and comparison with record of water-stage recorder on Granite Creek near Cattle Mountain. Records fair.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of West Fork of Granite Creek near Timber Knob, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 26.....	2.68	4.4	Jan. 9.....	2.70	4.2	Apr. 12.....	5.54	160
Oct. 29.....	2.62	4.1	Jan. 16.....	2.56	2.9	Apr. 15.....	4.84	91
Nov. 1.....	2.59	3.4	Jan. 18.....	2.63	2.8	Apr. 21.....	5.18	121
Nov. 7.....	2.57	3.7	Jan. 22.....	2.49	2.8	May 18.....	5.00	100
Nov. 12.....	3.18	17	Jan. 30.....	2.70	4.7	June 6.....	3.02	11
Nov. 14.....	2.86	7.5	Feb. 2.....	2.88	5.8	June 20.....	2.39	1.6
Nov. 20.....	2.64	3.6	Feb. 6.....	3.81	9.4	June 26.....	2.19	.6
Nov. 22.....	2.73	6.1	Feb. 13.....	5.60	12	July 6.....	2.02	.2
Nov. 27.....	2.61	3.8	Feb. 19.....	3.85	17	July 13.....	1.90	.05
Dec. 5.....	2.76	4.9	Feb. 28.....	3.45	20	July 15.....	1.87	.04
Dec. 15.....	2.54	2.3	Mar. 11.....	3.19	14	July 19.....	1.84	.04
Dec. 20.....	2.50	2.0	Mar. 15.....	3.38	18	July 26.....	1.68	.01
Jan. 4.....	2.68	3.5	Apr. 2.....	3.46	12			

Monthly discharge of West Fork of Granite Creek near Timber Knob, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			• 12.0	738
November.....	13	2.8	5.47	325
December.....			• 2.8	172
January.....			• 3.1	191
February.....			• 12.0	690
March.....			• 14.0	861
April.....			• 95.0	5,650
May.....			• 120	7,380
June.....			• 5.0	298
July.....			• .05	3.1
The year.....		0	22.5	16,300

• Estimated.

NOTE.—No flow during August and September.

GRANITE CREEK NEAR CATTLE MOUNTAIN, CALIF.

LOCATION.—In sec. 8, T. 5 S., R. 25 E., Madera County, $1\frac{1}{2}$ miles below junction of east and west forks of Granite Creek and 2 miles west of Cattle Mountain. Elevation, about 6,700 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE. December 2, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 150 feet above, or from foot-bridge 500 feet above gage.

CHANNEL AND CONTROL.—Cut through solid granite; smooth bottom, overlain with broken rock and sand in pools; permanent. One channel at all stages; banks not subject to overflow. Stage of zero flow 3.23 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.45 feet at 7 p. m. May 2 (discharge, 625 second-feet); practically dry July 24 to September 30.

1921-1924: Maximum stage, from water-stage recorder, 8.83 feet at 7 p. m. June 27, 1922 (discharge, 2,210 second-feet); practically dry July 24 to September 30, 1924.

ICE.—Stage-discharge relation seriously affected by ice or float frozen in well, November 25 to March 12 and March 19 to April 1.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record excellent except during ice periods. Daily discharge ascertained by applying mean daily gage height to rating table, except during ice-affected period, for which it was estimated from discharge measurements and by comparison with records for near-by streams. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Granite Creek near Cattle Mountain, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	4.66	21	Jan. 7.....	4.29	5.6	Apr. 2.....	4.57	18
Oct. 19.....	4.63	20	Jan. 14.....	4.13	4.9	Apr. 10.....	5.80	139
Oct. 24.....	4.51	8.7	Jan. 17.....	4.04	3.6	Apr. 14.....	6.10	194
Oct. 27.....	4.24	7.3	Jan. 18.....	4.02	4.0	Apr. 17.....	5.51	99
Nov. 2.....	4.24	9.3	Jan. 21.....	3.98	3.8	Apr. 25.....	5.44	93
Nov. 8.....	4.26	8.0	Jan. 29.....	4.06	4.7	May 19.....	5.74	141
Nov. 9.....	4.40	11	Feb. 5.....	4.35	7.9	May 28.....	4.98	43
Nov. 12.....	4.43	11	Feb. 6.....	4.56	9.1	June 3.....	4.73	27
Nov. 16.....	4.35	10	Feb. 11.....	5.27	11	Do.....	4.73	26
Nov. 21.....	4.26	7.5	Feb. 14.....	6.32	23	June 22.....	3.74	1.7
Nov. 23.....	4.26	7.2	Feb. 18.....	5.06	16	July 5.....	3.42	.3
Nov. 29.....	4.36	10	Feb. 21.....	5.01	19	July 12.....	3.37	.2
Dec. 8.....	4.21	5.0	Feb. 28.....	4.83	28	July 25.....	3.29	.06
Dec. 14.....	4.01	3.8	Mar. 8.....	4.86	36	Aug. 3.....	3.27	.02
Dec. 18.....	3.96	3.1	Mar. 12.....	4.36	11	Aug. 14.....	3.26	.01
Jan. 2.....	3.90	2.8	Mar. 14.....	4.72	26	Aug. 28.....	3.25	.01
Jan. 3.....	4.03	3.7	Mar. 17.....	4.62	20	Sept. 5.....	3.24	.004

Daily discharge, in second-feet, of Granite Creek near Cattle Mountain, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	36	7.5			8		25	412	25	0.4
2.....	38	10		2.8			28	396	25	.4
3.....	38	10		3.7			30	369	24	.4
4.....	26	8.5					22	293	22	.3
5.....	22	7.5			9		25	250	19	.3
6.....	22	7					41	304	16	.2
7.....	34	6.5		5.5			73	367	13	.2
8.....	37	7.5	5			22	104	369	12	.2
9.....	40	11					132	360	10	.2
0.....	43	14					182	324	9	.2

Daily discharge, in second-feet, of Granite Creek near Cattle Mountain, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
11.....	51	14			11		212	287	7.5	0.2
12.....	47	13				17	222	214	6	.2
13.....	34	17				20	250	161	5.5	.2
14.....	26	17	3.8	4.9	23	24	199	188	4.9	.1
15.....	24	14				28	118	237	4.3	.1
16.....	28	11				19	86	244	3.7	.1
17.....	38	10		3.6		19	88	217	3.3	.1
18.....	26	10	3.1	4.0	16	17	134	199	3.0	.1
19.....	20	9.5					197	166	2.6	.1
20.....	16	8.5					222	131	2.4	.1
21.....	13	7.5		3.8	19		244	108	1.9	.1
22.....	12	7.5					247	96	1.6	.1
23.....	11	7.5					180	80	1.4	.1
24.....	9	7.5					123	72	1.2	
25.....	8.5	6.5					108	66	1.0	
26.....	7.5	6					124	58	.9	
27.....	7.5	6					134	49	.7	
28.....	6.5	6			28		157	40	.6	
29.....	6	6.5		4.7			254	38	.5	
30.....	6	6					360	34	.4	
31.....	6							29		

NOTE.—During ice-affected period the daily discharge is published only for days on which measurements were made. Practically dry July 24 to Sept. 30.

Monthly discharge of Granite Creek near Cattle Mountain, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	51	6	23.8	1,460
November.....	17	6	9.35	556
December.....			4.0	246
January.....			4.5	277
February.....			18	1,040
March.....			22	1,350
April.....	360	22	144	8,570
May.....	412	29	198	12,200
June.....	25	.4	7.61	453
July.....	.4	0	.14	8.6
The year.....	412	0	36.0	26,200

* Estimated.

NOTE.—Practically dry during August and September.

EAST FORK OF GRANITE CREEK NEAR CATTLE MOUNTAIN, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 32, T. 4 S., R. 25 E., Madera County, half a mile above mouth and 3 miles northwest of Cattle Mountain. Elevation, about 7,300 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 1, 1922, to September 30, 1924, fragmentary.

GAGE.—Vertical staff gage on left bank.

DISCHARGE MEASUREMENTS.—Made from footbridge about 300 feet above gage or by wading.

CHANNEL AND CONTROL.—Rocks, gravel, and sand; one channel. Banks not subject to overflow.

EXTREMES OF DISCHARGE.—1922-1924: Maximum stage recorded, 8.30 feet at 5 p. m. June 26, 1922 (discharge, 512 second-feet); stream dry during late summer, 1922 and 1924.

ICE.—Stage-discharge relation seriously affected by ice December 6 to April 4.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Gage-height record not sufficient for ascertaining daily discharge. Mean monthly discharge estimated from discharge measurements, a few scattered staff-gage readings, and comparison with record from water-stage recorder on Granite Creek near Cattle Mountain. Records fair.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of East Fork of Granite Creek near Cattle Mountain, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	4.56	8.7	Jan. 5.....	4.06	1.0	Mar. 18.....	4.48	6.2
Oct. 18.....	4.63	12	Jan. 10.....	4.12	1.4	Apr. 4.....	4.39	4.5
Oct. 26.....	4.31	3.0	Jan. 15.....	4.16	1.9	Apr. 11.....	5.29	49
Nov. 1.....	4.24	2.3	Jan. 18.....	4.06	1.0	Apr. 15.....	5.12	34
Nov. 7.....	4.27	2.4	Jan. 24.....	4.00	1.0	Apr. 18.....	5.07	30
Nov. 12.....	4.30	2.6	Jan. 31.....	4.08	1.2	Apr. 24.....	5.16	39
Nov. 14.....	4.46	4.8	Feb. 7.....	4.24	2.3	May 16.....	5.71	87
Nov. 21.....	4.15	1.1	Feb. 12.....	4.35	3.3	June 5.....	4.46	6.4
Nov. 27.....	4.13	.85	Feb. 20.....	4.39	4.6	June 21.....	3.95	.4
Dec. 6.....	4.09	.90	Feb. 29.....	4.62	11	June 27.....	3.80	.2
Dec. 17.....	4.02	.80	Mar. 10.....	4.40	4.5	July 5.....	3.47	.02
Dec. 21.....	4.10	.43	Mar. 14.....	4.36	3.7			

Monthly discharge of East Fork of Granite Creek near Cattle Mountain, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			* 8.0	492
November.....	5.5	0.9	2.50	149
December.....			* .8	49.2
January.....			* 1.0	61.5
February.....			* 4.5	259
March.....			* 5.5	338
April.....			* 35.0	2,080
May.....			* 55.0	3,380
June.....			* 2.0	119
The year.....		0	9.55	6,930

* Estimated.

NOTE.—No flow during July, August, and September.

JACKASS CREEK NEAR JACKASS MEADOW, CALIF.

LOCATION.—In sec. 23, T. 5 S., R. 24 E., Madera County, half a mile below lower end of Jackass Meadow and 10 miles above mouth of West Fork. Elevation, about 7,000 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 1, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank.

DISCHARGE MEASUREMENTS.—Made from footbridge 150 feet above gage or by wading.

CHANNEL AND CONTROL.—Rough; one channel, cut through granite. An artificial masonry control about 25 feet below gage was completed on September 20, 1923. Right bank subject to overflow at extremely high water.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.91 feet at 7 p. m. April 10 (discharge, 68 second-feet); stream practically dry June 18 to September 30.

1921-1924: Maximum stage, from water-stage recorder, 9.58 feet at 7 p. m. May 24, 1922 (discharge, 418 second-feet); stream practically dry June 18 to September 30, 1924.

ICE.—Stage-discharge relation seriously affected by ice and float frozen in well December 9 to February 21 and March 21 to April 2.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record excellent except for periods affected by ice.

Daily discharge ascertained by applying mean daily gage height to rating table, October 1 to December 8, February 22 to March 20, and April 3 to September 30; estimated from discharge measurements, February 1-21 and March 21 to April 2. Monthly mean discharge estimated from discharge measurements for December and January. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by the Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Jackass Creek near Jackass Meadow, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	5.17	0.55	Jan. 19.....	5.18	0.60	Apr. 17.....	6.03	22
Oct. 8.....	5.40	2.9	Jan. 26.....	5.20	.70	Apr. 18.....	6.40	37
Oct. 18.....	5.25	1.1	Feb. 1.....	5.26	1.2	Apr. 20.....	6.44	39
Oct. 23.....	5.20	.65	Feb. 9.....	5.35	1.9	Apr. 22.....	6.39	34
Nov. 3.....	5.25	.85	Feb. 16.....	5.30	4.4	Apr. 25.....	6.18	26
Nov. 4.....	5.22	.76	Feb. 22.....	5.30	5.2	May 3.....	6.32	32
Nov. 10.....	5.29	1.5	Mar. 1.....	5.36	6.6	May 5.....	6.16	25
Nov. 13.....	5.28	1.4	Mar. 9.....	5.31	5.7	May 6.....	6.14	24
Nov. 17.....	5.22	.85	Mar. 10.....	5.30	5.6	May 14.....	5.92	17
Nov. 19.....	5.22	.75	Mar. 13.....	5.36	7.4	May 15.....	5.88	15
Nov. 24.....	5.18	.65	Mar. 15.....	5.33	6.0	May 16.....	5.96	19
Dec. 1.....	5.19	.65	Mar. 17.....	5.44	4.0	May 25.....	5.51	6.0
Dec. 5.....	5.13	.31	Mar. 18.....	5.48	4.5	Do.....	5.51	5.8
Dec. 18.....	5.12	.25	Apr. 4.....	5.57	7.1	June 7.....	5.23	1.1
Dec. 22.....	5.08	.15	Apr. 11.....	6.36	35	June 25.....	5.00	.01
Jan. 1.....	5.17	.41	Apr. 13.....	6.68	52	July 7.....	4.99	.006
Jan. 12.....	5.22	.80	Apr. 16.....	6.03	23	July 11.....	4.99	.001

Daily discharge, in second-feet, of Jackass Creek near Jackass Meadow, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	1.0	0.9	0.7	0.4	1.2	7	5	42	2.3
2.....	.9	1.3	.6		1.2	5	6	38	1.8
3.....	.7	1.2	.6		1.2	4.4	7	37	1.6
4.....	.6	1.0	.5		1.2	3.9	7	32	1.4
5.....	.6	.9	.4		1.2	5	7.5	29	1.1
6.....	1.3	.8	.5		1.3	5	11	29	.9
7.....	2.5	.7	.6		1.7	5.5	22	30	.8
8.....	3.3	1.0	.6		1.8	5	34	30	.6
9.....	4.3	1.5			1.9	5	38	28	.6
10.....	4.2	1.8			2.2	5.5	42	26	.6
11.....	3.5	2.1			2.6	5	43	23	.5
12.....	3.0	1.7		.8	3.0	4.4	40	22	.4
13.....	2.3	1.6			3.3	4.8	43	22	.2
14.....	1.8	1.5			3.7	5.5	38	19	.2
15.....	1.6	1.4			4.1	6	27	18	.1
16.....	1.5	1.2			4.4	4.6	22	18	.1
17.....	1.4	1.0			4.5	4.4	24	16	
18.....	1.1	1.0	.3		4.6	4.4	32	13	
19.....	1.0	1.0		.6	4.7	3.7	36	12	
20.....	.8	.9			4.8	3.9	36	10	
21.....	.7	.8			4.9		36	9	
22.....	.8	.7	.2		5		36	8.5	
23.....	.7	.6			4.6		32	7.5	
24.....	.6	.6			4.4		29	6.5	
25.....	.6	.6			4.4		27	6	
26.....	.6	.6		.7	4.2	5	28	5	
27.....	.6	.5			4.8		26	4.8	
28.....	.5	.5			6.5		28	3.9	
29.....	.5	.5			7		34	3.5	
30.....	.5	.6					40	3.0	
31.....	.6							2.7	

NOTE.—Stream dry from June 18 to Sept. 30. During period of ice effect, discharge published only for days on which measurements were made.

Monthly discharge of Jackass Creek near Jackass Meadow, Calif., for the year ending September 30, 1924.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	4.3	0.5	1.42	87.3
November.....	2.1	.5	1.02	60.7
December.....	.7		.40	24.6
January.....			.60	36.9
February.....	7	1.2	3.46	199
March.....			4.94	304
April.....	43	5	27.9	1,660
May.....	42	2.7	17.9	1,100
June.....	2.3	0	.44	28.2
The year.....	43	0	4.82	3,500

* Estimated.

NOTE.—No flow during July, August, and September.

JACKASS CREEK NEAR FULLERS MEADOW, CALIF.

LOCATION.—In sec. 25, T. 6 S., R. 24 E., Madera County, half a mile above Wets Fork and about 2 miles northeast of Fullers Meadow. Elevation, about 3,500 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 1 to September 30, 1924.

GAGE.—Staff gage bolted to rock wall on right bank 25 feet above waterfall.

DISCHARGE MEASUREMENTS.—Made from log about 80 feet above gage or by wading.

CHANNEL AND CONTROL.—Waterfall over bedrock forms control; permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 3.36 feet at 6.45 a. m. April 11 (discharge, 74 second-feet); minimum stage recorded, 1.26 feet September 9 (discharge, 0.5 second-foot).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage-height record not sufficient for ascertaining daily discharge. Mean monthly discharge estimated from discharge measurements, scattered staff gage readings, and comparison with record of water-stage recorder on Jackass Creek near Jackass Meadow. Records fair.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Jackass Creek near Fullers Meadow, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 20.....		3.1	Apr. 11.....	3.32	72	May 21.....	2.13	14
Nov. 17.....		3.5	Apr. 12.....	3.16	58	May 27.....	1.91	6.7
Jan. 22.....		2.8	Apr. 13.....	3.19	60	May 28.....	1.88	6.4
Jan. 23.....	1.50	2.0	Apr. 16.....	2.61	29	June 5.....	1.62	3.0
Jan. 29.....	1.65	3.3	Apr. 17.....	2.63	30	June 6.....	1.58	2.5
Feb. 24.....	1.68	3.6	Apr. 18.....	2.83	38	June 13.....	1.48	1.8
Feb. 25.....	1.74	4.9	Apr. 19.....	2.94	43	Do.....	1.48	1.7
Feb. 28.....	1.99	9.3	Apr. 20.....	3.04	58	June 14.....	1.47	1.6
Mar. 5.....	1.82	5.8	Apr. 21.....	2.84	43	June 23.....	1.39	1.0
Mar. 6.....	1.72	4.4	Apr. 22.....	2.90	44	June 30.....	1.34	.8
Mar. 11.....	1.76	5.1	Apr. 23.....	2.92	44	July 2.....	1.35	.8
Mar. 12.....	1.89	6.8	Apr. 25.....	2.80	38	July 11.....	1.32	.7
Mar. 16.....	1.66	4.3	Apr. 26.....	2.78	36	July 12.....	1.30	.7
Do.....	1.62	3.4	Apr. 29.....	2.80	41	July 18.....	1.31	.6
Mar. 17.....	2.00	10	Apr. 30.....	2.94	48	July 19.....	1.31	.7
Mar. 22.....	1.93	8.2	May 1.....	3.00	50	July 25.....	1.30	.5
Mar. 25.....	1.94	7.4	May 2.....	2.97	51	July 27.....	1.28	.5
Mar. 28.....	1.89	6.2	May 3.....	3.00	51	Aug. 2.....	1.28	.5
Apr. 1.....	2.04	9.9	May 6.....	2.68	34	Aug. 3.....	1.28	.5
Apr. 2.....	2.00	9.4	May 7.....	2.72	34	Aug. 18.....	1.28	.5
Apr. 3.....	2.08	11	May 8.....	2.76	36	Aug. 25.....	1.27	.4
Apr. 4.....	2.10	11	May 10.....	2.66	32	Sept. 9.....	1.27	.4
Apr. 5.....	2.06	9.9	May 13.....	2.58	28	Sept. 10.....	1.27	.4
Apr. 9.....	3.04	56	May 14.....	2.52	28	Sept. 23.....	1.28	.5
Apr. 10.....	2.99	53	May 20.....	2.18	14			

Monthly discharge of Jackass Creek near Fullers Meadow, Calif., for the year ending September 30, 1924

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
March.....	* 6.0	369	June.....	1.94	115	September.....	* .5	29.8
April.....	37.7	2,240	July.....	* .7	43.0			
May.....	23.1	1,420	August.....	* .5	30.7	The period.....		4,250

* Estimated.

WEST FORK OF JACKASS CREEK NEAR FULLERS MEADOW, CALIF.

LOCATION.—In sec. 26, T. 6 S., R. 24 E., half a mile above mouth and 2 miles north of Fullers Meadow, Madera County. Elevation, about 3,500 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 1 to September 30, 1924.

GAGE.—Staff gage bolted to rock wall on right bank.

DISCHARGE MEASUREMENTS.—Made from log about 300 feet below gage.

CHANNEL AND CONTROL.—Bedrock; permanent. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 2.33 feet at 1.45 p. m. April 8 (discharge, 9 second-feet); minimum stage recorded, 1.70 feet at 7.50 p. m. July 9 (discharge, 0.3 second-foot).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve very well defined. Gage-height record not sufficient for ascertaining daily discharge. Mean monthly discharge estimated from discharge measurements, scattered staff gage readings, and comparison with record for Jackass Creek near Jackass Meadow. Records fair.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of West Fork of Jackass Creek near Fullers Meadow, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 20	2.14	2.5	Apr. 10	2.22	6.6	May 20	1.92	2.1
Nov. 17	2.14	2.2	Apr. 11	2.19	6.2	May 29	1.94	2.2
Jan. 23	2.14	3.0	Apr. 12	2.17	5.5	June 5	1.82	.8
Jan. 29	2.14	4.7	Apr. 13	2.14	5.2	June 13	1.83	.9
Feb. 24	2.04	3.2	Apr. 16	2.12	4.9	Do	1.83	1.0
Feb. 25	2.04	3.6	Apr. 17	2.12	4.9	June 24	1.80	1.0
Feb. 28	2.04	3.5	Apr. 18	2.10	4.6	July 1	1.74	.4
Mar. 6	2.04	3.5	Apr. 19	2.10	4.4	July 10	1.74	.3
Mar. 11	2.03	3.4	Apr. 21	2.06	3.8	July 13	1.84	1.2
Mar. 12	2.03	3.3	Apr. 23	2.16	5.6	July 18	1.83	1.1
Mar. 16	2.02	3.2	Apr. 25	2.10	4.3	July 27	1.81	1.1
Do	2.02	3.2	Apr. 26	2.08	4.0	Aug. 3	1.74	.4
Mar. 17	2.03	3.4	Apr. 29	2.06	3.7	Aug. 18	1.76	.5
Mar. 22	2.06	3.4	May 1	2.04	3.4	Aug. 25	1.72	.2
Mar. 28	2.11	4.2	May 3	2.04	3.5	Sept. 9	1.76	.6
Apr. 1	2.18	5.5	May 6	2.03	3.3	Sept. 10	1.74	.5
Apr. 3	2.23	6.6	May 8	2.02	3.2	Sept. 23	1.76	.5
Apr. 5	2.20	5.9	May 9	1.99	3.0			
Apr. 9	2.28	7.6	May 13	2.04	3.6			

Monthly discharge of West Fork of Jackass Creek near Fullers Meadow, Calif., for the year ending September 30, 1924

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
March	4.0	246	June	1.2	71.4	September	0.7	41.7
April	5.14	306	July	.7	43.0			
May	2.71	167	August	.6	36.9	The period		912

CHQUITO CREEK NEAR MUGLER MEADOW, CALIF.

LOCATION.—In sec. 30, T. 5 S., R. 24 E., half a mile above mouth of Cabin Creek and 2 miles east of Mugler Meadow, Madera County. Elevation, about 5,800 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 1 to September 30, 1924.

GAGE.—Staff gage on left bank.

DISCHARGE MEASUREMENTS.—Made from logs near gage.

CHANNEL AND CONTROL.—Gravel, boulders, and bedrock. Control not permanent on account of cracks between boulders subject to clogging but should not change appreciably for medium and high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 2.66 feet May 2 (discharge, 124 second-feet); minimum stage recorded, 0.20 foot August 24 (discharge, 0.7 second-foot).

ICE.—Stage-discharge relation affected by ice.

REGULATION.—None.

DIVERSIONS.—None.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve very well defined. Gage-height record not sufficient for ascertaining daily discharge. Mean monthly discharge estimated from discharge measurements, scattered staff-gage readings, and comparison with record of water-stage recorder on Chiquito Creek near Arnold Meadow. Records fair.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Chiquito Creek near Mugler Meadow, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 6	-----	5.7	Apr. 29	1.80	48	June 17	0.76	4.7
Nov. 15	-----	6.6	Apr. 30	1.96	60	Do.	.76	4.6
Dec. 24	-----	4.2	May 2	2.01	59	June 18	.77	4.7
Dec. 29	0.84	4.8	May 3	2.08	65	Do.	.77	4.4
Jan. 25	.84	4.6	May 7	2.00	60	June 26	.64	2.7
Feb. 27	1.08	11	May 9	1.92	53	June 27	.62	3.0
Mar. 3	1.38	23	May 10	1.93	55	June 28	.68	2.4
Mar. 9	1.14	13	May 13	1.88	51	July 6	.49	2.1
Mar. 22	1.06	11	May 15	1.66	37	July 7	.47	2.2
Apr. 2	1.12	13	May 17	1.66	36	July 14	.39	1.5
Apr. 9	1.96	58	May 24	1.29	19	Do.	.42	1.7
Apr. 10	2.60	118	May 25	1.23	18	July 15	.40	1.6
Apr. 14	2.02	62	Do.	1.24	18	July 22	.37	1.3
Apr. 15	1.85	51	May 31	1.06	12	July 23	.34	1.4
Apr. 17	1.59	33	June 1	1.05	7.4	July 31	.29	1.1
Apr. 19	1.88	49	June 2	1.04	10	Do.	.31	1.4
Apr. 22	1.96	56	Do.	1.04	10	Aug. 6	.28	1.2
Apr. 23	1.98	59	June 9	.90	7.0	Aug. 24	.20	.7
Apr. 26	1.78	45	Do.	.90	6.5	Sept. 7	.28	.8
Apr. 27	1.76	44	June 10	.89	6.5	Sept. 15	.26	1.0
Apr. 28	1.71	40	Do.	.89	6.6	Sept. 27	.31	.9

Monthly discharge of Chiquito Creek near Mugler Meadow, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet		Run-off in acre-feet	Month	Discharge in second-feet		Run-off in acre-feet
	Minimum	Mean			Minimum	Mean	
March	-----	15	922	July	-----	1.1	111
April	-----	55	3,270	August	-----	1.0	61.5
May	-----	40	2,460	September	-----	1.0	59.5
June	-----	6.0	357				
The period	-----			The period	-----		7,240

CHIKUITO CREEK NEAR ARNOLD MEADOW, CALIF.

LOCATION.—In sec. 18, T. 6 S., R. 24 E., half a mile below Beasore Creek and half a mile southwest of Arnold Meadow, Madera County. Elevation, 4,800 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 12, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank about 200 feet above mouth of a small creek flowing out of Arnold Meadow.

DISCHARGE MEASUREMENTS.—Made from cable one-fourth mile above, or from footbridge 200 feet below gage.

CHANNEL AND CONTROL.—Rough; bedrock at gage and control; practically permanent. One channel at all stages; banks not subject to overflow; right bank subject to erosion during extremely high water. Stage of zero flow 4.22 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.18 feet at 10 p. m. April 10 (discharge, 235 second-feet); minimum stage, 4.53 feet August 27–31 (discharge, 1.4 second-feet).

1921–1924: Maximum stage, from water-stage recorder, 8.63 feet at 9 p. m. May 24, 1922 (discharge, 1,100 second-feet); minimum stage recorded that of August 27–31, 1924.

ICE.—Stage-discharge relation affected by ice or float frozen in well, December 21, 22, and 28, and January 5–22.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve well defined. Water-stage recorder record excellent except for periods affected by ice. Daily discharge ascertained by applying mean daily gage height to rating table, except during ice-affected period, for which it was estimated from discharge measurements and records for near-by streams. Records excellent.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Chikuito Creek near Arnold Meadow, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 2.....	4.89	16	Feb. 23.....	5.04	26	Apr. 5.....	5.17	43
Oct. 4.....	4.85	13	Feb. 25.....	4.98	22	Apr. 12.....	5.79	139
Oct. 20.....	4.85	13	Mar. 2.....	5.08	33	Apr. 13.....	5.77	135
Oct. 22.....	4.85	14	Mar. 4.....	5.04	28	Apr. 24.....	5.52	88
Nov. 5.....	4.86	14	Mar. 8.....	5.03	28	May 22.....	5.15	40
Nov. 14.....	4.94	19	Mar. 10.....	5.05	29	June 3.....	4.90	16
Nov. 16.....	4.87	14	Mar. 15.....	5.09	33	June 23.....	4.74	6.8
Nov. 19.....	4.87	14	Mar. 16.....	5.02	25	July 10.....	4.64	3.4
Dec. 23.....	4.84	13	Mar. 18.....	5.01	23	July 13.....	4.64	3.6
Dec. 26.....	4.86	14	Mar. 23.....	4.98	23	Aug. 5.....	4.57	2.0
Dec. 28.....	4.85	12	Mar. 24.....	5.02	25	Aug. 19.....	4.57	1.9
Jan. 1.....	4.83	11	Mar. 25.....	5.02	26	Aug. 27.....	4.53	1.5
Jan. 20.....	4.88	16	Mar. 27.....	5.02	26	Sept. 7.....	4.54	1.4
Jan. 26.....	4.88	15	Mar. 31.....	5.10	34	Sept. 14.....	4.53	1.4
Jan. 31.....	4.97	22	Apr. 3.....	5.18	43			

Daily discharge, in second-feet, of Chiquito Creek near Arnold Meadow, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	17	15	14	14	22	31	33	144	19	4.6	1.9	1.6
2.....	16	18	12	14	22	32	34	132	18	4.6	1.9	1.6
3.....	14	16	13	14	21	29	42	134	17	4.6	1.9	1.6
4.....	14	15	13	14	21	29	40	126	15	4.3	1.9	1.6
5.....	13	14	13	14	22	28	44	104	14	4.3	2.0	1.8
6.....	15	14	13	14	25	30	63	108	14	4.3	1.9	1.6
7.....	26	13	14	14	28	31	91	113	13	4.3	1.9	1.6
8.....	27	17	13	14	34	29	111	111	12	4.0	1.9	1.6
9.....	29	19	11	14	38	30	132	106	12	4.0	1.8	1.6
10.....	28	21	10	14	32	31	155	97	12	4.0	1.8	1.6
11.....	26	22	9.5	14	30	29	169	86	12	4.0	1.8	1.6
12.....	22	20	10	14	30	28	166	80	11	4.0	1.8	1.6
13.....	18	19	10	14	31	29	166	81	11	3.7	1.6	1.6
14.....	17	19	14	13	33	31	140	72	9.5	3.7	1.6	1.6
15.....	15	18	14	13	31	32	99	70	9	3.4	1.6	1.6
16.....	15	15	14	13	28	28	81	69	9	3.1	1.6	1.6
17.....	15	15	13	13	28	28	86	62	9	3.1	1.6	1.6
18.....	15	15	13	13	28	24	106	56	8.5	3.1	1.8	1.8
19.....	14	15	13	13	30	27	124	51	8.5	2.8	1.9	1.8
20.....	13	14	12	13	29	28	124	45	8	2.8	2.0	1.8
21.....	13	14	12	13	28	25	124	42	8	2.8	2.2	1.8
22.....	13	14	13	13	27	24	128	38	7.5	2.8	2.0	1.9
23.....	13	14	13	13	27	23	118	36	7.5	2.5	1.9	2.0
24.....	13	14	12	13	26	26	100	34	7	2.5	1.8	2.0
25.....	13	13	13	12	28	26	97	32	7	2.4	1.8	2.0
26.....	12	13	14	15	27	26	97	30	6	2.2	1.6	2.0
27.....	12	12	13	24	29	26	91	28	5.5	2.0	1.4	2.0
28.....	12	12	14	23	34	26	90	26	5.5	2.0	1.4	2.0
29.....	12	12	14	22	36	28	106	24	5	2.0	1.4	2.0
30.....	12	14	14	21	-----	30	130	22	4.9	1.9	1.4	1.9
31.....	14	-----	14	22	-----	34	-----	22	-----	1.9	1.4	-----

Monthly discharge of Chiquito Creek near Arnold Meadow, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	29	12	16.4	1,010
November.....	22	12	15.5	922
December.....	14	9.5	12.7	781
January.....	24	12	15.0	922
February.....	38	21	28.4	1,630
March.....	34	23	28.3	1,740
April.....	169	33	103	6,130
May.....	144	22	70.4	4,330
June.....	19	4.9	10.2	607
July.....	4.6	1.9	3.28	202
August.....	2.2	1.4	1.76	108
September.....	2.0	1.6	1.75	104
The year.....	169	1.4	25.5	18,500

BIG CREEK NEAR MOUTH, NEAR BIG CREEK, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 26, T. 8 S., R. 24 E., half a mile above mouth and Southern California Edison Co.'s power house No. 8 and 5 miles west of Big Creek, Fresno County. Elevation, about 2,600 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 10, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Channel is series of pools, rapids, and falls; bottom of bedrock overlain with gravel and boulders. Control is solid bedrock lip about 15 feet below gage house; permanent unless affected by debris from tunnel collecting in pool. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.82 feet at 7.40 a. m. January 2 (discharge, 540 second-feet); minimum stage, from water-stage recorder, 0.49 foot at 1 p. m. May 30 (discharge, 0.1 second-foot).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Big Creek receives from Stevenson Creek drainage area water which is diverted from Shaver Lake and Camp 22 Creek through Southern California Edison Co.'s flume at Shaver (see p. 248) by way of power houses Nos. 2 and 8.

REGULATION.—Huntington Lake storage reservoir and power houses Nos. 1 and 2 control practically the entire flow of Big Creek above the station.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder record excellent, except May 30 to June 2, when pencil broke. Daily discharge ascertained by applying mean daily gage height to rating table, except November 13 and 16 and January 3-17, for which discharge integrator was used; and June 3-16, for which hourly discharge was averaged. Discharge estimated May 30 to June 2. Records excellent.

COOPERATION.—Gage-height record and the results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Big Creek near mouth, near Big Creek, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 11.....	0.63	0.46	Mar. 3.....	0.60	0.41	June 10.....	2.94	222
Jan. 2.....	3.06	289	Apr. 1.....	.60	.46	Do.....	3.22	328
Jan. 10.....	2.90	188	Apr. 25.....	.57	.45	June 12.....	3.14	302
Do.....	2.85	203	May 1.....	1.56	.45	Do.....	3.07	281
Jan. 14.....	3.14	243	May 30.....	1.10	0.8	July 18.....	.55	.30
Jan. 15.....	3.50	348	June 6.....	2.09	.66	Aug. 19.....	.56	.35
Feb. 6.....	.67	.75	June 10.....	2.81	221	Sept. 5.....	.55	.35

Daily discharge, in second-feet, of Big Creek near mouth, near Big Creek, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.1	1.0	0.9	0.8	0.6	0.5	0.5	0.4	11	0.4	0.4	0.4
2.....	1.1	1.0	.7	204	.6	.6	.5	.3	9.5	.4	.4	.4
3.....	1.1	1.0	.8	209	.6	.6	1.0	.3	20	.4	.4	.4
4.....	1.2	1.0	.9	206	.8	.5	.9	.3	10	.3	.4	.4
5.....	1.2	1.0	.9	166	.9	.5	.5	.3	24	.4	.4	.4
6.....	1.2	1.1	.8	124	1.0	.5	.5	.3	32	.3	.3	.4
7.....	1.6	1.1	1.0	236	.6	.5	.4	.2	30	.3	.3	.4
8.....	1.6	1.2	.9	226	.8	.5	.4	.2	38	.2	.3	.4
9.....	1.3	1.2	.6	244	1.0	.4	.4	.2	30	.3	.4	.5
10.....	1.2	1.5	.6	169	.7	.5	.4	.3	133	.3	.4	.4
11.....	1.1	1.2	.7	204	.7	.4	.4	.3	135	.2	.6	.4
12.....	1.1	1.2	.9	172	.6	.4	.4	.4	166	.2	.4	.4
13.....	1.0	123	1.0	56	.8	.6	.3	.4	165	.2	.4	.4
14.....	1.0	238	1.0	56	.7	.6	.4	.4	135	.3	.4	.4
15.....	1.0	218	1.0	204	.7	.6	.4	.4	15	.3	.4	.3

Daily discharge, in second-feet, of Big Creek near mouth, near Big Creek, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	1.0	57	0.9	190	0.7	0.7	0.3	0.3	34	0.4	0.4	0.3
17.....	1.0	1.6	.8	32	.6	.7	.3	.3	.4	.4	.4	.3
18.....	1.0	1.6	.8	1.6	.6	.8	.4	.3	.4	.3	.4	.3
19.....	1.0	1.2	.8	1.0	.6	.7	.4	.3	.4	.2	.5	.3
20.....	1.0	1.2	.9	.8	.7	.8	.3	.3	.6	.2	.8	.3
21.....	1.0	1.0	.8	.8	.6	.8	.4	1.4	.8	.3	.4	.3
22.....	1.0	1.1	.8	.8	.7	.7	.4	.3	.4	.3	.4	.3
23.....	1.0	1.3	.8	.6	.6	1.2	.6	.3	.5	.4	.5	.3
24.....	1.0	1.3	.8	.6	.5	1.2	.5	.3	.5	.4	1.1	.3
25.....	1.0	1.2	.8	.6	.5	.8	.4	.2	.8	.4	.6	.3
26.....	1.0	1.1	.8	.8	.5	1.9	.3	.2	.8	.4	.4	.3
27.....	1.0	1.4	.8	1.0	.5	1.4	.3	.2	.5	.4	.4	.3
28.....	1.0	1.4	.8	.8	.5	1.4	.4	.2	.4	.4	.5	.3
29.....	1.0	.7	.8	.6	.5	.8	.4	.2	.3	.5	.4	.3
30.....	.9	1.0	.8	.6	.....	.6	.4	6	.3	.5	.4	.3
31.....	1.0	.....	1.0	.6	.....	.6	.....	32	.....	.5	.8	.....

Monthly discharge of Big Creek near mouth, near Big Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.6	0.9	1.09	67.0
November.....	238	.7	22.2	1,320
December.....	1.0	.6	.84	51.6
January.....	244	.6	87.4	5,370
February.....	1.0	.5	.66	38.0
March.....	1.9	.4	.72	44.3
April.....	1.0	.3	.44	26.2
May.....	32	.2	1.53	94.1
June.....	166	.3	33.2	1,980
July.....	.5	.2	.34	20.9
August.....	1.1	.3	.46	28.3
September.....	.5	.3	.35	20.8
The year.....	244	.2	12.5	9,060

PITMAN CREEK AT BIG CREEK, CALIF.

LOCATION.—In sec. 28, T. 8 S., R. 25 E., one-fourth mile above junction with Big Creek and half a mile southeast of Big Creek Post Office, Fresno County. Elevation about 5,000 feet.

DRAINAGE AREA.—27 square miles (measured on topographic map by Pacific Light & Power Co.).

RECORDS AVAILABLE.—January 1, 1910, to September 30, 1915, and January 26, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and house at right side of weir pool, about 50 feet above highway bridge. Zero of gage is at elevation of weir crest.

DISCHARGE MEASUREMENTS.—Made from footbridge about 15 feet above weir or by wading.

CHANNEL AND CONTROL.—Sharp-edged 38-foot rectangular weir with partial end contractions, at lower end of natural pool in solid rock. Considerable velocity of approach at high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.00 foot at noon April 16 (discharge, 134 second-feet); minimum discharge, 0.9 second-foot during numerous periods in July, August, and September.

1910-1915: Extremes of discharge occurring in 1910, 1911, and 1913 were based on computations from formula, without discharge measurements, and considered not as reliable as later records.

1921-1924: Maximum stage, from water-stage recorder, 3.53 feet at 6 p. m. June 1, 1922 (discharge, 1,110 second-feet); minimum stage that of July, August, and September, 1924.

ICE.—Water-stage recorder float operated in oil container. Ice formed on weir crest occasionally and caused backwater, for which allowance was made before application of open-water rating.

DIVERSIONS.—Southern California Edison Co. diverts water above gage for power house No. 1 hydraulic valves, and for cooling transformers; estimated maximum diversion 0.5 second-foot.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage heights slightly affected by ice during winter and proper corrections made. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Pitman Creek at Big Creek, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Dec. 10.....	0.05	2.0	Apr. 28.....	0.47	52	June 11.....	0.09	4.5
Jan. 12.....	.07	3.5	Apr. 30.....	.66	69	June 26.....	.05	1.8
Feb. 5.....	.07	2.8	Do.....	.79	91	July 19.....	.03	.9
Feb. 28.....	.10	5.2	May 8.....	.66	62	July 31.....	.04	1.1
Mar. 10.....	.13	7.9	May 17.....	.40	36	Aug. 21.....	.04	1.0
Apr. 10.....	.62	62	May 21.....	.29	29	Sept. 15.....	.04	1.2
Apr. 21.....	.56	64	May 29.....	.20	13			

Daily discharge, in second-feet, of Pitman Creek at Big Creek, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.1	3.1	3.1	2.5	3.1	5	6	81	11	1.9	0.9	0.9
2.....	3.1	3.1	3.1	2.5	3.1	6	7	83	9	1.9	.9	.9
3.....	3.1	3.1	3.1	2.5	3.1	6	8	81	8.5	1.9	.9	.9
4.....	3.1	3.8	3.1	2.5	3.1	6	8.5	72	8	1.4	.9	.9
5.....	3.1	3.8	2.5	2.5	3.8	11	10	67	7	1.4	.9	.9
6.....	3.1	3.8	2.5	2.5	4.5	7	12	67	6	1.4	.9	.9
7.....	5	3.8	2.5	2.5	5	7	17	69	6	1.4	.9	.9
8.....	5	5	2.5	2.5	5	6	22	71	5	.9	.9	.9
9.....	5	4.5	2.5	3.1	4.5	6	35	65	5	.9	.9	.9
10.....	5	5	1.9	3.1	3.8	6	55	58	5	.9	.9	.9
11.....	5	5	1.4	3.1	3.8	6	62	51	4.5	.9	.9	.9
12.....	4.5	4.5	1.9	3.1	4.5	6	67	50	4.5	.9	.9	.9
13.....	3.8	4.5	1.9	3.1	4.5	6	65	51	4.5	.9	.9	1.4
14.....	3.1	4.5	1.9	3.1	5	6	54	44	3.8	.9	.9	1.4
15.....	3.1	3.8	1.9	3.8	5	7	37	43	3.8	.9	.9	1.4
16.....	3.1	3.8	1.9	3.1	4.5	7	39	42	3.1	.9	.9	1.4
17.....	3.1	3.8	1.9	3.1	4.5	6	33	37	3.1	.9	.9	1.4
18.....	3.1	3.1	1.9	2.5	5	6	47	32	3.1	.9	.9	.9
19.....	3.1	3.1	1.9	2.5	5	6	61	27	3.1	.9	.9	.9
20.....	2.5	3.1	2.5	2.5	6	6	64	24	2.5	.9	.9	.9
21.....	3.1	3.1	2.5	2.5	6	5	68	20	2.5	.9	1.4	.9
22.....	3.1	2.5	1.9	2.5	6	6	68	18	2.5	.9	1.4	.9
23.....	3.8	2.5	1.9	2.5	6	6	57	18	2.5	1.4	1.4	.9
24.....	3.8	2.5	1.9	2.5	5	6	47	17	2.5	1.4	1.4	.9
25.....	3.1	2.5	1.9	2.5	4.5	5	47	16	2.5	1.4	1.4	.9
26.....	3.1	2.5	1.9	2.5	4.5	6	48	14	2.5	1.4	.9	.9
27.....	3.1	3.1	1.9	3.1	5	6	46	12	2.5	1.4	.9	.9
28.....	3.1	3.1	1.9	2.5	5	5	48	11	2.5	1.4	.9	.9
29.....	2.5	3.8	1.9	3.1	6	5	60	12	2.5	1.4	.9	.9
30.....	2.5	3.8	1.9	3.1	-----	4.5	78	11	2.5	.9	.9	.9
31.....	3.1	-----	2.5	3.1	-----	6	-----	11	-----	.9	.9	-----

Monthly discharge of Pitman Creek at Big Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	5	2.5	3.46	213
November.....	5	2.5	3.59	214
December.....	3.1	1.4	2.19	135
January.....	3.8	2.5	2.77	170
February.....	6	3.1	4.65	267
March.....	11	4.5	6.05	372
April.....	78	6	42.6	2,530
May.....	83	11	41.1	2,530
June.....	11	2.5	4.38	261
July.....	1.9	.9	1.17	71.9
August.....	1.4	.9	.98	60.3
September.....	1.4	.9	.98	58.3
The year.....	83	.9	9.48	6,880

STEVENSON CREEK AT SHAVER, CALIF.

LOCATION.—In sec. 13, T. 9 S., R. 24 E., three-quarters of a mile west of Shaver, Fresno County. Elevation about 5,000 feet.

DRAINAGE AREA.—30.2 square miles (measured on topographic map).

RECORDS AVAILABLE.—October 1, 1916, to September 30, 1920 and April 9, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and house on right bank 20 feet above compound weir. Zero of gage set at elevation of crest of lower weir.

DISCHARGE MEASUREMENTS.—Made from cable a quarter of a mile above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders and bedrock. Control is a compound weir consisting of a 64-foot rectangular sharp-crested weir with partial end contractions, and an 8-foot rectangular sharp-crested weir 1 foot deep, in middle of the larger weir. Leakage about 0.05 second-foot. Velocity of approach is considerable at high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 0.55 foot at 6 p. m. April 6 (discharge, 9.9 second-feet); practically dry June 11–15, June 20 to September 30.

1916–1920; 1922–1924: Maximum mean daily discharge, 712 second-feet on April 7, 1920; minimum discharge, practically dry, June 11–15, June 20 to September 30, 1924.

ICE.—Stage-discharge relation not seriously affected by ice during year.

DIVERSIONS.—Southern California Edison Co.'s flume at Shaver diverts water at Shaver Lake dam and from Camp 22 Creek, a tributary of Stevenson Creek. This water is used at power houses 2 and 8, then spills into Big Creek near the mouth. See page 248 for daily discharge of the flume.

REGULATION.—During dry season flow is regulated at Shaver Lake dam. There was 3,759 acre-feet of water in Shaver Lake on September 30, 1923, and 1,845 acre-feet on September 30, 1924.

ACCURACY.—Stage-discharge relation did not change during the year. Rating curve fairly well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record and results of discharge measurements furnished by the Southern California Edison Co., through H. W. Dennis, chief civil engineer.

Discharge measurements of Stevenson Creek at Shaver, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 20.....	0.37	3.8	Jan. 19.....	0.06	0.20	Mar. 29.....	0.06	0.26
Oct. 23.....	.37	5.1	Jan. 30.....	.10	.37	Apr. 19.....	.07	.35
Oct. 27.....	.38	4.9	Feb. 9.....	.13	.48	Apr. 26.....	.07	.39
Nov. 3.....	.37	5.7	Feb. 16.....	.07	.21	May 17.....	.04	.16
Nov. 10.....	.37	5.3	Feb. 26.....	.06	.18	June 25.....	— .17	.06
Dec. 16.....	.26	2.4	Do.....	.06	.25			

Daily discharge, in second-feet, of Stevenson Creek at Shaver, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1.....	2.0	5	1.2	0.7	0.5	0.3	0.4	0.4	0.2
2.....	1.5	5	1.3	.6	.4	.5	.4	.4	.1
3.....	1.5	5	1.0	.9	.5	.5	.5	.3	.1
4.....	1.5	5	1.6	1.1	.7	.6	.7	.3	.1
5.....	1.5	5	1.5	.5	.5	.7	1.1	.3	.1
6.....	1.3	5	.9	.4	.5	.4	4.3	.3	.2
7.....	2.6	5	1.0	.4	.5	.4	4.3	.3	.2
8.....	1.7	5	.7	.4	.6	.3	3.6	.3	.1
9.....	3.1	5	1.3	.4	.7	.3	2.9	.3	.1
10.....	5.5	5	.6	.4	.5	.3	2.2	.3	.1
11.....	5.5	5.5	.6	.4	.5	.3	.9	.3	-----
12.....	5.5	5	.9	.4	.4	.3	.5	.4	-----
13.....	5	5	.6	.4	.4	.3	.5	.4	-----
14.....	5	5	.5	.4	.4	.3	.6	.4	-----
15.....	5	5	.5	.4	.4	.3	.6	.3	-----
16.....	5	5	1.0	.5	.4	.3	.5	.3	.2
17.....	5	5	.7	.4	.6	.3	.5	.3	.3
18.....	5	5	.6	.3	.4	.3	.4	.2	.2
19.....	5	5	.7	.5	.4	.3	.4	.2	.1
20.....	5	4.1	.9	.4	.6	.3	.4	.2	-----
21.....	5	2.7	1.0	.4	.9	.4	.4	.3	-----
22.....	5	2.2	1.0	.4	.4	.3	.4	.3	-----
23.....	5	1.9	1.5	.4	.4	.4	.5	.3	-----
24.....	5	1.3	1.5	.4	.4	.4	.5	.3	-----
25.....	5	1.2	.4	.4	.4	.4	.5	.2	-----
26.....	5	1.3	.5	.5	.3	.4	.4	.2	-----
27.....	5	1.3	.6	1.0	.4	.4	.4	.3	-----
28.....	5	1.3	.6	.9	.4	.4	.4	.3	-----
29.....	5	2.2	.5	.5	.3	.3	.4	.3	-----
30.....	5	1.3	.5	.5	-----	.4	.4	.3	-----
31.....	5	-----	.6	.9	-----	.4	-----	.2	-----

NOTE.—Discharge less than 0.05 second-foot July to September.

Monthly discharge of Stevenson Creek at Shaver, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	5.5	1.3	4.14	255
November.....	5.5	1.2	3.88	231
December.....	1.6	.4	.86	52.9
January.....	1.1	.3	.52	32.0
February.....	.9	.3	.48	27.6
March.....	.7	.3	.37	22.8
April.....	4.3	.2	1.00	59.5
May.....	.4	-----	.30	18.4
June.....	.3	0	.07	4.2
The year.....	5.5	0	0.97	703

NOTE.—See footnote to daily-discharge table.

SOUTHERN CALIFORNIA EDISON CO.'S FLUME AT SHAVER, CALIF.

LOCATION.—In sec. 13, T. 9 S., R. 24 E., one-eighth mile below Shaver Lake dam and one-fourth mile west of Shaver, Fresno County. Elevation, about 5,200 feet.

RECORDS AVAILABLE.—February 16, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and house.

DISCHARGE MEASUREMENTS.—Made from plank about 200 feet above gage.

CHANNEL AND CONTROL.—Timber flume 6.67 feet wide and 6 feet deep lined with matched planed vertical sheeting. The previous lining of tar paper, wire, and battens was removed and the present lining placed during October and November, 1923. Control is indefinite.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.66 feet at 3.30 p. m. December 11 (discharge, 322 second-feet); flume dry October 10 to November 19.

1922-1924: Maximum stage, from water-stage recorder, 4.72 feet at 1 p. m. April 11, 1923 (discharge, 368 second-feet); flume dry at times during each year.

ICE.—Stage-discharge relation not seriously affected by ice.

ACCURACY.—Stage-discharge relation changed in October on account of installation of new lining in flume. Rating curves well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table, or, on days of considerable fluctuation, by computing the discharge for fractional parts of the day. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

This flume receives water from 36-inch gate valve at base of Shaver Lake dam, from gates 3 and 4 of Spillway No. 1 of Shaver Lake dam, from pumps lifting leakage at toe of Shaver Lake dam, and from small feeder flume from Camp 22 Creek.

The water flows into Big Creek after passing through Southern California Edison Co.'s power houses Nos. 2 and 8.

Discharge measurements of Southern California Edison Co.'s flume at Shaver, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 1.....	1.02	60	Dec. 15.....	1.54	105	Feb. 16.....	0.96	49
Dec. 3.....	1.05	60	Dec. 22.....	1.55	101	Feb. 23.....	.96	48
Dec. 8.....	1.54	101	Jan. 30.....	.98	54	Mar. 8.....	.98	49
Dec. 11.....	3.66	321	Feb. 9.....	.98	53	Apr. 19.....	2.04	143

Daily discharge, in second-feet, of Southern California Edison Co.'s flume at Shaver, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.4		37	1.6	26	25	4.6	1.8	2.1	2.1	1.3	1.3
2.....	3.7		5	8	16	1.6	22	2.1	2.1	2.1	1.3	1.3
3.....	3.9		35	1.6	2.1	26	33	1.8	2.1	2.1	1.3	1.6
4.....	4.1		55	1.2	25	26	11	1.8	1.8	2.1	1.3	1.6
5.....	4.3		65	2.1	25	26	2.9	1.8	1.3	2.1	1.3	1.2
6.....	4.3		62	2.1	25	26	1.0	1.8	1.8	2.1	1.3	1.3
7.....	3.7		62	2.1	26	26	1.3	2.1	2.1	2.1	1.3	1.3
8.....	4.5		63	2.1	26	26	27	2.1	2.1	2.1	1.3	1.3
9.....	2.3		1.3	2.1	26	1.3	76	2.4	2.1	2.1	1.3	1.3
10.....			63	2.1	2.1	26	82	2.4	2.4	2.1	1.3	1.3
11.....			81	2.1	26	26	64	2.4	2.4	1.8	1.3	1.3
12.....			63	2.1	25	25	87	2.4	2.4	1.8	1.3	1.3
13.....			17	2.4	25	25	2.9	2.1	2.4	1.6	1.3	1.3
14.....			2.4	2.4	25	25	123	2.1	2.4	1.6	1.3	1.3
15.....			63	2.4	25	25	132	17	2.4	1.6	1.3	1.3
16.....			1.3	2.1	25	1.2	140	2.1	1.6	1.3	1.6	1.3
17.....			64	2.4	1.3	25	131	2.4	2.4	1.3	1.6	1.3
18.....			63	2.4	25	25	136	2.4	2.4	1.3	1.6	1.3
19.....			63	1.8	25	25	30	21	2.4	1.3	1.0	1.3
20.....		1.1	63	2.1	25	25	1.6	2.1	2.4	1.3	1.3	1.3
21.....		2.1	62	2.1	25	25	1.6	2.1	2.4	1.3	1.3	1.3
22.....		2.4	64	1.8	25	25	1.6	2.1	2.4	1.3	1.3	1.3
23.....		2.6	1.2	1.8	25	1.8	2.1	2.1	2.4	1.3	1.3	1.3
24.....		3.5	64	2.1	1.6	25	2.6	2.1	2.4	1.3	1.2	1.3
25.....		3.5	2.9	1.8	25	25	2.1	2.1	2.4	1.3	1.2	1.3
26.....		3.5	63	2.1	25	13	1.8	2.1	2.4	1.3	1.3	1.3
27.....		3.7	64	2.9	25	9	1.8	2.1	2.4	1.3	1.3	1.3
28.....		34	63	21	25	17	26	2.1	2.4	1.3	1.3	1.3
29.....		1.8	63	26	25	8	1.8	2.1	2.4	1.3	1.3	1.3
30.....		35	2.1	23		18	1.8	2.1	2.4	1.3	1.3	1.3
31.....			63	26		24		2.1		1.3	1.3	

Monthly discharge of Southern California Edison Co.'s flume at Shaver, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	4.5	0	1.10	67.6
November.....	35	0	3.11	185
December.....	81	1.2	46.5	2,860
January.....	26	1.2	5.09	313
February.....	26	1.3	21.7	1,250
March.....	26	1.2	20.3	1,250
April.....	140	1.0	38.4	2,280
May.....	21	1.8	3.20	197
June.....	2.4	1.3	2.24	133
July.....	2.1	1.3	1.62	99.6
August.....	1.6	1.0	1.31	80.6
September.....	1.6	1.2	1.32	78.6
The year.....	140	0	12.1	8,790

FRESNO RIVER BASIN

FRESNO RIVER NEAR KNOWLES, CALIF.

LOCATION.—In N. $\frac{1}{2}$ sec. 15, T. 8 S., R. 20 E., at Fresno Crossing, 6 miles north-east of Knowles, Madera County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 16, 1911, to January 1, 1914, and November 13, 1915, to September 30, 1924.

GAGE.—Vertical staff in two sections; low-water section on left bank about 60 feet above bridge; high-water section on right bank about 100 feet above bridge. Gage read by J. E. Gayman.

DISCHARGE MEASUREMENTS.—Made from cable about 300 feet below bridge or by wading.

CHANNEL AND CONTROL.—Bed consists of small boulders, gravel, sand, and outcroppings of bedrock; fairly permanent. A concrete control was installed November 4, 1916.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.5 feet at 7 a. m. March 27 (discharge, 164 second-feet); no flow July 8–22 and July 27 to September 30.

1911–1914; 1916–1924: Maximum stage recorded, 6 feet at 5 p. m. February 21, 1917 (discharge, determined from extension of rating curve, about 4,500 second-feet); no flow part of August and September, 1919. and July to September, 1924.

DIVERSIONS.—Water is diverted above the station for irrigation and lumbering.

REGULATION.—Diurnal fluctuation at low stages due to diversions above.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Staff gage read to hundredths once daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record and results of discharge measurements furnished by Southern California Edison Co., through H. W. Dennis, chief civil engineer.

The following discharge measurements were made:

October 31, 1923: Gage height, 0.78 foot; discharge, 8.8 second-feet.

February 11, 1923: Gage height, 1.06 feet; discharge, 30 second-feet.

Daily discharge, in second-feet, of Fresno River near Knowles, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	12	9.5	11	20	20	15	58	37	8	0.2
2	11	9.5	9.5	22	15	24	55	24	7	.2
3	11	11	9.5	22	22	123	55	24	6	.2
4	9.5	11	9.5	24	22	37	86	37	5.5	.1
5	8	12	8	22	20	24	86	37	5	.1
6	8	11	9.5	22	20	24	74	41	5	.1
7	9.5	12	9.5	20	19	24	67	41	4.5	.1
8	9.5	12	9.5	20	17	24	80	41	4.5	-----
9	14	15	9.5	17	22	22	86	44	4.5	-----
10	15	19	8	15	34	22	86	41	4.0	-----
11	15	22	8	15	32	22	108	41	4.0	-----
12	14	19	9.5	14	32	24	108	41	3.5	-----
13	14	14	9.5	14	29	24	93	41	3.5	-----
14	12	12	11	12	24	24	93	37	4.0	-----
15	12	12	11	11	24	24	86	32	4.0	-----
16	11	12	12	11	22	24	80	29	3.5	-----
17	11	11	12	11	15	22	80	24	3.5	-----
18	11	11	14	9.5	17	22	74	24	3.0	-----
19	9.5	9.5	14	9.5	17	24	74	22	3.0	-----
20	9.5	9.5	14	8	15	24	74	22	2.5	-----
21	9.5	8	12	8	15	27	74	20	2.2	-----
22	9.5	8	14	7.5	14	29	67	20	2.2	-----
23	11	9.5	14	7	14	37	67	19	2.2	.2
24	11	9.5	15	7	14	37	80	17	1.9	.2
25	9.5	9.5	15	6	15	37	80	17	1.9	.2
26	9.5	8	15	5.5	15	55	74	15	1.6	.2
27	11	8	17	15	15	164	61	15	1.3	-----
28	11	8	17	86	14	123	55	17	.8	-----
29	11	9.5	17	37	15	86	55	15	.7	-----
30	9.5	11	19	22	-----	74	37	14	.4	-----
31	9.5	-----	19	20	-----	55	-----	11	-----	-----

NOTE.—No flow July 8–22 and July 26 to Sept. 30.

Monthly discharge of Fresno River near Knowles, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	15	8	10.9	670
November.....	22	8	11.4	678
December.....	19	8	12.3	756
January.....	86	5.5	17.4	1,070
February.....	34	14	19.6	1,130
March.....	164	15	41.8	2,570
April.....	108	37	75.0	4,460
May.....	44	11	27.7	1,700
June.....	8	4	3.46	206
July.....	.2	0	.06	3.7
The year.....	164	0	18.3	13,200

NOTE.—No flow during August and September.

MERCED RIVER BASIN

MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CALIF.

LOCATION.—At Happy Isles Bridge, $1\frac{1}{2}$ miles southeast of Yosemite, Mariposa County.

DRAINAGE AREA.—181 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 23, 1915, to September 30, 1924.

GAGE.—Water-stage recorder on right bank about 20 feet below bridge.

DISCHARGE MEASUREMENTS.—Made from Clark Bridge about half a mile below gage or by wading.

CHANNEL AND CONTROL.—Boulders; practically permanent. Banks high; not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.40 feet at 10 p. m. May 2 (discharge, 1,240 second-feet); minimum stage, 0.33 foot on September 30 (discharge, 2.6 second-feet).

1915-1924: Maximum stage, from water-stage recorder, 7.10 feet at 10 p. m. May 28, 1919 (discharge, 3,800 second-feet); minimum stage, 0.13 foot at 11 a. m. January 9, 1918 (discharge, 2.1 second-feet).

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water stage recorder record fair. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage height record furnished by officials of Yosemite National Park.

The following discharge measurements were made:

May 13, 1924: Gage height, 3.19 feet; discharge, 566 second-feet.

August 18, 1924: Gage height, 0.62 foot; discharge, 9.9 second-feet.

August 18, 1924: Gage height, 0.62 foot; discharge, 9.5 second-feet.

Daily discharge, in second-feet, of Merced River at Happy Isles Bridge, near Yosemite, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	134	45	28	18	28	53	65	970	236	55	18	8.5
2.....	127	46	23	18	28	56	68	1,040	262	57	18	8.5
3.....	120	46	26	20	28	50	83	1,040	278	57	18	8.5
4.....	112	46	26	24	29	50	80	888	286	56	16	8
5.....	104	44	23	24	31	48	80	685	259	56	15	8
6.....	96	42	25	25	34	46	97	751	225	53	14	7.5
7.....	136	38	26	26	37	48	162	940	198	50	14	7.5
8.....	132	43	21	24	44	42	230	1,040	164	48	13	7
9.....	144	46	18	24	48	44	275	1,100	129	44	12	6.5
10.....	136	50	21	27	40	45	322	1,040	116	40	12	6.5
11.....	136	58	21	26	39	45	404	928	102	39	12	6
12.....	132	54	21	26	40	44	414	828	97	38	11	6
13.....	116	57	23	25	45	44	463	554	96	37	10	6
14.....	100	56	24	24	48	45	430	536	92	34	11	6
15.....	86	52	24	24	50	53	317	729	88	32	11	5.5
16.....	80	45	24	23	46	47	256	874	82	29	12	6
17.....	105	42	23	23	47	45	241	795	80	28	12	4.9
18.....	105	40	23	22	47	47	283	746	79	26	11	4.6
19.....	89	40	23	21	51	46	361	645	75	26	11	4.6
20.....	80	38	20	21	50	47	430	544	68	26	10	4.6
21.....	72	36	19	21	49	48	487	471	66	26	9.5	4.6
22.....	67	34	16	21	45	42	549	373	63	25	9.5	4.3
23.....	65	35	16	20	45	44	487	380	61	25	8.5	3.6
24.....	56	35	17	20	39	50	364	388	60	24	8	3.4
25.....	53	31	16	20	41	50	300	379	59	24	8	3.2
26.....	49	29	17	22	40	52	294	355	58	24	7.5	3.2
27.....	47	26	14	26	43	52	320	317	56	24	7	3.0
28.....	46	25	14	26	52	57	320	275	51	24	7	2.8
29.....	42	24	17	27	55	62	452	272	51	23	7	2.8
30.....	38	25	16	26	-----	61	707	259	52	21	7.5	2.6
31.....	41	-----	17	28	-----	68	-----	228	-----	20	8.5	-----

Monthly discharge of Merced River at Happy Isles Bridge, near Yosemite, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	144	38	91.8	5,640
November.....	58	24	40.9	2,430
December.....	26	14	20.7	1,270
January.....	28	18	23.3	1,430
February.....	55	28	42.0	2,420
March.....	68	42	49.4	3,040
April.....	707	65	311	18,500
May.....	1,100	228	657	40,400
June.....	286	51	120	7,140
July.....	57	20	35.2	2,160
August.....	18	7	11.3	695
September.....	8.5	2.6	5.47	327
The year.....	1,100	2.6	118	85,400

MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CALIF.

LOCATION.—At Pohono Bridge, 5 miles below Yosemite, Mariposa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 2, 1916, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 150 feet above bridge. Datum lowered 0.8 foot September 4, 1918.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Bed consists of sand and gravel above gage and boulders below gage. Control formed by boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.95 feet at 9 p. m. May 2 (discharge, 2,120 second-feet); minimum stage, 0.61 foot at 2 p. m. September 29 (discharge, 3.3 second-feet).

1916-1924: Maximum stage, from water-stage recorder, 10 feet at 1 a. m. June 5, 1922 (discharge, 6,370 second-feet); minimum stage, that of September 29, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record fair. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by officials of Yosemite National Park.

The following discharge measurements were made:

May 14, 1924: Gage height, 4.20 feet; discharge, 858 second-feet.

August 19, 1924: Gage height, 1 foot; discharge, 22 second-feet.

Daily discharge, in second-feet, of Merced River at Pohono Bridge, near Yosemite, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	186	84	62	43	71	142	159	1,640	366	69	29	14
2.....	186	90	57	40	73	146	151	1,760	350	72	28	14
3.....	173	91	59	51	70	126	186	1,800	333	75	27	14
4.....	164	89	56	56	73	131	184	1,580	326	75	26	14
5.....	156	88	54	56	74	120	173	1,330	295	73	24	14
6.....	151	79	52	58	80	123	242	1,360	260	70	23	14
7.....	205	79	60	60	90	128	419	1,540	228	67	23	14
8.....	211	79	56	62	107	117	617	1,680	196	65	23	14
9.....	222	85	45	62	120	122	712	1,720	187	61	23	14
10.....	202	89	47	67	114	125	820	1,640	138	57	22	14
11.....	195	95	48	69	108	122	920	1,500	121	53	21	14
12.....	186	100	49	66	112	116	945	1,400	118	51	21	14
13.....	170	98	52	64	118	118	1,000	1,060	114	49	21	12
14.....	144	100	56	62	131	129	995	920	110	47	21	12
15.....	131	97	56	60	139	146	653	1,120	106	45	21	12
16.....	126	91	54	58	133	120	518	1,300	101	43	21	12
17.....	142	86	51	58	125	123	527	1,240	96	41	21	12
18.....	153	84	51	56	125	114	653	1,180	91	39	21	12
19.....	139	79	52	55	131	114	845	1,120	88	38	20	12
20.....	125	77	47	54	133	122	945	1,000	85	37	20	12
21.....	112	74	45	54	133	111	1,060	895	82	37	20	12
22.....	108	71	43	52	117	118	1,120	795	79	37	20	12
23.....	104	71	44	51	112	114	1,000	698	77	37	19	12
24.....	97	69	47	51	102	122	795	662	75	37	19	12
25.....	93	67	48	55	107	125	702	635	73	37	18	12
26.....	88	65	48	59	107	131	702	586	71	37	17	12
27.....	86	65	43	70	111	131	725	527	69	36	16	11
28.....	80	62	39	71	137	128	730	447	67	35	15	10
29.....	76	62	43	69	149	122	945	431	65	33	14	10
30.....	74	67	46	69	-----	126	1,330	399	67	32	14	10
31.....	76	-----	46	69	-----	151	-----	382	-----	30	14	-----

Monthly discharge of Merced River at Pohono Bridge, near Yosemite, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	222	74	141	8,670
November.....	100	62	81.0	4,820
December.....	62	39	50.2	3,690
January.....	71	40	58.9	3,620
February.....	149	70	110	6,330
March.....	151	111	125	7,690
April.....	1,330	151	689	41,000
May.....	1,800	382	1,110	68,200
June.....	366	65	148	8,810
July.....	75	30	48.9	3,010
August.....	29	14	20.7	1,270
September.....	14	10	12.6	750
The year.....	1,800	10	217	157,000

MERCED RIVER NEAR HORSESHOE BEND, CALIF.

LOCATION.—In sec. 22, T. 3 S., R. 16 E., 600 feet above Yosemite Valley Railroad bridge No. 43 A, above Horseshoe Bend of Merced River and $1\frac{1}{2}$ miles below Kittredge, Mariposa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 17, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank of river.

DISCHARGE MEASUREMENTS.—Made from cable 1 mile above gage.

CHANNEL AND CONTROL.—Solid rock, large boulders and gravel; permanent. Gage is in a pool of deep water.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.15 feet at 8 a. m. May 3 (discharge, 2,930 second-feet); minimum stage 0.07 foot at 9 p. m. September 2 (discharge, 14 second-feet).

DIVERSIONS.—None.

REGULATION.—No large storage above gage. Several power plants above gage cause diurnal fluctuation at low water when they alternate with the plant at Merced Falls in storing water and developing power twice daily.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operations of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table except June 22 to August 4, for which discharge integrator was used. Records excellent.

COOPERATION.—Gage-height record furnished by Merced irrigation district.

Discharge measurements of Merced River near Horseshoe Bend, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
Jan. 30.....	<i>Feet</i> 2.15	<i>Sec.-ft.</i> 247	Aug. 17.....	<i>Feet</i> 0.36	<i>Sec.-ft.</i> 33	Sept. 26.....	<i>Feet</i> 0.20	<i>Sec.-ft.</i> 19
May 11.....	6.39	2,340	Do.....	.36	33	Do.....	.20	19

Daily discharge, in second-feet, of Merced River near Horseshoe Bend, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.	276	140	142	132	190	280	450	2, 170	400	100	40	26
2.	260	152	147	132	194	288	412	2, 250	375	96	38	22
3.	256	154	140	101	194	305	438	2, 410	388	89	40	18
4.	240	156	138	230	180	280	495	2, 330	400	105	38	19
5.	228	158	108	162	168	274	450	1, 880	400	74	39	19
6.	220	154	138	158	176	252	480	1, 740	362	103	37	19
7.	228	150	106	152	210	256	700	1, 950	318	74	35	19
8.	325	147	148	153	260	254	905	2, 090	288	74	34	19
9.	315	156	150	160	388	248	1, 140	2, 250	260	67	33	19
10.	325	171	135	152	388	248	1, 350	2, 170	232	85	32	18
11.	298	176	102	152	312	248	1, 590	2, 020	220	74	31	17
12.	290	194	134	152	278	246	1, 620	1, 880	216	71	31	17
13.	278	194	105	150	268	220	1, 680	1, 590	150	65	31	17
14.	250	190	138	146	268	224	1, 680	1, 380	177	75	31	17
15.	230	190	136	142	278	254	1, 400	1, 440	144	59	31	18
16.	188	184	140	141	280	260	955	1, 620	144	67	31	18
17.	188	174	112	142	268	252	840	1, 620	146	77	31	18
18.	210	164	138	140	254	246	880	1, 530	136	40	30	18
19.	204	162	111	138	244	224	1, 170	1, 440	136	59	30	18
20.	202	159	140	114	268	240	1, 470	1, 290	135	56	29	18
21.	162	154	135	140	260	242	1, 530	1, 140	134	54	26	19
22.	165	152	103	111	256	238	1, 680	980	93	47	29	19
23.	165	148	126	135	242	260	1, 680	880	154	57	31	20
24.	164	141	104	110	238	288	1, 380	780	114	58	32	20
25.	156	148	97	124	222	292	1, 140	740	118	37	30	20
26.	152	146	111	130	208	450	1, 060	700	115	47	29	21
27.	148	141	135	200	240	620	1, 080	620	107	48	28	21
28.	144	138	104	540	332	555	1, 060	555	90	48	28	21
29.	142	135	105	298	248	465	1, 170	495	110	46	28	21
30.	141	100	135	242	-----	425	1, 620	480	87	46	28	21
31.	140	-----	135	206	-----	425	-----	450	-----	47	27	-----

Monthly discharge of Merced River near Horseshoe Bend, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	325	140	216	13, 300
November.....	194	100	158	9, 400
December.....	150	97	126	7, 750
January.....	540	101	167	10, 300
February.....	388	168	249	14, 300
March.....	620	220	302	18, 600
April.....	1, 680	412	1, 110	66, 000
May.....	2, 410	450	1, 450	89, 200
June.....	400	87	205	12, 200
July.....	105	37	66.0	4, 060
August.....	40	27	31.9	1, 960
September.....	26	17	19.2	1, 140
The year.....	2, 410	17	342	248, 000

MERCED RIVER AT EXCHEQUER, CALIF.

LOCATION.—About on section line between secs. 14 and 23, T. 4 S., R. 15 E., 1 mile below remains of old dam at Exchequer, Mariposa County, 8 miles above Merced Falls. Prior to October 25, 1922, station was maintained at the old dam at Exchequer.

DRAINAGE AREA.—1,020 square miles at old site (measured on topographic maps):

RECORDS AVAILABLE.—November 28, 1915, to September 30, 1924.

GAGE.—Water-stage recorder on right bank, in concrete well and shelter.

DISCHARGE MEASUREMENTS.—Made from cable 1 mile below gage or by wading.

CHANNEL AND CONTROL.—Channel is solid rock, overlain with gravel. Channel and control practically permanent. Banks high, clean, are not overflowed.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.41 feet at 11 a. m. May 3 (discharge, 2,970 second-feet); minimum stage 0.00 foot September 4–26 (discharge, 20 second-feet).

1915–1924: Maximum discharge recorded, about 22,000 second-feet at 4 p. m. January 17, 1916; minimum discharge, 14 second-feet during part of August or September, 1919 to 1921.

DIVERSIONS.—None.

REGULATION.—Several small power plants above have little or no storage. The effect of their operation is slight except during low water when they alternate with the plant at Merced Falls in storing water and developing power twice daily.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

COOPERATION.—Gage-height record furnished by Merced irrigation district.

Discharge measurements of Merced River at Exchequer, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 6.....	0.88	138	Aug. 15.....	.10	31	Sept. 24.....	0.00	20
Jan. 8.....	.98	147	Aug. 16.....	.10	28	Sept. 25.....	0.00	20
Jan. 29.....	1.55	322	Do.....	.10	30			
May 10.....	4.89	2,630	Do.....	.10	29			

Daily discharge, in second-feet, of Merced River at Exchequer, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	275	140	116	144	202	278	465	2,220	413	94	38	24
2.....	254	146	142	144	210	292	441	2,400	397	82	36	24
3.....	250	152	138	110	198	314	437	2,430	421	91	36	23
4.....	231	154	136	210	198	292	524	2,400	441	85	39	20
5.....	225	152	132	185	190	286	483	1,980	441	91	36	20
6.....	210	148	120	165	182	258	496	1,740	409	79	36	20
7.....	216	144	126	162	200	258	705	1,980	361	79	33	20
8.....	320	140	134	162	258	258	920	2,140	328	78	33	20
9.....	331	144	156	170	385	250	1,160	2,310	282	79	33	20
10.....	334	158	140	165	437	250	1,220	2,220	240	68	31	20
11.....	310	160	122	162	361	247	1,580	2,100	210	72	29	20
12.....	292	180	112	160	310	247	1,700	1,900	216	65	29	20
13.....	286	190	128	162	292	216	1,700	1,620	156	69	29	20
14.....	247	198	126	154	286	247	1,700	1,360	172	57	29	20
15.....	225	178	136	150	300	225	1,360	1,400	138	66	29	20
16.....	170	178	140	146	303	254	1,020	1,580	154	57	29	20
17.....	190	170	116	148	296	258	1,680	1,680	146	58	29	20
18.....	202	160	140	148	275	250	892	1,540	134	60	29	20
19.....	222	154	124	142	268	216	1,130	1,430	134	35	29	20
20.....	175	152	136	140	264	250	1,430	1,260	130	52	29	20
21.....	180	150	140	128	275	247	1,500	1,130	128	50	27	20
22.....	170	148	120	144	264	244	1,700	1,010	120	50	25	20
23.....	160	142	128	128	250	261	1,740	920	82	43	27	20
24.....	180	140	102	144	240	300	1,430	810	91	76	29	20
25.....	100	138	134	126	231	317	1,200	755	102	34	28	20
26.....	156	140	116	140	219	457	1,100	725	108	32	26	20
27.....	148	138	120	172	216	680	1,100	665	104	41	27	21
28.....	146	134	136	213	231	680	1,100	595	100	44	24	21
29.....	140	132	116	361	234	510	1,160	524	88	36	25	21
30.....	138	110	118	258	-----	445	1,660	492	100	38	25	21
31.....	140	-----	136	210	-----	437	-----	457	-----	38	24	-----

Monthly discharge of Merced River at Exchequer, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	334	138	215	13, 200
November.....	198	110	152	9, 040
December.....	156	102	129	7, 930
January.....	361	110	166	10, 200
February.....	437	182	261	15, 000
March.....	680	216	314	19, 390
April.....	1, 740	437	1, 130	67, 200
May.....	2, 490	457	1, 480	91, 000
June.....	441	82	212	12, 600
July.....	94	32	61.3	3, 770
August.....	39	24	29.9	1, 840
September.....	24	20	20.5	1, 220
The year.....	2, 490	20	348	252, 000

MERCED RIVER NEAR MERCED FALLS, CALIF.

LOCATION.—In sec. 11, T. 5 S., R. 15 E., 1, 500 feet above Yosemite Valley railroad trestle 26 B and $2\frac{1}{2}$ miles above Merced Falls, Mariposa County.

DRAINAGE AREA.—1, 090 square miles at former site.

RECORDS AVAILABLE.—April 6, 1901, to November 30, 1913, and April 1, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in a 24-inch steel pipe well and shelter on right bank. Gage used in 1913 was about half a mile downstream.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Channel is gravel and sand. Control is a rock and gravel riffle 500 feet below gage. One channel at low and two at high stages. Channel straight above and below gage. Water is swift and smooth. Right bank high and wooded, left bank low and will be overflowed.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.57 feet about noon May 3 (discharge, 2,920 second-feet); minimum stage —0.81 foot September 29 and 30 (discharge, 9 second-feet).

1901-1913, 1923-1924: Maximum discharge recorded, 37,200 second-feet on January 30, 1911; no flow November 21, 1901.

DIVERSIONS.—None.

REGULATION.—No large storage above station. Power plants above station and at Merced Falls alternated in storing water and developing power twice daily during low-water period. This causes a diurnal fluctuation of about half a foot.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 3,000 second-feet. Water-stage recorder record excellent. No record April 13 to May 3. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by Merced irrigation district.

Discharge measurements of Merced River near Merced Falls, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 5.....	—0.10	134	Mar. 11.....	0.24	244	Aug. 15.....	—0.65	30
Jan. 5.....	.11	199	May 9.....	3.40	2, 930	Sept. 23.....	— .76	17
Jan. 31.....	.24	265	Aug. 15.....	— .65	30	Do.....	— .76	17

Daily discharge, in second-feet, of Merced River near Merced Falls, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	296	154	113	154	212	272	394	-----	372	102	42	23
2	284	156	139	154	215	281	390	-----	344	98	37	21
3	281	164	144	134	215	296	369	-----	348	98	38	17
4	269	164	146	206	212	278	425	2,270	358	98	48	10
5	257	164	146	197	203	275	404	1,846	362	90	37	14
6	248	159	134	178	200	260	408	1,620	338	90	40	14
7	245	154	144	172	215	254	524	1,780	305	84	34	14
8	320	149	141	169	248	257	702	2,020	281	90	34	14
9	324	146	172	172	330	254	908	2,140	266	80	32	16
10	327	162	159	172	366	251	1,080	2,140	245	74	32	16
11	314	164	151	169	314	251	1,320	1,960	224	74	32	16
12	305	180	136	172	284	251	1,960	1,720	230	74	32	16
13	296	189	154	167	275	224	-----	1,460	180	75	32	16
14	281	178	144	164	269	260	-----	1,180	180	75	32	16
15	257	180	156	162	281	230	-----	1,180	139	75	32	16
16	215	180	159	159	284	251	-----	1,360	159	76	30	14
17	230	169	149	156	275	251	-----	1,460	151	76	29	14
18	224	159	156	156	266	248	-----	1,320	136	84	27	14
19	251	154	154	-----	257	224	-----	1,220	136	34	26	13
20	215	151	151	-----	260	242	-----	1,090	136	60	27	13
21	218	149	162	-----	263	242	-----	964	136	64	26	14
22	200	144	151	140	257	242	-----	838	134	60	24	14
23	192	139	146	-----	251	251	-----	750	104	54	24	16
24	180	134	136	-----	245	281	-----	650	111	90	27	14
25	186	132	149	-----	242	290	-----	615	113	40	27	14
26	178	132	141	-----	230	380	-----	580	113	34	26	13
27	172	129	144	194	218	540	-----	546	111	54	26	13
28	164	127	154	488	236	528	-----	511	115	50	24	10
29	162	122	139	230	239	436	-----	477	109	48	24	9
30	156	115	136	260	-----	390	-----	442	200	44	24	9
31	156	-----	151	224	-----	380	-----	408	-----	44	23	-----

NOTE.—No record Apr. 13 to May 3.

Monthly discharge of Merced River near Merced Falls, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	327	156	239	14,700
November	189	115	153	9,100
December	172	113	147	9,040
January	488	134	182	11,200
February	366	200	254	14,600
March	540	224	293	18,000
April 1-12	1,960	369	740	17,600
May 4-31	2,270	408	1,230	68,300
June	372	100	201	12,000
July	102	34	70.6	4,340
August	48	23	30.6	1,890
September	23	9	14.4	857

MERCED RIVER NEAR LIVINGSTON, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 20, T. 6 S., R. 11 E., $3\frac{1}{2}$ miles west of Livingston, Merced County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 10, 1922, to September 30, 1924, when station was discontinued.

GAGE.—Water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Shifting sand. One channel at low water and three at high water. Flow is sluggish and smooth. Banks are wooded and overflowed at extremely high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.60 feet at 7 a. m. April 12 (discharge, 1,900 second-feet); minimum stage, 2.22 feet at 4 to 10 p. m. August 30 (discharge, 18 second-feet).

DIVERSIONS.—The Crocker-Huffman Canal diverts a maximum of 1,627 second-feet and other smaller ditches divert a total of 400 second-feet during irrigating season. Most of the return water enters the river above station. There are several small diversions below station.

REGULATION.—See preceding paragraph.

ACCURACY.—Stage-discharge relation changed April 12. Rating curves fairly well defined. Water-stage recorder record poor. No record October 8 to November 25. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record furnished by Madera irrigation district.

Discharge measurements of Merced River near Livingston, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 1.....	3.60	181	Mar. 10.....	3.17	112	May 16.....	4.17	282
Jan. 28.....	3.58	178	Apr. 7.....	4.72	476	Aug. 14.....	2.30	21
Feb. 12.....	4.24	320	Apr. 18.....	4.02	238			

Daily discharge, in second-feet, of Merced River near Livingston, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	247	181	153	131	341		426		74			24
2.....	222		142	139	249	158	432	955				28
3.....	249		162	134	216		465	1,040			26	25
4.....	207		171	136			422	1,310				24
5.....	200		171	134			490	1,260				26
6.....	184		169	184			455	775		31		28
7.....	184		160	142	176		448	574				29
8.....			169	125	186		672	1,120	64			34
9.....			148	112	208	96	910	1,280				31
10.....			176	106	270	109	1,260	1,260			32	29
11.....			190	101	302		1,450	1,230				32
12.....			176	99	300		1,720	1,010				30
13.....			176	92	256		1,670	800		31		31
14.....			188	91			1,620	535			21	35
15.....			171	88			1,450		69			37
16.....			176	86		81	750	274				31
17.....			192	88	216		446				26	35
18.....			178	90			240	366			29	36
19.....			171	91							27	31
20.....			158	110			158			28	27	31
21.....			153	141							29	30
22.....			158	152					50		25	34
23.....			162	153		71					24	36
24.....			162	128	297						24	29
25.....			152	102				111			26	27
26.....		148	147	101							23	33
27.....		165	150	107			166			25	19	30
28.....		158	145	192							19	32
29.....		165	145	511					38		22	39
30.....		176	134	490		515					19	39
31.....			138	426		455					19	

NOTE.—No record Oct. 8 to Nov. 25. Discharge not determined for days of no record, Feb. 4 to Aug. 16, as float was resting on sand in well, and gage-height record was of no value.

TENAYA CREEK NEAR YOSEMITE, CALIF.

LOCATION.—At Tenaya Bridge in Yosemite National Park, five-eighths mile below outlet of Mirror Lake, five-eighths mile above junction with Merced River, and $1\frac{1}{8}$ miles east of Yosemite, Mariposa County.

DRAINAGE AREA.—47 square miles.

RECORDS AVAILABLE.—July, 1904, to June, 1909; January 5, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 50 feet above bridge.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Small boulders and gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4 feet at 8 p. m. May 2 (discharge, 485 second-feet); minimum stage, 0.96 foot August 18–23 and September 7–14 (discharge, 2 second-feet).

1904–1909; 1912–1924: Maximum stage, 7.05 feet at 9 p. m. May 28, 1919 (discharge, 1,730 second-feet); minimum discharge, 0.5 second-foot, occurred September 12 and most of October, 1906.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed May 3. Rating curves fairly well defined. Operation of water-stage recorder satisfactory. Clock stopped frequently. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge for days of no gage-height record estimated from record of flow at Happy Isles. Records fair.

COOPERATION.—Gage-height record furnished by officials of Yosemite National Park.

Discharge measurements of Tenaya Creek near Yosemite, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
May 12.....	2.90	190	Aug. 18.....	0.96	2.1	Aug. 18.....	0.96	2.0
May 13.....	2.81	175	Aug. 18.....	.96	1.9			

Daily discharge, in second-feet, of Tenaya Creek near Yosemite, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	18	12	7	6.5	16	31	34	325	34	5	2.4	2.2
2.....	18	15	7	5.5	16	29	34	355	30	5	2.4	2.2
3.....	16	15	6.5	8.5	16	25	33	355	27	5	2.4	2.2
4.....	16	15	6	9.5	16	24	32	316	25	4.5	2.4	2.2
5.....	14	14	5.5	10	17	22	32	290	23	4.5	2.4	2.2
6.....	18	13	5.5	11	18	22	46	260	22	4.5	2.4	2.2
7.....	35	11	7	12	19	22	84	272	20	4.0	2.4	2.0
8.....	38	11	6.5	13	23	24	116	260	18	4.0	2.4	2.0
9.....	39	13	5.5	13	27	25	153	272	17	4.0	2.4	2.0
10.....	34	16	4.7	14	27	25	176	248	17	3.5	2.4	2.0
11.....	35	20	4.4	14	27	24	228	235	15	3.5	2.4	2.0
12.....	34	20	5.5	14	27	23	210	204	14	3.2	2.4	2.0
13.....	29	18	5.5	14	28	24	222	182	12	3.0	2.4	2.0
14.....	26	17	6	13	28	26	192	162	11	2.9	2.3	2.0
15.....	22	16	6.5	12	28	32	131	160	11	2.7	2.3	2.2
16.....	21	14	6.5	12	28	28	104	151	10	2.6	2.3	2.2
17.....	22	13	6.5	12	27	27	101	140	9.5	2.4	2.2	2.2
18.....	18	13	6.5	12	27	25	134	125	9	2.4	2.0	2.2
19.....	16	12	7	12	29	24	180	111	8	2.4	2.0	2.2
20.....	14	11	7	12	29	24	202	92	7.5	2.4	2.0	2.2

Daily discharge, in second-feet, of Tenaya Creek near Yosemite, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	13	11	7	12	27	23	218	89	7	2.4	2.0	2.2
22.....	13	10	7	12	25	25	238	78	6.5	2.4	2.0	2.2
23.....	13	9.5	7	11	24	23	215	77	6	2.4	2.0	2.2
24.....	12	10	7	11	22	25	155	76	6	2.4	2.2	2.2
25.....	11	9	7	11	22	26	132	70	6	2.4	2.2	2.2
26.....	11	8.5	6.5	12	23	30	134	61	6	2.4	2.2	2.2
27.....	10	8.5	6.5	13	24	30	134	54	5.5	2.4	2.2	2
28.....	10	8.5	6.5	14	32	30	142	54	5.5	2.4	2.2	2.2
29.....	8.5	7.5	6.5	14	33	31	190	48	5.5	2.4	2.2	2.2
30.....	8	7.5	6.5	16	-----	31	280	43	5.5	2.4	2.2	2.2
31.....	8.5	-----	7	16	-----	33	-----	40	-----	2.4	2.2	-----

Monthly discharge of Tenaya Creek near Yosemite Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	39	8	19.4	1,190
November.....	20	7.5	12.6	750
December.....	7	4.4	6.36	391
January.....	16	5.5	12.0	738
February.....	33	16	24.3	1,400
March.....	33	22	26.2	1,019
April.....	280	32	143	8,510
May.....	355	40	168	10,300
June.....	34	5.5	13.3	791
July.....	5	2.4	3.16	194
August.....	2.4	2.0	2.25	138
September.....	2.2	2.0	2.15	128
The year.....	355	2.0	36.0	26,100

YOSEMITE CREEK AT YOSEMITE, CALIF.

LOCATION.—At highway bridge in Yosemite National Park, half a mile above junction with Merced River and one-fourth mile northwest of Yosemite, Mariposa County.

DRAINAGE AREA.—43.2 square miles (measured on topographic map).

RECORDS AVAILABLE.—July, 1904, to June, 1909; January 4, 1912, to September 30, 1924 (incomplete).

GAGE.—Staff in two sections; upper, vertical, fastened to rock wall 25 feet above new stone bridge; lower, inclined, fastened to boulder in front of upper section; read by an employee of Yosemite National Park.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Fine gravel and sand; fairly permanent. Control is a 6-inch water pipe across stream bed, covered with rock.

EXTREMES OF DISCHARGE.—1904-1909; 1912-1924: Maximum stage recorded, 10 feet at 7.50 p. m. June 8, 1917 (discharge not determined because of back-water); no flow part of 1915, 1919, 1921, and 1924.

ICE.—Stage-discharge relation slightly affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not changed since last year. Rating curve fairly well defined. Staff gage read to half-tenths once a week. Daily discharge ascertained by applying gage height to rating table. Daily discharge given only for days on which gage was read. Records fair.

COOPERATION.—Gage-height record furnished by officials of Yosemite National Park.

The following discharge measurements were made:

May 12, 1924: Gage height, 4.00 feet; discharge, 137 second-feet.

August 18, 1924: Gage height, 2.55 feet; discharge, 0.1 second-foot.

Daily discharge, in second-feet, of Yosemite Creek at Yosemite, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1			8			55				
2					8					
3		8						415		
4				1.5			31			0.5
5										
6	8									
7									241	
8			1.5			31				
9					31					
10		8						362		
11							312			
12				3				139		.2
13	8									
14									13	
15			1.5			13				
16					31					
17		8						362		
18										
19				3			264			.2
20	8									
21									2	
22			1.5			13				
23					21					
24		8						198		
25										
26				4			288			
27	3									
28									1	
29			1.5			13				
30										
31								21		

NOTE.—No flow during August and September.

TUOLUMNE RIVER BASIN

HETCH HETCHY RESERVOIR AT HETCH HETCHY, CALIF.

LOCATION.—At O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy, Tuolumne County.

RECORDS AVAILABLE.—May 7, 1923, to September 30, 1924.

GAGE.—Staff gage at the dam. Zero of gage at sea level elevation.

EXTREMES OF STAGE.—Maximum stage recorded during year, 3,707.6 feet March 4-8, 10-13; minimum stage recorded, 3,578.2 feet September 29-30.

1923-1924: Maximum stage recorded, 3,721.3 feet June 8-11, 1923; minimum stage recorded, 3,578.2 feet September 29-30, 1924.

COOPERATION.—Record of daily elevation of reservoir furnished by city of San Francisco.

Daily elevation, in feet, of Hetch Hetchy Reservoir at Hetch Hetchy, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	684.2	693.8	695.2	697.6	701.7	707.3	701.2	680.0	696.5	684.2	582.0	582.0
2	684.7	693.8	695.3	697.7	701.9	707.4	698.1	680.0	696.5	682.2	582.0	582.0
3	685.2	693.8	695.3	697.9	702.1	707.5	695.9	686.5	696.5	679.9	582.0	582.0
4	685.7	693.8	695.4	698.0	702.2	707.6	693.7	689.5	696.5	677.1	582.0	582.0
5	686.0	693.9	695.4	698.1	702.4	707.6	691.2	690.0	696.5	674.0	582.0	582.0
6	686.3	693.9	695.5	698.2	702.4	707.6	689.1	690.2	696.5	671.0	582.0	582.0
7	686.6	693.9	695.6	698.3	702.6	707.6	687.3	691.7	696.5	667.2	582.0	582.0
8	686.9	693.9	695.7	698.4	702.8	707.6	685.5	693.5	696.5	663.5	582.0	580.0
9	687.3	694.0	695.8	698.5	703.6	707.5	684.5	693.3	696.5	658.8	582.0	579.9
10	687.6	694.1	695.8	698.5	704.0	707.6	683.7	696.0	696.5	653.8	582.0	579.9
11	687.9	694.1	695.9	698.7	704.4	707.6	682.9	696.4	696.5	649.3	582.0	579.8
12	688.3	694.2	696.0	698.9	704.6	707.6	682.1	695.8	696.5	646.2	582.0	579.8
13	688.7	694.2	696.1	699.1	704.8	707.6	681.3	694.7	696.5	640.9	582.0	579.7
14	689.4	694.2	696.2	699.3	705.1	707.5	681.1	694.5	696.5	636.3	582.0	579.7
15	690.0	694.3	696.3	699.5	705.4	707.5	680.1	696.0	696.5	631.9	582.0	579.6
16	690.4	694.2	696.4	699.6	705.6	707.4	680.1	696.5	696.5	627.8	582.0	579.6
17	690.7	691.4	696.5	699.7	705.7	707.4	680.0	697.0	696.5	623.5	582.0	579.5
18	691.0	694.4	696.6	699.8	705.9	707.4	680.0	697.5	696.5	620.0	582.0	579.4
19	691.3	694.5	696.7	699.9	706.1	707.3	680.0	697.3	696.5	615.6	582.0	579.3
20	691.6	694.5	696.8	700.0	706.2	707.3	680.0	696.5	696.5	610.2	582.0	579.2
21	691.9	694.6	696.9	700.1	706.4	707.3	680.0	697.0	696.5	605.4	582.0	579.2
22	692.3	694.7	697.0	700.2	706.6	707.3	680.0	696.5	695.5	601.0	582.0	579.1
23	692.7	694.7	697.0	700.3	706.7	707.4	680.0	696.5	694.5	597.2	582.0	579.1
24	693.0	694.8	697.0	700.4	706.7	707.5	680.0	696.5	693.0	592.8	582.0	579.0
25	693.2	694.9	697.1	700.5	706.8	707.5	680.0	696.5	691.5	591.7	582.0	578.8
26	693.3	694.9	697.2	700.6	706.9	707.6	680.0	696.5	690.5	590.5	582.0	578.7
27	693.4	695.0	697.2	700.7	707.0	707.6	680.0	696.5	689.7	587.6	582.0	578.5
28	693.5	695.0	697.3	700.9	707.1	707.6	680.0	696.5	688.5	584.9	582.0	578.4
29	693.6	695.1	697.4	701.1	707.2	705.8	680.0	696.5	687.5	582.0	582.0	578.2
30	693.8	695.2	697.4	701.3	-----	704.8	680.0	696.5	686.2	582.0	582.0	578.2
31	693.8	-----	697.5	701.5	-----	703.4	-----	696.5	-----	582.0	582.0	-----

NOTE.—Add 3,000 feet to the above elevations to obtain mean sea level elevation.

TUOLUMNE RIVER NEAR HETCH HETCHY, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 17, T. 1 N., R. 20 E., in Yosemite National Park three-fourths mile below Hetch Hetchy Reservoir at Hetch Hetchy, Tuolumne County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 20, 1914, to September 30, 1924.

GAGE.—Water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 30 feet below gage or by wading.

CHANNEL AND CONTROL.—Boulders and solid rock; permanent. Bed at measuring section has been smoothed by removing some boulders. Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 9.81 feet at 5 p. m. July 12 (discharge, 3,290 second-feet); minimum stage, 0.53 foot November 2 and 3 (discharge, 1.3 second-feet).

1915-1924: Maximum stage, from water-stage recorder, 13.4 feet at 3 a. m. May 29, 1919 (discharge, 11,400 second-feet); minimum stage, that of November 2 and 3, 1923.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Regulated by gates in O'Shaughnessy Dam at Hetch Hetchy Reservoir since its completion in 1923. There was 151,500 acre-feet of water in Hetch Hetchy Reservoir September 30, 1923, and 37,970 acre-feet September 30, 1924.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table except March 28, June 4, 6, 7, 21, July 22, 26, and 27, for which hourly discharge, were averaged. Records excellent.

The following discharge measurements were made:

April 11, 1924: Gage height, 8.28 feet; discharge, 1,810 second-feet.

August 14, 1924: Gage height, 1.37 feet; discharge, 24 second-feet.

Daily discharge, in second-feet, of Tuolumne River near Hetch Hetchy, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2.3	1.4	1.4	2.6	2.4	115	2,260	1,030	140	1,480	82	24
2.....	2.2	1.3	1.4	2.6	2.4	164	2,220	1,780	578	1,450	60	24
3.....	2.4	1.3	1.6	3.7	2.4	176	2,130	1,890	970	1,850	25	24
4.....	2.4	1.4	1.6	2.8	2.4	176	2,090	1,930	690	2,400	24	24
5.....	2.6	1.4	1.6	2.3	2.4	176	2,050	1,970	272	2,350	24	33
6.....	2.3	1.4	1.7	2.0	2.4	176	2,010	1,970	394	2,260	24	58
7.....	2.3	1.4	1.9	2.0	3.0	176	1,930	1,970	356	2,220	24	33
8.....	2.3	1.5	1.8	2.3	4.1	176	1,830	2,010	229	2,630	24	33
9.....	4.5	1.5	1.7	2.6	6	176	1,890	2,050	229	2,930	24	33
10.....	22	1.4	1.6	2.3	3.4	176	1,850	2,400	229	2,530	24	33
11.....	28	1.6	1.6	2.3	3.0	176	1,850	2,530	229	2,730	24	33
12.....	14	1.5	1.6	2.3	2.9	176	1,820	2,630	229	2,730	24	33
13.....	1.8	1.4	1.7	2.2	2.9	176	1,820	2,530	229	3,050	24	33
14.....	1.8	1.4	1.8	2.3	2.9	176	1,790	2,580	147	2,730	24	33
15.....	1.8	1.5	1.7	2.2	2.8	176	1,510	1,600	90	2,440	24	33
16.....	1.8	1.6	1.8	2.2	16	176	912	1,740	90	2,530	24	33
17.....	10	1.6	1.8	2.2	73	176	895	2,170	90	2,530	24	34
18.....	37	1.6	1.8	2.2	74	176	895	2,130	90	2,630	24	39
19.....	38	1.5	2.2	2.2	74	170	895	2,130	87	2,730	24	42
20.....	38	1.5	1.9	2.3	74	170	912	2,130	84	2,530	24	45
21.....	39	1.6	1.8	2.4	74	170	990	2,170	488	2,350	24	45
22.....	39	1.6	1.8	2.4	74	170	1,540	1,970	950	1,980	24	45
23.....	38	1.6	1.8	2.4	74	188	1,640	1,110	950	1,930	24	45
24.....	38	1.6	1.8	2.4	74	222	1,640	990	930	1,600	24	45
25.....	38	1.6	1.9	2.6	74	222	1,640	990	930	382	24	45
26.....	38	1.7	2.0	2.9	74	222	1,600	990	912	784	24	45
27.....	39	1.7	2.0	4.7	74	229	1,130	990	912	1,420	24	45
28.....	40	1.7	2.0	3.0	63	617	895	990	912	1,330	24	45
29.....	39	1.6	2.2	2.6	55	1,260	895	790	895	871	24	25
30.....	21	1.6	2.6	2.4	-----	1,230	912	420	1,130	82	24	9.5
31.....	1.6	-----	2.6	2.4	-----	1,680	-----	118	-----	82	24	-----

Monthly discharge of Tuolumne River near Hetch Hetchy, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	40	1.6	19.0	1,170
November.....	1.7	1.3	1.52	90.4
December.....	2.6	1.4	1.83	113
January.....	4.7	2.0	2.51	154
February.....	74	2.4	34.2	1,970
March.....	1,680	115	311	19,100
April.....	2,260	895	1,550	92,200
May.....	2,630	118	1,700	105,000
June.....	1,130	84	480	28,600
July.....	3,050	82	1,990	122,000
August.....	82	24	27.1	1,670
September.....	58	9.5	35.9	2,140
The year.....	3,050	1.3	516	374,000

TUOLUMNE RIVER NEAR BUCK MEADOWS, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 24, T. 1 S., R. 17 E., 1 mile below junction with South Fork of Tuolumne River and 2 miles north of Buck Meadows, Mariposa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 2, 1907, to September 30, 1924 (not complete).

GAGE.—Water-stage recorder on left bank installed January 2, 1913.

DISCHARGE MEASUREMENTS.—Made from cable one-third mile above gage.

CHANNEL AND CONTROL.—Boulders and solid rock; practically permanent. Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.25 feet at 2.30 p. m. May 12 (discharge, 4,590 second-feet); minimum stage, 1.32 feet August 29 to September 5 (discharge, 94 second-feet).

1907–1924: Maximum stage recorded, 14.00 feet January 14, 1909 (discharge, 27,200 second-feet); minimum stage, 0.47 foot from 2 to 10 a. m. November 3, 1917 (discharge, 29 second-feet).

DIVERSIONS.—A small amount of water is diverted from South Fork of Tuolumne River at Harden ranch, 7 miles above the mouth and is used in vicinity of Groveland.

REGULATION.—Partly regulated by storage in Hetch Hetchy Reservoir and Lake Eleanor. See pages 262 and 272.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder stopped November 9 to December 14, January 18 to February 11, and April 11 to May 5. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge estimated by comparison with Tuolumne River near Hetch Hetchy, Eleanor Creek, Cherry Creek, or Middle Fork of Tuolumne River for days of missing gage heights. Records excellent except for estimated periods for which they are fair.

The following discharge measurements were made:

April 8, 1924: Gage height, 5.92 feet; discharge, 2,840 second-feet.

August 20, 1924: Gage height, 1.35 feet; discharge, 107 second-feet.

September 23, 1924: Gage height, 1.64 feet; discharge, 136 second-feet.

Daily discharge, in second-feet, of Tuolumne River near Buck Meadows, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	249	225	205	169	220	342	2,590	2,740	337	1,580	183	94
2.....	289	218	210	156	210	402	2,480	3,610	485	1,580	179	94
3.....	251	210	200	245	220	429	2,590	3,780	1,100	1,740	150	94
4.....	202	204	195	234	235	420	2,480	3,670	980	2,420	106	94
5.....	184	200	195	216	255	399	2,360	3,270	404	2,420	106	94
6.....	174	196	190	220	270	402	2,480	3,380	474	2,310	106	109
7.....	331	192	200	214	550	426	2,650	3,520	468	2,260	103	142
8.....	402	190	240	206	700	423	2,650	3,600	468	2,590	102	112
9.....	324	240	200	186	500	420	2,650	3,750	376	3,100	102	111
10.....	270	240	190	202	325	420	2,650	3,910	368	3,030	102	109
11.....	240	310	190	200	300	417	2,730	4,150	362	2,840	102	109
12.....	247	275	195	196	284	402	2,680	3,910	356	2,770	102	109
13.....	231	250	190	192	286	417	2,740	3,830	356	3,310	100	109
14.....	194	235	220	184	301	438	2,670	3,600	356	2,960	100	109
15.....	172	230	216	171	294	457	2,100	2,840	245	2,590	100	109
16.....	180	220	210	180	270	435	1,360	2,840	218	2,480	100	109
17.....	182	215	200	186	260	414	1,370	3,520	212	2,770	100	108
18.....	202	210	192	180	326	405	1,500	3,100	208	2,650	100	124
19.....	212	210	196	175	348	393	1,650	3,310	206	2,840	100	140
20.....	236	205	196	180	351	402	1,740	2,840	208	2,710	100	142
21.....	238	205	184	180	334	411	1,880	3,100	208	2,480	100	146
22.....	229	200	167	175	318	420	2,550	2,710	1,010	2,060	98	146
23.....	238	200	167	175	313	428	2,700	1,780	1,010	2,010	98	146
24.....	238	200	172	175	306	471	2,360	1,380	1,010	1,920	97	146
25.....	234	195	171	180	311	482	2,220	1,340	1,010	889	97	146
26.....	229	200	172	200	313	540	2,170	1,580	1,010	485	97	146
27.....	227	205	165	325	313	560	1,740	1,300	1,010	1,540	96	146
28.....	236	200	167	400	359	600	1,590	1,240	980	1,460	96	142
29.....	238	200	172	300	359	1,540	1,820	1,140	980	1,380	94	129
30.....	236	200	174	275	-----	1,580	2,250	835	1,070	383	94	120
31.....	229	-----	178	250	-----	1,830	-----	435	-----	189	94	-----

Monthly discharge of Tuolumne River near Buck Meadows, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	402	172	237	14, 600
November.....	310	190	216	12, 900
December.....	240	165	191	11, 700
January.....	400	156	211	13, 000
February.....	700	210	325	18, 700
March.....	1, 830	342	552	33, 900
April.....	2, 740	1, 360	2, 250	134, 000
May.....	4, 150	435	2, 770	170, 000
June.....	1, 100	206	585	34, 800
July.....	3, 310	189	2, 120	130, 000
August.....	183	94	107	8, 580
September.....	146	94	121	7, 200
The year.....	4, 150	94	810	587, 000

TUOLUMNE RIVER NEAR JACKSONVILLE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 18, T. 1 S., R. 15 E., near milepost No. 11 on Hetch Hetchy Railroad, 1 mile west of highway bridge on Big Oak Flat road, and three-fourths of a mile east of Jacksonville, Tuolumne County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 31, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet above gage or by wading.

CHANNEL AND CONTROL.—Rock and gravel, clean, practically permanent. Banks high; channel straight above and below gage; one channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.01 feet at 5 p. m. May 11 (discharge, 5,010 second-feet); minimum stage, 0.92 foot August 28 to September 6 (discharge, 105 second-feet).

DIVERSIONS.—See Tuolumne River near Buck Meadows.

REGULATION.—See Tuolumne River near Buck Meadows.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table, except July 25, 27, and 30, for which hourly discharge was averaged. Records good.

Discharge measurements of Tuolumne River near Jacksonville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 11.....	1.80	527	May 23.....	3.16	1, 830	Aug. 5.....	0.99	120
Apr. 3.....	3.94	2, 940	May 28.....	2.72	1, 360	Aug. 12.....	.95	116
Apr. 15.....	3.90	2, 860	June 5.....	1.90	626	Sept. 11.....	.97	118
May 5.....	4.42	3, 800	July 23.....	3.40	2, 160			

Daily discharge, in second-feet, of Tuolumne River near Jacksonville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	345	260	245	280	340	469	2, 870	2, 870	443	1, 380	211	105
2.....	329	265	260	235	340	518	2, 800	3, 850	378	1, 650	203	105
3.....	346	250	245	318	324	592	2, 870	4, 250	1, 050	1, 650	199	105
4.....	280	240	240	395	312	555	2, 870	4, 250	1, 180	2, 570	152	105
5.....	250	240	235	340	318	532	2, 640	3, 750	664	2, 570	125	105
6.....	227	235	235	312	329	518	2, 800	3, 750	483	2, 500	120	105
7.....	329	231	245	318	413	532	3, 030	3, 850	585	2, 420	118	125
8.....	476	231	290	312	1, 020	562	3, 210	3, 950	555	2, 570	115	140
9.....	390	240	290	351	1, 200	540	3, 300	4, 150	425	3, 210	115	120
10.....	368	362	255	285	778	540	3, 210	4, 250	413	3, 120	115	118
11.....	329	275	240	285	562	540	3, 390	4, 570	407	2, 950	112	118
12.....	312	356	245	275	469	525	3, 300	4, 350	401	2, 800	112	115
13.....	302	329	250	270	449	525	3, 300	4, 150	395	3, 300	112	115
14.....	260	302	265	255	462	548	3, 300	3, 850	395	3, 120	112	115
15.....	227	290	290	240	469	578	2, 870	3, 480	346	2, 720	112	112
16.....	211	275	290	235	443	585	2, 020	2, 870	255	2, 500	112	112
17.....	227	265	275	240	395	525	1, 650	3, 950	240	2, 870	112	112
18.....	240	255	265	235	431	525	1, 770	3, 390	240	2, 640	112	112
19.....	240	250	265	235	469	490	1, 890	3, 390	235	2, 950	112	131
20.....	260	245	270	231	483	497	2, 150	3, 030	227	2, 800	112	140
21.....	260	235	255	231	469	548	2, 150	3, 210	223	2, 640	112	143
22.....	260	235	240	231	449	525	2, 720	2, 950	720	2, 350	112	146
23.....	275	231	227	231	425	570	3, 120	2, 150	1, 120	2, 020	110	146
24.....	290	227	235	231	431	600	2, 950	1, 570	1, 090	2, 020	108	146
25.....	275	227	235	227	401	664	2, 640	1, 500	1, 070	1, 230	108	146
26.....	270	223	240	235	425	814	2, 500	1, 570	1, 040	525	108	146
27.....	265	227	245	329	413	850	2, 420	1, 510	1, 030	1, 400	108	146
28.....	265	231	231	752	455	895	1, 770	1, 350	1, 020	1, 570	105	146
29.....	275	235	240	469	504	1, 510	1, 960	1, 290	1, 010	1, 480	105	143
30.....	275	235	255	378	-----	1, 770	2, 420	985	1, 000	615	105	134
31.....	275	-----	275	334	-----	1, 830	-----	680	-----	227	105	-----

Monthly discharge of Tuolumne River near Jacksonville, Calif., for the year ending September 30, 1923

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	476	211	288	17, 760
November.....	356	223	255	15, 260
December.....	290	227	254	15, 600
January.....	752	227	300	18, 400
February.....	1, 200	312	482	27, 700
March.....	1, 830	469	686	42, 260
April.....	3, 390	1, 650	2, 660	158, 000
May.....	4, 570	680	3, 060	188, 000
June.....	1, 180	223	621	37, 000
July.....	3, 300	227	2, 210	136, 000
August.....	211	105	122	7, 500
September.....	146	105	125	7, 440
The year.....	4, 570	105	924	671, 000

TUOLUMNE RIVER ABOVE LA GRANGE DAM, NEAR LA GRANGE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 3, T. 3 S., R. 14 E., half a mile below Don Pedro Dam, $3\frac{1}{2}$ miles above La Grange Dam, and 5 miles above La Grange, Stanislaus County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 19, 1915, to September 30, 1924, also 1895 to 1917 at La Grange Dam.

GAGE.—Water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 80 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of solid rock and boulders. Banks are high, one channel at all stages. Control is solid rock dike which extends

entirely across the stream and over which at low water there is a drop of about 5 feet. Point of zero flow, gage height 0.06 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 9.85 feet at 11 a. m. October 12 (discharge, 3,600 second-feet); minimum stage, 2.50 feet at 3 a. m. October 29 (discharge, 102 second-feet).

1915-1924: Maximum stage recorded, 27.58 feet at 5.15 p. m. February 21, 1917 (discharge, 36,500 second-feet); minimum stage recorded, 0.54 foot November 26 to December 1, 1922 (discharge, 1.4 second-feet).

DIVERSIONS.—Sierra & San Francisco Power Co.'s canal diverts at the Don Pedro Dam. Prior to the construction of Don Pedro Dam, the canal diverted at Indian Bar $7\frac{1}{2}$ miles upstream. Water was used for power and returned to river half a mile above bridge at La Grange until May 22, 1923; after that date water was used to supply the town of La Grange. See page 277 for record for this canal. There is also a diversion from South Fork of Tuolumne River at Harden ranch for irrigation in vicinity of Groveland.

REGULATION.—Completely regulated by gates in Don Pedro Dam. There was 183,000 acre-feet of water in Don Pedro Reservoir September 30, 1923, and 71,300 acre-feet, September 30, 1924. Water is also stored in Hetch Hetchy Reservoir and Lake Eleanor. See pages 262 and 272.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve very well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table except February 13, for which hourly discharge was averaged. Records excellent.

The following discharge measurements were made:

June 28, 1924: Gage height, 7.60 feet; discharge, 1,790-second-feet.

August 21, 1924: Gage height, 6.80 feet; discharge, 1,320 second-feet.

Daily discharge, in second-feet, of Tuolumne River above La Grange Dam, near La Grange, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2,610	201	206	215	249	816	1,720	2,970	873	1,240	1,190	892
2.....	2,520	195	204	238	249	816	1,100	2,880	873	1,170	1,190	694
3.....	2,520	203	226	238	229	835	835	2,970	873	1,240	1,240	678
4.....	2,520	198	213	242	253	835	816	2,970	873	1,240	1,190	662
5.....	2,520	196	219	237	244	835	798	3,060	912	1,240	1,190	678
6.....	2,520	201	215	220	242	816	662	3,060	1,190	1,240	1,190	678
7.....	2,520	201	219	255	242	816	710	2,970	1,660	1,240	1,150	678
8.....	2,440	210	219	240	242	1,100	744	2,970	1,780	1,240	1,240	694
9.....	2,440	208	213	242	237	1,240	762	2,610	1,780	1,660	1,240	662
10.....	2,440	208	226	231	219	1,480	530	2,440	1,780	1,920	1,190	710
11.....	2,360	203	237	237	242	1,600	504	1,660	1,780	1,920	1,190	694
12.....	3,060	203	235	224	246	1,780	530	1,430	1,850	1,920	1,170	694
13.....	3,600	206	240	213	708	1,780	504	1,430	1,920	1,920	1,330	694
14.....	3,510	210	237	235	952	1,720	517	1,430	1,920	1,920	1,430	662
15.....	2,360	204	228	228	835	1,660	972	1,430	1,920	1,850	1,430	631
16.....	1,190	210	220	229	932	1,600	1,330	1,430	1,920	1,920	1,430	631
17.....	1,190	201	240	233	1,660	1,720	1,660	1,430	1,920	1,920	1,430	530
18.....	1,190	211	242	235	1,430	1,850	1,920	1,430	1,720	1,920	1,480	517
19.....	1,190	198	240	237	1,280	1,850	1,920	1,430	1,720	1,920	1,330	504
20.....	616	192	240	201	1,240	1,600	1,920	1,540	1,720	1,780	1,430	288
21.....	158	208	244	251	1,240	1,380	1,920	1,480	1,720	1,780	1,380	269
22.....	161	198	235	256	1,240	1,430	1,980	1,430	1,660	1,660	1,330	393
23.....	163	198	224	251	1,240	1,430	2,130	1,150	1,720	1,600	1,330	371
24.....	160	185	228	249	854	1,380	2,360	892	1,720	1,600	1,380	371
25.....	182	190	219	240	727	1,060	2,700	873	1,780	1,540	1,170	371
26.....	219	203	231	237	727	892	2,700	932	1,780	1,380	972	371
27.....	198	210	233	213	710	873	2,790	892	1,780	1,190	1,040	371
28.....	156	211	220	255	710	873	2,790	892	1,780	1,190	1,010	349
29.....	171	206	217	247	727	835	2,880	892	1,780	1,190	892	371
30.....	193	203	201	251	-----	1,330	2,890	892	1,430	1,150	1,040	382
31.....	198	-----	226	249	-----	1,660	-----	892	-----	1,190	1,040	-----

Monthly discharge of Tuolumne River above La Grange Dam, near La Grange, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	3,600	156	1,520	93,500
November.....	211	185	202	12,000
December.....	244	201	226	13,900
January.....	256	201	236	14,500
February.....	1,660	219	693	39,900
March.....	1,850	816	1,290	79,300
April.....	2,880	504	1,520	90,400
May.....	3,060	873	1,770	109,000
June.....	1,920	873	1,600	95,200
July.....	1,920	1,150	1,540	94,700
August.....	1,480	932	1,230	75,600
September.....	892	269	550	32,700
The year.....	3,600	186	1,030	751,000

FALLS CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 3, T. 1 N., R. 20 E., in Yosemite National Park, 300 feet above branch to Tueeulala Falls, one-fourth mile above Wapama Falls and 2 miles northeast of Hetch Hetchy, Tuolumne County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 22, 1915, to September 30, 1924.

GAGE.—Water-stage recorder on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 400 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of broken boulders; rough; channel straight above and below station. Banks not subject to overflow. Control is ledge of rock 75 feet below gage. Point of zero flow, gage height about 0.5 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.28 feet at 6 a. m. May 3 (discharge, 606 second-feet); no flow September 3-30.

1916-1924: Maximum stage, from water-stage recorder, 5.6 feet at 8 a. m. June 10, 1917 (revised discharge, 1,240 second-feet); no flow October 4 to November 30, 1921, and September 3-30, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATIONS.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

No discharge measurements were made during the year.

Daily discharge, in second-feet, of Falls Creek near Hetch Hetchy, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	52	11	7	29	32	54	44	426	42	4.0	0.2	0.1
2.....	56	11	5.5	26	32	51	37	494	42	4.1	.2	.1
3.....	56	14	5	42	27	50	52	530	45	4.4	.1	-----
4.....	47	15	4.8	40	27	51	47	480	45	4.3	.2	-----
5.....	41	14	4.3	39	29	48	47	349	40	4.0	.2	-----
6.....	42	13	4.3	35	33	42	64	318	35	3.9	.2	-----
7.....	64	12	7	30	78	42	166	384	30	3.8	.2	-----
8.....	61	13	10	27	100	41	166	436	25	3.6	.2	-----
9.....	61	14	9	27	74	40	178	487	21	3.1	.2	-----
10.....	52	14	5.5	23	56	38	203	477	18	2.8	.2	-----
11.....	52	22	5.5	23	46	37	216	426	16	2.5	.2	-----
12.....	51	23	4.8	24	47	35	230	394	15	2.4	.2	-----
13.....	44	22	4.9	23	54	32	244	261	15	2.2	.1	-----
14.....	37	21	8	20	58	32	244	227	14	2.0	.1	-----
15.....	32	20	9.5	18	57	35	155	321	13	1.8	.1	-----
16.....	30	18	8.5	17	48	38	104	368	12	1.7	.1	-----
17.....	34	15	8	17	44	33	104	349	11	1.5	.1	-----
18.....	34	14	7	16	45	30	123	349	10	1.4	.1	-----
19.....	29	13	9.5	16	49	25	178	315	9	1.2	.1	-----
20.....	25	12	11	15	50	24	230	275	8	1.1	.1	-----
21.....	22	11	10	16	47	28	272	241	6.5	1.0	.1	-----
22.....	19	9.5	8	15	43	28	330	206	6	.8	.1	-----
23.....	18	9	7	15	39	28	352	176	5.5	.7	.1	-----
24.....	16	8	6.5	15	34	33	250	157	5.5	.6	.1	-----
25.....	14	8	6.5	15	35	29	168	144	5.5	.5	.1	-----
26.....	13	7.5	7	17	34	29	134	127	5.5	.4	.1	-----
27.....	12	7	8	31	35	29	136	104	5	.4	.1	-----
28.....	11	5.5	6.5	34	44	29	142	80	4.8	.3	.1	-----
29.....	10	5.5	6.5	29	55	29	195	68	4.5	.2	.1	-----
30.....	9.5	6	10	29	-----	33	321	57	4.3	.2	.1	-----
31.....	9.5	-----	18	31	-----	42	-----	47	-----	.2	.1	-----

NOTE.—No flow Sept. 3-30.

Monthly discharge of Falls Creek near Hetch Hetchy, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	64	9.5	34.0	2,090
November.....	23	5.5	12.9	768
December.....	18	4.3	7.52	462
January.....	42	15	24.3	1,490
February.....	100	27	46.6	2,680
March.....	54	24	36.0	2,210
April.....	352	37	171	10,200
May.....	530	47	293	18,000
June.....	45	4.3	17.3	1,030
July.....	4.4	.2	1.97	121
August.....	.2	.1	.14	8.6
September.....	.1	0	.01	.6
The year.....	530	0	53.8	39,100

CHERRY CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 28, T. 2 N., R. 19 E., in Stanislaus National Forest, at abandoned saw mill camp, 3 miles by trail from Lake Eleanor and $7\frac{1}{2}$ miles northwest of Hetch Hetchy, Tuolumne County.

DRAINAGE AREA.—114 square miles ⁵ (above dam site in sec. 5, T. 1 N., R. 19 E.).

⁵ Freeman, John R., The Hetchy Hetchy water supply for San Francisco, p. 24, 1912.

RECORDS AVAILABLE.—April 1, 1910, to September 30, 1924; May 26 to October 15, 1901, at Eleanor trail crossing.

GAGE.—Water-stage recorder on right bank 800 feet above site of old suspension bridge.

DISCHARGE MEASUREMENTS.—Made from cable 800 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed consists of fine gravel and sand which shift slightly. Control is a solid rock dike except at right bank, where it is gravel and small boulders. Channel is straight above and curved to right below. Left bank is high; right bank fairly high and probably not subject to overflow. Zero flow, gage height 0.4 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.50 feet at 11 p. m. May 1 (discharge, 1,500 second-feet); minimum stage, 0.64 foot September 20–22 (discharge, 0.2 second-foot).

1910–1924: Maximum mean daily discharge, 7,000 second-feet January 31, 1911; no flow September 6–12, 1910.

ICE.—Stream freezes over at gage but not at control. Stage-discharge relation probably not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

The following discharge measurements were made:

April 30, 1924: Gage height, 3.62 feet; discharge, 614 second-feet.

July 29, 1924: Gage height, 0.75 foot; discharge, 0.5 second-foot.

Daily discharge, in second-feet, of Cherry Creek near Hetch Hetchy, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	139	49	24	30	100	144	131	958	92	5.5	0.6	0.3
2.....	161	40	17	36	85	156	150	1,050	87	4.7	.5	.3
3.....	119	36	18	47	72	122	220	1,100	84	4.4	.5	.3
4.....	100	33	17	54	87	122	153	958	80	4.2	.5	.3
5.....	89	30	16	69	96	100	167	755	75	3.7	.5	.3
6.....	161	28	14	82	110	104	309	778	69	3.3	.5	.3
7.....	285	27	25	77	358	124	459	890	62	2.9	.4	.3
8.....	229	40	50	68	440	108	536	1,000	56	2.6	.4	.3
9.....	200	67	30	60	213	110	544	1,050	49	2.4	.4	.3
10.....	153	64	20	72	150	110	592	1,000	45	2.3	.4	.3
11.....	129	124	18	72	129	104	652	912	40	2.2	.4	.3
12.....	112	90	20	71	142	89	652	822	36	2.0	.4	.2
13.....	96	68	22	65	170	98	712	572	33	1.8	.4	.2
14.....	82	62	45	57	182	122	672	532	30	1.7	.4	.2
15.....	74	54	50	48	167	142	425	712	27	1.6	.4	.3
16.....	71	45	38	51	134	92	309	800	25	1.5	.4	.3
17.....	74	39	31	48	126	89	326	778	23	1.4	.4	.3
18.....	68	35	27	44	144	69	447	712	21	1.4	.4	.2
19.....	62	33	37	42	156	69	572	632	20	1.3	.4	.2
20.....	56	30	37	43	142	92	632	544	18	1.2	.4	.2
21.....	51	29	28	45	126	87	692	474	16	1.2	.4	.2
22.....	47	26	23	45	106	87	778	394	14	1.1	.4	.2
23.....	44	25	21	46	100	82	822	333	13	1.0	.4	.2
24.....	40	25	22	44	92	96	536	289	12	1.0	.4	.2
25.....	37	24	22	46	108	94	380	268	10	.9	.4	.2
26.....	34	22	23	59	96	98	358	236	9	.8	.4	.2
27.....	32	21	22	156	126	106	373	204	8	.8	.3	.2
28.....	30	18	22	122	176	100	398	164	7.5	.7	.3	.2
29.....	29	18	23	96	170	102	528	139	6.5	.6	.3	.2
30.....	27	21	30	98	-----	129	778	124	6	.6	.3	.2
31.....	32	-----	28	104	-----	164	-----	104	-----	.6	.3	-----

Monthly discharge of Cherry Creek near Hetch Hetchy, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	285	27	92.4	5,680
November.....	124	18	40.8	2,430
December.....	50	14	26.5	1,630
January.....	156	30	64.4	3,960
February.....	440	72	148	8,510
March.....	164	69	107	6,580
April.....	822	131	477	28,400
May.....	1,100	104	622	38,200
June.....	92	6	35.8	2,130
July.....	5.5	.6	1.98	122
August.....	.6	.3	.41	25.2
September.....	.3	.2	.25	14.9
The year.....	1,100	.2	135	97,700

LAKE ELEANOR NEAR HETCH HETCHY, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 3, T. 1 N., R. 19 E., at dam at Lake Eleanor, $5\frac{1}{2}$ miles northwest of Hetch Hetchy, Tuolumne County.

RECORDS AVAILABLE.—October 1, 1919, to September 30, 1924.

GAGE.—Inclined staff gage on upstream face of tenth arch of dam, from left end. Crest of dam at gage height, 61 feet. Zero of gage at sea-level elevation of 4,600 feet.

REGULATION.—When reservoir is full, waste gates on left end of dam are left open. Stored water is drawn through gates near the gage, and flows down natural channel of Eleanor Creek.

EXTREMES OF STAGE.—Maximum stage recorded during year, 61.0 feet May 1–5, 25, and 29–31; minimum stage recorded, 31.8 feet January 25 and 26.

1919–1924: Maximum stage recorded, 61.0 feet July 12, 1922, July 10–24, 1923, and May 1–5, 25, and 29–31, 1924; no storage November 28 to December 21, 1921.

ACCURACY.—Gage read to tenths once daily.

Daily elevation, in feet, of Lake Eleanor near Hetch Hetchy, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	49.1	47.4	41.1	33.5	33.5	42.4	44.6	61.0	60.9	58.1	52.8	47.5
2.....	49.2	47.2	40.9	33.2	33.5	42.6	44.7	61.0	60.9	58.0	52.6	47.4
3.....	49.2	46.9	40.6	33.0	33.6	42.9	45.0	61.0	60.9	57.8	52.5	47.2
4.....	49.2	46.7	40.4	33.2	33.7	43.0	45.1	61.0	60.9	57.7	52.4	47.0
5.....	49.2	46.5	40.1	33.1	33.8	43.1	45.2	61.0	60.9	57.5	52.1	46.9
6.....	49.3	46.3	39.9	33.2	34.0	43.2	45.5	60.6	60.8	57.4	52.0	46.7
7.....	49.5	46.0	39.6	33.3	34.5	43.4	46.4	60.5	60.8	57.2	51.8	46.5
8.....	49.6	45.9	39.4	33.2	35.8	43.5	47.4	60.4	60.7	57.1	51.6	46.4
9.....	49.7	45.7	39.1	33.2	36.8	43.5	48.4	60.5	60.7	56.9	51.4	46.2
10.....	49.9	45.5	38.9	33.1	37.5	43.5	49.3	60.5	60.6	56.8	51.2	45.9
11.....	50.0	45.3	38.6	33.1	37.9	43.5	50.1	60.5	60.5	56.6	51.1	45.8
12.....	50.0	45.1	38.4	33.1	38.1	43.6	51.3	60.5	60.5	56.4	50.9	45.6
13.....	50.1	44.9	38.1	33.1	38.5	43.6	52.2	60.2	60.4	56.2	50.7	45.4
14.....	50.1	44.8	37.9	33.0	39.0	43.5	53.1	60.2	60.3	56.0	50.5	45.1
15.....	50.1	44.6	37.7	33.0	39.5	43.5	53.8	60.6	60.2	56.0	50.4	45.0
16.....	50.0	44.4	37.5	32.9	39.6	43.7	54.3	60.4	60.1	55.8	50.2	44.8
17.....	50.0	44.2	37.3	32.9	39.9	43.7	54.7	60.3	60.0	55.5	50.0	44.6
18.....	49.9	44.0	37.0	32.8	40.1	43.8	55.1	60.6	59.8	55.3	49.9	44.5
19.....	49.8	43.8	36.7	32.7	40.4	43.8	55.7	60.4	59.8	55.2	49.7	44.2
20.....	49.7	43.6	36.5	32.5	40.7	43.8	56.4	60.6	59.6	55.0	49.5	44.0
21.....	49.5	43.4	36.3	32.3	40.9	43.8	57.1	60.4	59.5	54.8	49.4	43.7
22.....	49.4	43.2	36.0	32.1	41.1	43.8	57.8	60.6	59.4	54.7	49.2	43.5
23.....	49.2	43.0	35.8	32.0	41.3	44.0	58.6	60.6	59.2	54.5	49.0	43.3
24.....	49.0	42.8	35.5	31.9	41.9	44.3	59.5	60.8	59.1	54.3	48.9	43.1
25.....	48.8	42.5	35.3	31.8	41.5	44.0	59.8	61.0	59.0	54.1	48.7	42.9
26.....	48.6	42.3	35.0	31.8	41.7	44.1	60.2	60.6	58.9	53.9	48.5	42.6
27.....	48.5	42.1	34.8	31.9	41.8	44.3	60.5	60.7	58.7	53.7	48.4	42.4
28.....	48.2	41.8	34.5	32.5	41.9	44.4	60.8	60.8	58.6	53.6	48.2	42.1
29.....	48.0	41.5	34.3	32.8	42.1	44.4	60.9	61.0	58.4	53.4	48.0	42.0
30.....	47.8	41.3	34.1	33.0	-----	44.4	60.9	61.0	58.2	53.2	47.9	41.8
31.....	47.6	-----	33.8	33.1	-----	44.5	-----	61.0	-----	53.0	47.7	-----

NOTE.—Add 4,600 feet to the above elevations to obtain mean sea level elevations.

ELEANOR CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 3, T. 1 N., R. 19 E., in Yosemite National Park, one-third mile below Lake Eleanor Dam, and $5\frac{1}{2}$ miles northwest of Hetch Hetchy, Tuolumne County.

DRAINAGE AREA.—79 square miles ⁶ (above dam site in sec. 3, T. 1 N., R. 19 E.).

RECORDS AVAILABLE.—November 20, 1909, to September 30, 1924.

GAGE.—Water-stage recorder in wooden house on reinforced concrete well on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 75 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of small boulders. Control of large boulders, ledge, and concrete wall for low water. Channel straight above and below. Banks not subject to overflow. Zero flow, gage height 0.9 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.25 feet at 8.30 a. m. May 16 (discharge, about 1,860 second-feet); minimum stage, 1.10 feet at 11.30 a. m. to 2.30 p. m. July 15 (discharge, 0.4 second-foot).

1909-1924: Maximum stage recorded, 13.1 feet January 30, 1911 (discharge, 5,000 second-feet); no flow September 8-14, 1910.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Flow regulated by operation of gates in Eleanor Dam. There was 18,000 acre-feet in Lake Eleanor September 30, 1923, and 11,840 acre-feet September 30, 1924.

ACCURACY.—Stage-discharge relation changed December 22 when logs on control were shifted and May 26 when logs were removed. Rating curves well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table except for days of considerable diurnal fluctuation in May, for which hourly discharge was averaged. Records good.

The following discharge measurement was made May 1, 1924:

Gage-height, 4.53 feet; discharge, 408 second-feet.

Daily discharge, in second-feet, of Eleanor Creek near Hetch Hetchy, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	65	137	141	89	31	15	67	434	27	66	74	69
2.....	57	137	141	100	34	15	68	468	27	65	74	68
3.....	38	137	140	96	65	15	68	465	27	65	73	68
4.....	25	135	140	89	65	15	67	451	27	64	73	68
5.....	25	135	138	85	65	20	67	280	27	64	73	68
6.....	25	134	137	71	64	44	61	456	34	64	73	70
7.....	25	134	137	62	55	48	24	433	40	63	73	74
8.....	25	134	137	53	34	48	7	400	40	62	73	74
9.....	25	134	135	66	10	48	7.5	371	39	60	73	73
10.....	26	134	134	71	6.5	48	7.5	390	38	67	72	73
11.....	26	134	134	56	7.5	48	7	412	38	75	72	72
12.....	26	134	133	55	8.5	57	7	306	39	75	72	72
13.....	26	134	131	55	8	74	7	369	48	75	72	72
14.....	26	134	130	55	5.5	69	7	357	47	68	72	72
15.....	41	134	130	59	6	67	7	12	46	34	72	72
16.....	54	134	128	73	8.5	66	7	367	46	89	72	72
17.....	66	134	127	73	11	65	7.5	326	46	77	71	77
18.....	74	134	127	73	11	67	7.5	20	46	77	71	92
19.....	84	134	124	73	11	71	7.5	347	48	77	71	92
20.....	102	134	114	72	11	71	7	14	59	77	71	92
21.....	100	134	114	72	11	71	6	363	59	77	71	91
22.....	109	134	104	71	14	71	4.1	18	59	77	71	91
23.....	120	133	103	71	33	70	5	96	59	78	70	91
24.....	120	133	102	71	33	70	10	10	58	78	70	90
25.....	119	131	101	71	33	71	29	11	58	78	70	90
26.....	118	140	100	71	33	71	50	230	57	78	70	89
27.....	128	144	100	51	33	71	61	13	57	77	68	89
28.....	137	142	99	18	24	69	121	13	56	77	68	79
29.....	137	141	96	22	15	67	212	16	62	77	68	75
30.....	137	141	91	25	-----	68	322	42	66	76	69	74
31.....	137	-----	90	31	-----	68	-----	52	-----	74	69	-----

⁶ Freeman, J. R., The Hetch Hetchy water supply for San Francisco, p. 24, 1912.

Monthly discharge of Eleanor Creek near Hetch Hetchy, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	137	25	71.7	4,410
November.....	144	131	135	8,030
December.....	141	90	121	7,440
January.....	100	18	63.9	3,930
February.....	65	5.5	25.7	1,480
March.....	74	15	56.1	3,450
April.....	322	4.1	44.5	2,650
May.....	468	10	243	14,900
June.....	66	27	46.0	2,740
July.....	89	34	71.3	4,380
August.....	74	69	71.4	4,390
September.....	92	68	78.3	4,660
The year.....	468	4.1	86.2	62,500

SOUTH FORK OF TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 29, T. 1 S., R. 18 E., 20 feet below highway bridge on Big Oak Flat road, a quarter of a mile south of South Fork Camp on Hetch-Hetchy Railroad, half a mile southwest of Oakland Recreation Camp, Tuolumne County, 1 mile above Middle Fork of Tuolumne River, and 3 miles east of Buck Meadows.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 19, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and shelter on right bank 20 feet below bridge and 50 feet above a 20-foot falls.

DISCHARGE MEASUREMENTS.—Made from cable 75 feet above gage or by wading.

CHANNEL AND CONTROL.—Channel and control are rocky, clean, and permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.65 feet at 2 p. m. April 11 and 2 a. m. May 1 (discharge, 138 second-feet); minimum stage, 0.36 foot September 6–10 (discharge, 1.9 second-feet).

1923–1924: Maximum stage recorded, 7.03 feet at 1.30 a. m. April 16, 1923 (discharge about 1,080 second-feet); minimum stage, that of September 6–10, 1924.

DIVERSIONS.—A small amount of water is diverted at Harden ranch, 4 miles above station, for irrigation.

REGULATION.—A small amount of storage at Harden ranch.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 500 second-feet. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of South Fork of Tuolumne River near Oakland Recreation Camp, Calif., during the year ending September, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 10.....	1.63	30	July 25.....	0.54	3.5
Apr. 9.....	2.43	108	Sept. 6.....	.36	1.9

Daily discharge, in second-feet, of South Fork of Tuolumne River near Oakland Recreation Camp, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	22	22	20	34	33	46	105	22	6.5	3.1	2.1
2	23	22	20	22	34	34	42	98	21	6	3.1	2.1
3	22	22	20	35	31	36	54	102	20	5.5	3.1	2.0
4	22	22	20	34	30	33	51	96	19	5	3.0	2.0
5	22	22	20	27	30	32	52	82	17	5	3.0	2.0
6	22	22	22	25	32	30	65	77	17	5	3.0	1.9
7	27	21	23	25	47	29	87	85	16	4.8	2.9	1.9
8	30	22	26	26	73	29	99	87	16	4.7	2.9	1.9
9	27	26	19	24	85	30	105	87	16	4.6	2.9	1.9
10	26	23	21	24	57	30	114	79	16	4.5	2.8	1.9
11	26	26	21	24	46	28	120	71	16	4.4	2.8	2.1
12	26	24	23	24	41	28	110	72	16	4.3	2.8	2.2
13	25	23	23	24	40	28	106	67	15	4.2	2.8	2.2
14	24	22	26	24	39	29	105	61	15	4.1	2.8	2.2
15	23	22	23	23	37	30	78	59	14	4.0	2.8	2.2
16	23	22	22	23	37	28	64	56	13	3.8	2.7	2.2
17	23	22	21	23	35	29	62	53	12	3.8	2.7	2.2
18	22	22	22	23	34	26	67	47	12	3.7	2.7	2.2
19	22	22	24	24	33	29	83	43	12	3.7	3.0	2.3
20	22	22	21	24	33	30	92	40	12	3.6	3.0	2.4
21	22	21	20	23	32	28	90	38	11	3.6	2.8	2.4
22	22	21	19	23	32	30	96	34	11	3.5	2.7	2.4
23	22	21	22	23	31	31	103	34	10	3.5	2.5	2.5
24	22	21	23	23	29	33	79	32	10	3.4	2.4	2.8
25	21	21	22	23	30	32	76	30	9	3.4	2.4	2.8
26	21	20	23	27	30	28	73	28	9	3.3	2.4	2.8
27	21	20	20	61	30	40	72	27	8.5	3.3	2.4	2.8
28	21	20	22	79	30	40	60	26	8	3.3	2.3	2.9
29	21	20	23	45	32	38	60	24	7.5	3.2	2.2	2.9
30	21	21	24	37	32	40	92	23	7	3.2	2.2	3.0
31	21	23	34	34	34	43	22	22	3.2	2.1	2.1	2.1

Monthly discharge of South Fork of Tuolumne River near Oakland Recreation Camp, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	30	21	23.0	1,410
November	26	20	21.9	1,300
December	26	19	21.9	1,350
January	79	20	28.9	1,780
February	85	29	38.1	2,190
March	43	26	31.7	1,950
April	120	42	80.7	4,800
May	105	22	57.6	3,540
June	22	7	13.6	809
July	6.5	3.2	4.13	254
August	3.1	2.1	2.72	167
September	3.0	1.9	2.31	137
The year	120	1.9	27.1	19,700

MIDDLE FORK OF TUOLUMNE RIVER NEAR BUCK MEADOWS, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 28, T. 1 S., R. 18 E., 800 feet below bridge on Hog ranch road, half a mile above junction with South Fork of Tuolumne River and 4 miles east of Buck Meadows, Mariposa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 23, 1916, to September 30, 1924.

GAGE.—Water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made from Hog ranch road bridge or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel; permanent. Control is granite ledge across channel 100 feet below gage. One channel at all stages, straight for 100 feet above and 200 feet below gage; banks clear.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.45 feet at 4 a. m. May 9 (discharge, 194 second-feet); no flow September 4–14.

1917–1924: Maximum stage recorded, 8.15 feet at 10.30 p. m. May 28, 1919 (discharge, 1,330 second-feet); no flow September 4–14, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

The following discharge measurements were made:

April 9, 1924: Gage height, 2.34 feet; discharge, 58 second-feet.

July 25, 1924: Gage height, 0.78 foot; discharge, 0.4 second-foot.

Daily discharge, in second-feet, of Middle Fork of Tuolumne River near Buck Meadows, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	12	9.5	9	8	16	16	28	123	21	2.3	0.2	0.1
2.....	12	9.5	7	6	16	17	24	121	18	2.0	.2	.1
3.....	11	9.5	6	15	14	18	32	137	17	1.9	.2	.1
4.....	10	9.5	7	14	15	16	31	140	16	2.0	.2	0
5.....	9.5	9	7	12	14	16	29	113	15	2.2	.2	0
6.....	9.5	9	8	11	15	16	35	109	14	2.3	.1	0
7.....	12	8.5	9.5	11	21	16	45	125	13	2.0	.1	0
8.....	16	8.5	10	12	29	16	51	132	14	.9	.2	0
9.....	15	12	5.5	11	37	16	55	137	15	1.0	.2	0
10.....	15	11	6	11	28	16	58	129	15	.9	.1	0
11.....	15	11	7	11	22	16	68	120	15	.9	.1	0
12.....	15	11	10	11	20	16	73	120	15	.9	.1	0
13.....	13	10	10	11	19	16	76	99	14	.8	.1	0
14.....	12	10	11	10	19	16	80	94	14	.7	.1	0
15.....	11	10	10	10	18	16	58	101	13	.9	1	.1
16.....	11	9	8.5	10	18	16	45	99	14	.4	.1	.1
17.....	10	8.5	9	10	16	16	47	89	14	.5	.1	.1
18.....	10	9	9	10	16	15	52	81	14	.5	.1	.1
19.....	10	10	10	10	15	14	66	69	14	.3	.1	.1
20.....	9.5	9.5	8.5	10	15	16	80	60	12	.3	.1	.1
21.....	9	8.5	8	10	15	14	85	54	10	.3	.1	.1
22.....	8.5	8	5.5	10	15	16	96	48	8.5	.3	.1	.1
23.....	8.5	8.5	7.5	10	15	16	105	45	7.5	.3	.1	.1
24.....	8.5	8.5	10	10	15	17	71	42	6.5	.3	.1	.1
25.....	8.5	8	9.5	10	15	17	65	39	7	.3	.1	.1
26.....	8.5	7.5	10	12	15	21	64	36	5.5	.2	.1	.1
27.....	8.5	8	7	21	15	21	69	33	4.3	.2	.1	.1
28.....	8.5	8	8.5	30	15	21	65	30	3.5	.2	.1	.1
29.....	8.5	7	10	19	16	22	67	27	3.4	.3	.1	.1
30.....	8.5	8.5	10	16	-----	23	97	25	2.9	.2	.1	.1
31.....	8.5	-----	9.5	16	-----	26	-----	23	-----	.2	.1	-----

Monthly discharge of Middle Fork of Tuolumne River near Buck Meadows, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	16	8.5	10.7	658
November.....	12	7	9.15	544
December.....	11	5.5	8.50	523
January.....	30	6	12.2	750
February.....	37	14	17.9	1,030
March.....	26	14	17.2	1,060
April.....	105	24	60.6	3,610
May.....	140	23	83.9	5,160
June.....	21	2.9	11.9	708
July.....	2.3	.2	.85	52.3
August.....	.2	.1	.12	7.4
September.....	.1	0	.06	3.6
The year.....	140	0	19.4	14,100

SIERRA & SAN FRANCISCO POWER CO.'S CANAL NEAR LA GRANGE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 16, T. 3 S., R. 14 E., at short flume opposite La Grange Dam, just above waste gate, $1\frac{1}{4}$ miles northeast of La Grange, Stanislaus County, and 4 miles below intake at Don Pedro Dam on Tuolumne River.

RECORDS AVAILABLE.—1908 to September 30, 1924 (not complete).

GAGE.—Enameled vertical staff on right side of flume near upper end; read by J. L. Beltz.

DISCHARGE MEASUREMENTS.—Made in flume just below gage.

CHANNEL AND CONTROL.—Rectangular ditch excavated mostly in shale rock.

EXTREMES OF DISCHARGE.—1908-1924: Maximum discharge recorded, 72 second-feet November 28, 1921.

ACCURACY.—Stage-discharge relation not changed during year. Rating curve well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by Turlock irrigation district, through R. V. Meikle, chief engineer.

The Sierra & San Francisco Power Co.'s canal takes water from the south side of Tuolumne River at Don Pedro Dam. It originally diverted water at Indian Bar, in SW. $\frac{1}{4}$ sec. 6, T. 2 S., R. 15 E., 13 miles above the town of La Grange. This canal was built in the early days to supply water for hydraulic mining in the vicinity of La Grange and is now locally known as the "La Grange mining ditch." Having been thoroughly repaired, it was used as a supply canal for the hydro-electric plant which was installed in 1907, on the left bank of the river about half a mile above La Grange and below La Grange Dam. Water diverted by canal was returned to river at power house. May 23, 1923, the power plant was discontinued and the record now shows the amount of water diverted to supply the town of La Grange.

The following discharge measurement was made March 4, 1924: Gage height, 0.24 foot; discharge, 1.0 second-foot.

Daily discharge, in second-feet, of Sierra & San Francisco Power Co.'s Canal near La Grange, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	0.6	0.6	0.6	0.9	0.9	2.3	2.3	2.0	6.2	7.1	1.3
2	2.0	.6	.6	.6	.6	.9	2.3	2.5	2.0	6.2	7.1	1.3
3	2.0	.6	.6	2.0	.6	1.2	2.3	2.5	2.0	6.2	5.3	3.6
4	2.0	.6	.6	2.0	.6	1.2	2.3	2.5	2.0	6.2	5.3	3.6
5	2.0	0	.6	.6	.6	1.2	2.0	2.5	2.0	6.2	5.3	3.9
6	2.0	2.8	.6	.6	.6	1.2	2.3	2.5	2.0	6.2	5.3	3.9
7	1.0	2.8	.6	.6	.6	1.2	2.3	2.2	3.6	6.2	5.3	3.9
8	.9	2.8	.6	.6	.6	1.2	2.3	2.0	5.3	6.2	5.3	3.9
9	.9	2.8	.6	.6	.6	1.2	2.3	2.0	5.3	6.2	5.3	3.9
10	.9	3.6	.6	.6	.6	1.2	2.0	2.5	5.3	6.2	4.4	4.3
11	1.3	3.6	.4	.6	.6	1.2	2.0	2.5	5.3	6.2	4.4	4.3
12	1.3	3.6	.4	.6	.6	1.0	2.0	2.5	5.3	6.2	3.6	4.3
13	1.3	3.6	.4	.6	.6	1.0	2.0	2.5	5.3	6.2	3.6	4.3
14	1.3	3.6	.4	.6	.6	1.0	2.0	2.5	5.3	6.2	2.0	4.3
15	1.3	3.6	.4	.6	.6	.6	2.3	2.0	5.3	6.2	1.3	5.3
16	1.3	3.6	.4	.6	.6	.6	2.3	2.8	5.3	6.2	4.4	5.3
17	1.3	3.6	.4	.6	.9	.6	2.3	2.8	5.3	6.2	4.4	5.3
18	1.3	3.6	.6	.6	.9	4.4	2.3	4.4	5.3	7.1	3.6	5.3
19	1.3	3.6	.6	.6	.9	4.4	2.3	4.4	5.3	7.1	3.6	5.3
20	1.3	2.0	.6	.6	.9	4.4	2.3	4.4	5.3	7.1	3.6	5.3
21	1.3	2.0	.6	.6	.9	4.4	2.3	4.4	5.3	8.0	2.8	4.4
22	.9	2.0	.6	.6	.9	4.4	2.3	4.4	5.3	8.0	2.8	4.4
23	.9	.6	.6	.6	.7	2.8	2.3	4.4	5.3	8.0	2.0	2.8
24	.7	.6	.6	.6	.6	2.8	2.3	4.4	5.3	8.0	2.0	2.8
25	.7	.6	.6	.6	.6	2.8	2.3	3.6	5.3	8.0	2.0	2.8
26	.5	.6	.6	.6	.6	2.8	2.3	3.6	6.2	8.0	2.0	2.3
27	.4	.6	.6	.6	.9	2.3	2.3	2.8	6.2	7.1	2.0	2.3
28	.4	.6	.6	0	.9	2.3	2.3	2.8	6.2	7.1	2.0	2.0
29	.4	.6	.6	.2	.9	2.3	2.3	2.8	6.2	7.1	2.0	2.2
30	.4	.6	.6	.2		2.3	2.3	2.0	6.2	7.1	1.3	2.3
31	.6		.6	.9		2.3		2.0		7.1	1.3	

Monthly discharge of Sierra & San Francisco Power Co.'s Canal near La Grange, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2.0	0.4	1.16	71.3
November	3.6	0	2.01	120
December	.6	.4	.55	33.8
January	2.0	0	.65	40.0
February	.9	.6	.71	40.8
March	4.4	.6	2.00	123
April	2.3	2.0	2.24	133
May	4.4	2.0	2.95	181
June	6.2	2.0	4.73	281
July	8.0	6.2	6.78	417
August	7.1	1.3	3.63	223
September	5.3	1.3	3.70	220
The year	8.0	0	2.60	1,880

MODESTO CANAL NEAR LA GRANGE, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 17, T. 3 S., R. 14 E., below waste gates, 500 feet below intake at La Grange Dam on Tuolumne River, and $1\frac{1}{2}$ miles north-east of La Grange, Stanislaus County.

RECORDS AVAILABLE.—April 26, 1903, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well on left bank 500 feet below head gates.

Prior to February 18, 1924, staff gage was used; read by J. H. Morton.

DISCHARGE MEASUREMENTS.—Made from footbridge 550 feet below gage.

CHANNEL AND CONTROL.—Canal is concrete lined and control is slope and cross section of canal.

EXTREMES OF DISCHARGE.—1903-1924: Maximum discharge, 1,350 second-feet July 21, 1922.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Staff gage read to hundredths twice daily to February 18. Water-stage recorder record February 19 to September 30 excellent. Daily discharge ascertained by applying mean daily gage height to rating table or by averaging results obtained by applying gage height for parts of a day to rating table. Records good.

COOPERATION.—Gage-height record furnished by Modesto irrigation district.

Canal diverts from right bank of Tuolumne River at La Grange Dam. Water is used for irrigation in the Modesto irrigation district.

The following discharge measurements were made:

March 4, 1924: Gage height, 3.52 feet; discharge, 290 second-feet.

May 20, 1924: Gage height, 7.47 feet; discharge, 981 second-feet.

June 26, 1924: Gage height, 5.62 feet; discharge, 620 second-feet.

Daily discharge, in second-feet, of Modesto Canal near La Grange, Calif., for the year ending September 30, 1924

Day	Oct.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	716			110	780	1,250	106	628	503	214
2	716		70	183	472	1,250	106	628	520	214
3	716		274	267	110	1,250	132	628	556	201
4	716		227	274	138	1,250	148	628	556	177
5	716		227	267	138	1,250	150	628	556	177
6	716		107	260	154	1,250	148	628	556	145
7	716			260	208	1,250	364	628	556	126
8	716		95	380	234	1,230	592	610	556	121
9	716	249	267	396	246	1,190	592	610	556	112
10	716	179	227	469	189	1,120	592	610	556	111
11	179	74	208	520	145	796	592	628	556	111
12		168	214	610	177	592	610	628	538	111
13		148	596	700	201	592	664	628	538	112
14		74	922	664	201	592	664	646	538	110
15		74	840	646	560	592	664	646	538	111
16		22	740	628	740	592	664	646	538	112
17		118	700	720	592	592	664	646	520	112
18		59	556	760	610	574	664	646	520	113
19		118	412	780	610	574	664	628	520	112
20		94	412	613	610	493	664	610	503	111
21			404	234	610	592	664	574	356	112
22			388	246	628	592	664	520	246	116
23			388	240	720	301	664	486	240	112
24			380	246	900	106	664	452	240	110
25			388	227	1,120	105	664	404	240	111
26			388	253	1,140	104	646	380	227	97
27			192	253	1,140	104	628	356	214	86
28			101	253	1,160	103	592	356	214	42
29			101	253	1,230	103	628	388	214	
30				691	1,250	104	628	420	214	
31				900		106		469	214	

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Modesto Canal near La Grange, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	716	0	237	14, 600
January.....	249	0	44. 4	2, 730
February.....	922	0	339	19, 500
March.....	900	110	429	26, 400
April.....	1, 250	110	567	33, 700
May.....	1, 250	103	665	40, 900
June.....	664	106	530	31, 500
July.....	646	356	561	34, 500
August.....	556	214	432	26, 600
September.....	214	0	117	6, 960
The year.....	1, 250	0	327	237, 000

NOTE.—No flow during November and December.

TURLOCK CANAL NEAR LA GRANGE, CALIF.

LOCATION.—Near north line of NW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 21, T. 3 S., R. 14 E., just below H. T. Sackett's house, 2,400 feet below intake at La Grange Dam, and $1\frac{1}{4}$ miles northeast of La Grange, Stanislaus County. Canal is on left bank of Tuolumne River.

RECORDS AVAILABLE.—July, 1899, to September 30, 1924.

GAGE.—Water-stage recorder on right bank, 150 feet below observer's house.

Prior to April 15, 1924, a float gage in 8-inch pipe on opposite bank was used. Observer, H. T. Sackett.

DISCHARGE MEASUREMENTS.—Made from foot plank across lined section of canal at the gage.

CHANNEL AND CONTROL.—Cut partly lined, and fill completely lined. Control is cross section and slope of canal.

EXTREMES OF DISCHARGE.—1907–1924: Maximum discharge, 1,840 second-feet May 21 and 22, 1922; no flow during periods each year.

ACCURACY.—Stage-discharge relation changed during period when canal was empty December to February and when station was moved to opposite side of canal April 15. Rating curves well defined. Staff gage read to hundredths once daily October 1 to April 14. Water-stage recorder record April 15 to September 30 is good. Daily discharge ascertained by applying daily gage height or mean daily gage height to rating table except for days of large diurnal fluctuation for which discharge integrator was used. Records good.

COOPERATION.—Gage-height record furnished by Turlock irrigation district through R. V. Meikle, chief engineer.

Canal diverts from left bank of Tuolumne River at La Grange Dam.

Water is used for irrigation in the Turlock irrigation district.

Discharge measurements of Turlock Canal near La Grange, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Mar. 4.....	Feet 3. 45	Sec.-ft. 558	May 20.....	Feet 4. 94	Sec.-ft. 890	May 20.....	Feet 6. 14	Sec.-ft. 1, 170
Do.....	2. 62	409	Do.....	8. 22	1, 750			

Daily discharge, in second-feet, of Turlock Canal near La Grange, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	785		174		626	908	1,560	762	560	718	630
2	785		187		666	930	1,530	762	630	718	460
3	785		180		526	688	1,580	740	520	696	520
4	785		180		546	646	1,580	718	634	674	520
5	785		60		546	626	1,610	740	634	674	540
6	785				546	434	1,640	972	634	674	530
7	785				546	434	1,640	1,230	634	674	580
8	785				546	470	1,640	1,200	634	654	550
9	785				364	470	1,440	1,200	993	696	570
10	785				320	346	1,250	1,230	1,310	634	610
11	785				1,140	234	1,020	1,230	1,310	674	610
12	745				1,070	282	806	1,250	1,310	654	600
13	765				1,120	314	852	1,310	1,250	876	590
14	765				1,050	298	852	1,310	1,310	924	580
15	765				1,000	390	876	1,280	1,280	948	490
16	765			126	976	670	876	1,280	1,250	924	530
17	765			586	976	1,060	876	1,280	1,310	972	450
18	287			1,070	1,020	1,250	828	1,180	1,310	996	400
19				820	1,070	1,280	876	1,070	1,280	876	440
20				820	1,020	1,280	1,080	1,050	1,200	996	210
21				820	1,050	1,280	924	1,070	1,200	972	140
22				798	1,170	1,330	900	1,020	1,180	1,020	240
23				776	1,170	1,360	1,040	1,070	1,120	1,050	290
24			94	776	1,170	1,400	762	1,070	1,180	1,100	290
25		174		298	1,020	1,560	762	1,100	1,150	948	270
26		285		298	586	1,470	806	1,180	1,100	696	310
27		187		314	626	1,530	784	1,160	852	762	310
28		180		586	586	1,530	784	1,210	852	762	360
29		180		586	606	1,560	762	1,180	852	674	380
30		174			586	1,530	762	890	762	740	400
31					646		784		762	740	

NOTE.—No flow Oct. 19 to Nov. 23 and Dec. 6 to Feb. 15.

Monthly discharge of Turlock Canal near La Grange, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	785	0	435	26,700
November	285	0	42.5	2,530
December	187	0	25.2	1,550
January	1,070	0	299	17,200
February	1,170	526	535	51,300
March	1,560	234	919	54,700
April	1,640	762	1,080	66,400
May	1,310	718	1,090	64,900
June	1,310	520	1,000	61,500
July	1,100	634	810	49,800
August	630	140	447	26,600
September				
The year	1,640	0	583	423,000

NOTE.—No flow during January.

71379—28—19

STANISLAUS RIVER BASIN

MIDDLE FORK OF STANISLAUS RIVER AT SAND BAR FLAT, NEAR AVERY, CALIF.

LOCATION.—At diversion dam of Sierra & San Francisco Power Co. at Sand Bar Flat, in Tuolumne County, 3 miles below Bakers-Crossing, 11 miles above junction with North Fork of Stanislaus River, and 11 miles southeast of Avery, Calaveras County.

DRAINAGE AREA.—329 square miles (measured on topographic maps by Pacific Gas & Electric Co.).

RECORDS AVAILABLE.—September 1, 1905, to September 30, 1924.

GAGE.—Staff showing depth of water over crest of dam. There is also a staff in flume below dam.

DISCHARGE.—Flow over dam is computed from formula developed by Sierra & San Francisco Power Co. Current-meter measurements are made in flume. Discharge, as published, is combined flow of river over dam and discharge of flume.

EXTREMES OF DISCHARGE.—1905-1924: Maximum mean daily discharge, 9,760 second-feet, March 19, 1907; minimum mean daily discharge, 30 second-feet, August 24, 1924.

DIVERSIONS.—Philadelphia ditch diverts water from South Fork of Stanislaus River below Strawberry and empties into Middle Fork above station.

REGULATION.—Relief Reservoir (capacity, 16,000 acre-feet) on Relief Creek, about 1 mile above mouth of creek, is used to store water.

COOPERATION.—Daily-discharge record and table showing natural run-off in acre-feet and discharge in second-feet furnished by Pacific Gas & Electric Co., through A. H. Markwart, vice president, in charge of engineering.

Daily discharge, in second-feet, of Middle Fork of Stanislaus River at Sand Bar Flat, near Avery, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	253	176	144	100	110	182	168	665	286	100	75	80
2.....	257	179	124	93	110	176	163	719	290	135	75	157
3.....	258	179	131	104	111	182	186	796	289	135	36	148
4.....	235	180	140	117	97	155	240	756	304	107	179	172
5.....	223	181	132	116	106	152	189	506	287	105	77	166
6.....	219	176	134	112	111	136	196	530	286	51	75	98
7.....	250	175	136	112	146	149	321	617	252	118	75	38
8.....	247	174	136	101	310	158	459	661	217	102	104	94
9.....	230	186	112	102	277	141	478	769	219	99	140	51
10.....	233	179	99	100	217	154	677	763	230	110	87	132
11.....	227	190	98	97	168	154	527	757	222	108	235	180
12.....	229	184	108	94	140	158	576	655	197	115	125	181
13.....	226	183	132	87	154	140	653	554	189	96	198	163
14.....	216	188	127	88	166	149	678	525	165	241	130	158
15.....	210	182	129	95	177	159	498	619	158	114	127	174
16.....	210	179	112	83	173	171	421	629	158	110	89	176
17.....	212	173	107	83	160	140	399	654	164	110	49	181
18.....	208	173	88	65	158	132	430	622	184	110	147	181
19.....	205	171	94	60	170	140	484	603	178	89	88	181
20.....	202	171	93	110	169	133	442	592	172	45	90	175
21.....	200	149	82	102	157	158	548	552	125	151	74	82
22.....	202	142	79	83	166	150	619	512	127	87	59	76
23.....	203	146	61	83	151	151	597	491	124	94	38	96
24.....	191	151	81	83	151	150	489	453	125	130	30	88
25.....	187	150	99	84	136	151	451	437	153	118	137	80
26.....	189	144	96	85	148	162	446	418	120	110	52	74
27.....	187	139	92	92	150	163	433	376	115	43	51	56
28.....	186	134	61	124	160	157	425	345	108	127	106	52
29.....	184	147	86	106	185	155	422	353	102	80	166	68
30.....	182	148	111	104	-----	154	552	330	96	78	158	116
31.....	178	-----	89	104	-----	154	-----	298	-----	78	85	-----

Monthly discharge of Middle Fork of Stanislaus River at Sand Bar Flat, near Avery, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet				Run-off in acre-feet	
	Maximum	Minimum	Mean observed	Mean natural	Natural	Observed
October.....	258	178	214	138	8,460	13,200
November.....	190	134	168	87	5,200	10,000
December.....	144	61	108	66	4,040	6,640
January.....	124	60	95.8	82	5,040	5,890
February.....	310	97	160	146	8,400	9,200
March.....	182	133	154	140	8,630	9,470
April.....	678	163	439	466	27,100	26,100
May.....	796	298	568	689	42,400	34,900
June.....	304	98	188	180	10,700	11,200
July.....	241	43	105	54	3,290	6,460
August.....	235	30	102	42	2,560	6,270
September.....	181	38	122	35	2,100	7,260
The year.....	796	30	202	177	128,000	147,000

NOTE.—Natural mean discharge and run-off determined by deducting water diverted from South Fork of Stanislaus River into the Middle Fork and correcting for storage in Relief Reservoir.

STANISLAUS RIVER NEAR KNIGHTS FERRY, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 1, T. 1 S., R. 12 E., 300 feet above old Tulloch Dam, 2 miles above Goodwin Dam, and 6 miles above Knights Ferry, Stanislaus County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 18, 1915, to September 30, 1924. Also at Knights Ferry, May 19, 1903, to April 30, 1916.

GAGE.—Water-stage recorder on right bank in reinforced concrete well and house.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed consists of solid rock and shifting sand. Channel straight for 250 feet above and 300 feet below; one channel at all stages. Control is Tulloch Dam. Point of zero flow, gage height 0.6 foot. Control is completely drowned out above stage of 5 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.89 feet at 4.30 a. m. May 3 (discharge, 2,100 second-feet); minimum stage, 0.88 foot at 7 a. m. July 15 (discharge, 21 second-feet).

1903-1914: Maximum stage recorded, 26 feet at 4 a. m. January 31, 1911 (discharge, 60,000 second-feet); minimum stage recorded, no flow December 3-5, 1912.

1915-1924: Maximum stage recorded, 9.11 feet at 3.45 a. m. February 21, 1917 (discharge, determined from revised extension of rating curve, 20,000 second-feet); minimum stage recorded, that of July 15, 1924.

DIVERSIONS.—Numerous ditches divert water for mining above the station. Water is also diverted from the South Fork into the Tuolumne Basin and from North Fork through Utica Gold Mining Co.'s canal for use in the vicinity of Murphy and Angels. The water diverted for power development on Middle Fork at Sand Bar Flat near Avery is returned to river above this station.

REGULATION.—Flow is partly regulated by storage in the drainage basins of the Middle, North, and South Forks.

ACCURACY.—Stage-discharge relation not changed from that of previous year. Rating curve well defined below 6,000 second-feet and extended above. No record due to trouble with water-stage recorder, January 15-20, February 7-12, and May 23 to June 28. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge February 7-12 estimated from records for Tuolumne River near Jacksonville and May 23 to June 28 from sum of flow of canals at Goodwin Dam. Records good.

Discharge measurements of Stanislaus River near Knights Ferry, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Nov. 2.....	Feet 1.40	Sec.-ft. 259	Mar. 20.....	Feet 1.44	Sec.-ft. 282	Aug. 12.....	Feet 1.16	Sec.-ft. 127
Feb. 13.....	1.61	388	May 17.....	1.89	722			

Daily discharge in second-feet, of Stanislaus River near Knights Ferry, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	310	290	202	221	252	393	271	1,400		90	99	99
2.....	330	245	227	168	227	400	344	1,580		114	99	69
3.....	310	264	208	179	264	317	330	1,700		120	99	99
4.....	323	304	221	264	191	330	526	1,600		130	56	135
5.....	317	239	202	221	208	310	468	1,300		52	77	202
6.....	317	239	202	233	227	290	445	1,130		56	90	114
7.....	344	245	221	202	330	297	590	1,170		38	104	168
8.....	400	245	227	208	880	277	940	1,270		81	81	99
9.....	400	264	252	196	1,270	268	1,270	1,400		104	99	86
10.....	372	271	214	196	880	245	1,300	1,440		104	151	94
11.....	358	290	208	221	560	290	1,420	1,380		90	86	135
12.....	351	245	185	173	400	284	1,360	1,230		109	77	151
13.....	310	277	202	151	386	258	1,400	1,100		94	114	174
14.....	310	277	264	179	393	227	1,440	904		38	168	125
15.....	252	284	245		393	239	1,270	916	200	60	130	94
16.....	297	277	245		400	264	976	1,000		114	125	214
17.....	304	277	227	150	400	271	847	1,000		99	120	168
18.....	290	277	196		290	264	847	1,000		109	65	179
19.....	290	245	185		323	252	1,030	916		94	90	174
20.....	290	252	185		365	271	1,170	869		73	90	168
21.....	304	233	179	120	365	284	1,260	781		49	130	185
22.....	271	239	185	162	365	317	1,330	737		99	60	77
23.....	284	239	162	130	330	317	1,400			114	77	99
24.....	290	227	168	156	330	271	1,270			114	69	174
25.....	284	221	202	151	233	323	1,030			130	41	99
26.....	271	221	162	202	277	408	952	500		114	41	94
27.....	297	208	196	221	297	408	964			120	90	120
28.....	284	202	179	393	297	422	916			60	94	65
29.....	264	196	156	337	351	438	940			109	120	47
30.....	252	239	168	264		365	1,100			135	156	281
31.....	245		179	258		297				114	162	

NOTE.—Mean discharge Jan. 15-20 estimated at 150 second-feet. Mean discharge for May 23-31 estimated at 500 second-feet and for June 1-30 at 200 second feet.

Monthly discharge of Stanislaus River near Knights Ferry, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	400	245	307	18,900
November.....	304	196	251	14,900
December.....	264	156	202	12,400
January.....	393	120	197	12,100
February.....	1,270	191	396	22,800
March.....	438	227	309	19,000
April.....	1,440	271	980	58,300
May.....	1,700		978	60,100
June.....			* 200	11,900
July.....	135	38	94.4	5,800
August.....	168	41	98.7	6,070
September.....	214	47	126	7,500
The year.....	1,700	38	344	250,000

• Estimated.

SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CALIF.

LOCATION.—At footbridge three-fourths mile below head gate at Goodwin Dam on Stanislaus River, 4 miles above Knights Ferry, Stanislaus County.

RECORDS AVAILABLE.—May 1, 1914, to September 30, 1924. Also miscellaneous measurements and rough estimates of flow for 1913.

GAGE.—Water-stage recorder in concrete well on left bank; attended by G. H. Hill.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Canal has trapezoidal section and is concrete lined.

EXTREMES OF DISCHARGE.—1914-1924: Maximum stage, from water-stage recorder, 8.43 feet at 4 a. m. May 18, 1922 (discharge, 1,080 second-feet); no flow several periods each year.

ACCURACY.—Stage-discharge relation changed slightly during period when water was out of canal. Rating curves very well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

COOPERATION.—Gage-height record furnished by South San Joaquin irrigation district.

South San Joaquin Canal is on the right bank of Stanislaus River. The water is used for irrigation in the Oakdale and South San Joaquin irrigation districts.

Discharge measurements of South San Joaquin Canal near Knights Ferry, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 2.....	3.27	284	May 18.....	7.44	915
Mar. 20.....	2.61	189	Aug. 13.....	1.53	71

Daily discharge, in second-feet, of South San Joaquin Canal near Knights Ferry, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	81	279	-----	200	361	284	1,000	239	59	70	79
2.....	81	253	-----	175	340	305	1,000	213	81	59	56
3.....	80	272	-----	226	265	272	1,000	206	96	55	50
4.....	80	305	-----	151	232	432	1,000	258	116	57	79
5.....	81	260	-----	114	226	432	1,000	232	66	45	140
6.....	81	260	-----	181	213	361	933	194	36	62	100
7.....	81	253	-----	265	169	447	949	169	67	88	94
8.....	80	253	-----	522	163	789	983	181	53	91	79
9.....	80	272	-----	582	146	949	1,000	140	129	78	62
10.....	80	272	-----	613	140	983	1,000	194	108	106	74
11.....	30	286	-----	522	213	1,000	1,000	175	89	85	71
12.....	-----	253	-----	432	206	1,000	966	134	96	54	108
13.....	-----	279	-----	403	194	1,000	933	146	108	71	140
14.....	-----	272	-----	389	146	1,000	741	111	61	146	116
15.....	-----	272	-----	403	163	1,000	741	194	35	80	61
16.....	-----	266	-----	403	194	869	837	105	103	79	140
17.....	-----	253	-----	432	239	693	853	108	113	88	129
18.....	-----	260	-----	291	194	677	869	129	96	71	134
19.....	-----	240	-----	319	226	837	725	129	83	52	146
20.....	-----	246	-----	326	187	966	709	129	52	58	118
21.....	-----	234	25	272	213	983	597	129	50	71	134
22.....	-----	234	108	206	252	983	537	113	61	74	89
23.....	-----	234	116	226	232	1,000	477	82	88	42	61
24.....	-----	234	113	246	206	966	477	90	80	44	98
25.....	-----	66	124	220	246	869	375	107	70	37	101
26.....	-----	-----	151	213	361	757	340	114	86	24	74
27.....	-----	-----	169	226	361	837	354	108	89	33	79
28.....	-----	-----	333	246	403	709	278	93	62	58	68
29.....	186	-----	333	252	417	773	265	96	45	71	35
30.....	234	-----	239	-----	333	869	258	86	73	108	29
31.....	227	-----	206	-----	220	-----	246	-----	73	140	-----

NOTE.—No flow in canal Oct. 12-28 and Nov. 26 to Jan. 20.

Monthly discharge of South San Joaquin Canal near Knights Ferry, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	234	0	47.8	2,940
November.....	305	0	210	12,500
January.....	333	0	61.8	3,800
February.....	613	114	312	17,900
March.....	417	140	241	14,800
April.....	1,000	272	768	45,700
May.....	1,000	246	724	44,500
June.....	258	82	147	8,750
July.....	129	35	78.2	4,810
August.....	146	24	70.9	4,360
September.....	146	29	91.5	5,440
The year.....	1,000	0	288	166,000

NOTE.—No flow during December.

OAKDALE CANAL NEAR KNIGHTS FERRY, CALIF.

LOCATION.—In lot No. 2 near northwest corner of SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 10, T. 1 S., R. 12 E., 1,700 feet below head gate at Goodwin Dam on Stanislaus River, 4 miles above Knights Ferry, Stanislaus County.

RECORDS AVAILABLE.—May 3, 1914, to September 30, 1924. Also miscellaneous measurements and rough estimates of flow for 1913.

GAGE.—Float gage in well on left bank about 1,700 feet below head gate, installed April 29, 1916. Gage read by G. H. Hill.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Canal has trapezoidal section with concrete side walls.

EXTREMES OF DISCHARGE.—1914–1924: Maximum mean daily discharge recorded, 252 second-feet March 26, 1923; no flow during periods of each year.

ACCURACY.—Stage-discharge relation changed slightly during period of no flow when canal was cleaned and repaired. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by Oakdale irrigation district.

Oakdale Canal diverts water from left bank of Stanislaus River at Goodwin Dam. The water is used for irrigation in the Oakdale irrigation district.

The following discharge measurements were made:

March 20, 1924: Gage height, 2.16 feet; discharge, 80 second-feet.

May 17, 1924: Gage height, 4.72 feet; discharge, 211 second-feet.

August 13, 1924: Gage height, 0.98 foot; discharge, 21 second-feet.

Daily discharge, in second-feet, of Oakdale Canal near Knights Ferry, Calif., for the year ending September 30, 1924

Day	Oct.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	64	-----	83	88	198	88	26	21	32
2.....	76	-----	93	93	198	83	28	21	26
3.....	95	-----	93	93	198	78	28	21	21
4.....	110	-----	93	98	198	73	28	21	22
5.....	110	-----	98	103	198	78	30	21	40
6.....	110	-----	98	113	210	83	28	21	35
7.....	110	-----	129	113	210	83	24	21	35
8.....	95	-----	129	151	198	66	24	21	26
9.....	95	-----	129	192	204	56	24	21	20
10.....	24	-----	118	198	210	49	28	30	20

Monthly discharge of Oakdale Canal near Knights Ferry, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....			108	198	210	58	30	30	20
12.....			108	198	215	54	24	26	20
13.....			108	198	215	54	20	24	35
14.....			108	198	210	49	20	30	40
15.....			98	198	204	45	20	45	26
16.....			93	198	210	42	22	32	45
17.....			93	198	215	26	26	30	54
18.....			83	198	215	30	26	26	42
19.....			73	198	215	30	24	22	47
20.....			73	198	215	40	24	22	45
21.....			73	198	215	40	20	24	42
22.....			88	198	215	40	20	24	32
23.....			88	198	215	35	30	22	21
24.....		30	88	198	210	28	28	20	26
25.....		54	73	198	198	32	28	19	35
26.....		66	68	198	180	32	28	15	26
27.....		78	73	198	157	32	30	19	24
28.....		78	73	198	151	32	30	20	22
29.....		83	73	198	135	30	28	20	20
30.....			73	198	118	28	30	24	18
31.....			78		93		24	30	

NOTE.—No flow Oct. 11 to Feb. 23.

Monthly discharge of Oakdale Canal near Knights Ferry Calif., for the year ending September 30, 1924

Month	Discharge in second-foot			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	110	0	28.7	1,760
February.....	83	0	13.4	771
March.....	129	68	92.1	5,660
April.....	198	88	173	10,300
May.....	215	93	195	12,000
June.....	88	26	49.8	2,960
July.....	30	20	25.8	1,590
August.....	45	15	24.0	1,480
September.....	54	18	30.6	1,820
The year.....	215	0	52.8	38,300

NOTE.—No flow during November, December, and January.

CALAVERAS RIVER BASIN

CALAVERAS RIVER AT JENNY LIND, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 22, T. 3 N., R. 10 E., at highway bridge on Milton road, a quarter of a mile southeast of Jenny Lind, Calaveras County, and 27 miles above junction with San Joaquin River. North and South Forks unite 15 miles above station.

DRAINAGE AREA.—395 square miles.

RECORDS AVAILABLE.—January 1 to June 30, 1907; December 1, 1907, to June 30, 1908; and November 1, 1908, to September 30, 1924.

GAGE.—Vertical staff in two sections on downstream end of middle pier of bridge. Datum lowered 5 feet October 13, 1917.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shift during high water. Banks not subject to overflow.

EXTREMES OF DISCHARGE.—1907–1924: Maximum stage recorded, 14.0 feet at 7 a. m. January 31, 1911 (discharge, from extension of rating curve, about 69,600 second-feet); stage was higher about midnight; no flow during fall of 1913 to 1915 and 1917 to 1924.

DIVERSIONS.—A small quantity of water is stored at Salt Springs Valley for use in connection with dredging operations below Jenny Lind.

ACCURACY.—Gage-height record not reliable. As the flow was very small at all times during the year, considerable error might exist in the record. For this reason only the results of discharge measurements are published.

Discharge measurements of Calaveras River at Jenny Lind, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 31-----	3.09	29	Mar. 13-----	3.16	41	May 19-----	2.90	16
Jan. 25-----	3.05	22	Apr. 17-----	3.10	26	June 11-----		0

MOKELUMNE RIVER BASIN

NORTH FORK OF MOKELUMNE RIVER NEAR WEST POINT, CALIF.

LOCATION.—In NW $\frac{1}{4}$ sec. 17, T. 7 N., R. 15 E., at Bruce's camp, $9\frac{1}{2}$ miles northeast of West Point, on the county line between Calaveras and Amador Counties. Blue Creek enters 1 mile below and Bear Creek 4 miles above station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 28, 1917, to September 30, 1918 (incomplete) and February 1 to September 30, 1924.

GAGE.—Water-stage recorder on right bank at the camp.

DISCHARGE MEASUREMENTS.—Made from cable at the gage.

CHANNEL AND CONTROL.—Channel wide; bed smooth at gage, rough and steep above and below; permanent. Banks high; not subject to overflow. Zero flow, gage height 2.4 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 9.23 feet at 11 p. m. May 2 (discharge, 2,860 second-feet); minimum stage 3.75 feet August 27 and 28 (discharge, 13 second-feet).

1917–1918; 1924: Maximum stage recorded, 12.4 feet at 7.20 p. m. June 9, 1917 (discharge, 7,290 second-feet); minimum stage, that of August 27 and 28, 1924.

DIVERSIONS.—None.

REGULATION.—Some storage in Blue Lakes and on Bear River is used by the Pacific Gas & Electric Co. during periods of low water to augment natural flow.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder gave satisfactory record except February 1 and May 9–22. Daily discharge ascertained by applying mean daily gage height to rating table, or by use of discharge integrator; except for February 1 and May 9–22 which was estimated from comparison with record at Clements. Records good.

Discharge measurements of North Fork of Mokelumne River near West Point, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 13-----	4.13	54	May 8-----	7.24	1,050
May 8-----	7.28	1,070	Aug. 27-----	3.75	12

Daily discharge, in second-feet, of North Fork of Mokelumne River near West Point, Calif., for the year ending September 30, 1924

Day	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		80	168	158	1,610	158	36	16	46
2		88	170	151	1,840	149	33	16	60
3		85	146	258	1,730	140	31	16	70
4		70	137	214	1,400	132	31	15	73
5		72	123	180	1,040	120	31	15	74
6		204	126	267	1,100	110	27	15	84
7		530	146	467	1,330	100	26	14	90
8		530	136	634	1,440	92	26	14	92
9		275	140	678	1,600	88	25	14	91
10		204	144	817	1,500	84	24	14	90
11		168	140	1,040	1,300	116	72	14	94
12		172	124	1,050	1,200	121	76	14	94
13	53	202	126	1,210	1,100	113	74	14	94
14	48	214	139	1,090	950	88	70	14	99
15	44	202	176	662	800	85	63	14	97
16		166	129	528	1,050	80	61	14	97
17		156	124	557	1,000	79	60	14	92
18		168	107	744	900	76	57	14	91
19		180	105	942	800	73	38	14	91
20		172	128	1,060	700	68	24	14	88
21		164	115	1,200	650	38	22	14	72
22		147	115	1,300	550	30	22	14	43
23		139	112	1,230	460	26	22	14	42
24		126	113	758	410	23	22	14	40
25		136	115	654	378	21	22	14	42
26		131	123	634	329	64	22	14	42
27		146	116	740	275	74	21	13	43
28		184	116	717	240	74	20	13	37
29		187	113	884	216	66	20	31	21
30			121	1,350	189	44	18	36	18
31			155		170		17	44	

Monthly discharge of North Fork of Mokelumne River near West Point, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February	530	70	183	10,500
March	176	105	131	8,060
April	1,350	151	739	44,000
May	1,840	170	912	56,100
June	158	21	84.4	5,020
July	76	17	35.9	2,210
August	44	13	16.5	1,010
September	99	18	70.2	4,180
The period				131,000

MOKELUMNE RIVER NEAR CLEMENTS, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 15, T. 4 N., R. 8 E., at highway bridge 1 mile north of Clements, San Joaquin County. Cosumnes River enters $19\frac{1}{2}$ miles below station.

DRAINAGE AREA.—631 square miles.

RECORDS AVAILABLE.—October 28, 1904, to September 30, 1924.

GAGE.—Staff in three sections at bridge; No. 1, vertical, fastened to pile in middle of left low-water channel; No. 2, vertical, bolted to middle pier near downstream end; No. 3, vertical, bolted to left abutment near downstream end. Read by Frank Hodges.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Sand and gravel; somewhat shifting. Right bank is high and not subject to overflow; left bank is overflowed above stage 15 feet for a distance of 200 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.3 feet at 6.30 p. m. May 2 (discharge, 2,264 second-feet); no flow July 9, August 15, and 20-23.

1904-1924: Maximum stage, 22 feet March 19, 1907 (discharge, 25,500 second-feet); no flow July 9, August 15 and 20-23, 1924.

DIVERSIONS.—Several small ditches divert water for mining and irrigation above station. Power is developed on North Fork and part of the water is diverted out of the basin through the Amador Canal.

REGULATION.—Flow partly regulated by storage developed on the headwaters of the North Fork and by the power plant at Electra.

ACCURACY.—Stage-discharge relation did not change from that of last year. Rating curve well defined. Staff gage read to tenths or half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except those for June to September which are fair.

Discharge measurements of Mokelumne River near Clements, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 31.....	1.15	104	May 20.....	2.49	629	Aug. 12.....	0.04	0.5
Nov. 3.....	1.24	116	June 12.....	1.07	95	Aug. 26.....	.12	1.0
Jan. 25.....	1.18	102	June 30.....	.44	17	Sept. 9.....	.15	27
Mar. 13.....	1.32	149	July 15.....	.10	9.4	Sept. 16.....	.96	67
Apr. 17.....	2.24	516	July 22.....	.56	23	Sept. 30.....	.30	9.4
May 10.....	4.77	1,910	July 29.....	.21	5.5			

Daily discharge, in second-feet, of Mokelumne River near Clements, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	107	116	90	116	160	257	166	1,580	125	16	3.6	4.8
2.....	175	116	126	98	148	245	190	1,770	113	32	6	3.6
3.....	160	116	82	142	98	126	208	1,770	162	57	7	8
4.....	175	107	120	175	90	160	355	1,640	157	54	6	34
5.....	175	98	112	137	137	225	400	1,290	137	19	4	71
6.....	208	137	116	107	126	208	265	1,290	109	8	.4	132
7.....	190	142	90	98	208	197	288	1,290	71	8	1	36
8.....	208	148	116	126	990	148	790	1,400	38	3	1	16
9.....	225	148	148	160	990	137	890	1,640	29		.4	6
10.....	225	148	107	137	490	160	890	1,640	36	20	10	19
11.....	225	137	116	148	265	160	1,190	1,400	132	32	2	137
12.....	208	98	102	160	288	166	1,290	1,290	83	10	1	118
13.....	208	126	126	137	310	166	1,190	1,140	137	19	2	113
14.....	190	148	155	107	274	160	1,400	1,090	142	9	1	27
15.....	107	116	148	148	265	175	1,290	1,040	132	12		16
16.....	137	107	116	148	288	184	1,040	1,240	27	32	.4	42
17.....	133	116	82	142	288	175	590	1,190	36	42	32	96
18.....	137	175	98	148	148	175	890	990	92	36	10	109
19.....	148	160	107	137	225	148	1,190	940	32	47	3	113
20.....	148	133	98	90	288	160	1,140	790	36	27		32
21.....	137	107	107	68	274	175	1,290	840	36	10		16
22.....	82	98	116	82	257	175	1,400	690	20	13		24
23.....	126	82	98	107	225	184	1,400	515	10	36		50
24.....	160	116	90	98	245	148	1,190	540	8	24	2.4	54
25.....	142	82	107	126	175	190	990	400	38	12	3	60
26.....	142	90	98	160	175	225	890	332	42	6	2.8	92
27.....	126	98	148	98	184	225	690	257	47	4.8	8	32
28.....	82	98	126	245	208	225	940	208	54	4	4	24
29.....	82	98	155	310	225	225	890	197	27	3.6	14	12
30.....	82	107	116	208		218	1,240	162	13	4	20	8
31.....	102		82	208		116		125		12	14	

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Mokelumne River near Clements, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	225	82	153	9,410
November.....	175	82	119	7,080
December.....	155	82	113	6,950
January.....	310	68	141	8,670
February.....	990	90	277	15,900
March.....	257	116	182	11,200
April.....	1,400	166	892	53,100
May.....	1,770	125	990	60,900
June.....	162	8	70.7	4,210
July.....	57	0	19.8	1,220
August.....	32	0	5.42	333
September.....	137	3	50.0	2,980
The year.....	1,770	0	251	182,000

MOKELUMNE RIVER AT WOODBRIDGE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 34, T. 4 N., R. 6 E., at highway bridge, a quarter of a mile northeast of Woodbridge, San Joaquin County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 27 to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and shelter on left bank 100 feet below bridge.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel is shifting sand. Stream meanders through a deep, sluggish channel. Control indefinite.

EXTREMES OF DISCHARGE.—Minimum stage during period, from water-stage recorder, 1.38 feet at 8 a. m. September 3 (discharge, 0.9 second-foot).

DIVERSIONS.—Water is diverted at the dam just above the bridge for irrigation. Canal can divert about 300 second-feet.

REGULATION.—Low-water flow controlled by amount of water diverted at the dam.

ACCURACY.—Stage-discharge relation did not change during the period. Rating curve fairly well defined. Excellent gage-height record from water-stage recorder. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

The following discharge measurements were made:

May 27, 1924: Gage height, 3.24 feet; discharge, 95 second-feet.

June 1, 1924: Gage height, 2.17 feet; discharge, 20 second-feet.

September 30, 1924: Gage height, 1.42 feet; discharge, 1.1 second-feet.

Daily discharge, in second-feet, of Mokelumne River at Woodbridge, Calif., for the year ending September 30, 1924

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1.....		21	2.1	1.5	1.0	16.....		4.6	1.5	1.3	1.1
2.....		18	2.0	1.5	1.0	17.....		4.0	1.5	1.3	1.1
3.....		12	1.9	1.5	1.0	18.....		4.0	1.5	1.3	1.1
4.....		8.5	1.9	1.4	1.0	19.....		4.0	1.5	1.4	1.1
5.....		8	1.9	1.4	1.0	20.....		4.0	1.5	1.3	1.1
6.....		7	1.9	1.4	1.3	21.....		4.0	1.5	1.2	1.1
7.....		6.5	1.8	1.3	2.0	22.....		3.8	1.5	1.2	1.1
8.....		6	1.6	1.3	1.5	23.....		3.7	1.5	1.2	1.1
9.....		5	1.7	1.3	1.3	24.....		3.2	1.6	1.2	1.1
10.....		5	1.7	1.3	1.1	25.....		2.6	1.6	1.2	1.1
11.....		4.8	1.7	1.3	1.0	26.....		2.5	1.6	1.1	1.1
12.....		4.8	1.7	1.3	1.0	27.....	102	2.5	1.6	1.1	1.1
13.....		4.6	1.6	1.4	1.2	28.....	95	2.4	1.6	1.2	1.1
14.....		4.4	1.5	1.4	1.3	29.....	69	2.3	1.6	1.0	1.1
15.....		4.4	1.5	1.3	1.2	30.....	50	2.2	1.5	1.0	1.1
16.....						31.....	28		1.5	1.0	

Monthly discharge of Mokelumne River at Woodbridge, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 27-31.....	102	28	68.8	682
June.....	21	2.2	5.66	337
July.....	2.1	1.5	1.65	101
August.....	1.5	1.0	1.28	78.7
September.....	2.0	1.0	1.15	68.4
The period.....				1,270

MIDDLE FORK OF MOKELUMNE RIVER AT WEST POINT, CALIF.

LOCATION.—In sec. 10, T. 6 N., R. 13 E., above highway bridge, 1 mile south of West Point, Calaveras County, $1\frac{1}{4}$ miles below mouth of Bear Creek, and $3\frac{1}{2}$ miles above junction with South Fork.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 9, 1911, to September 30, 1924.

GAGE.—Vertical staff in two sections, fastened to trees on right bank, 1,000 feet above bridge; read by M. A. Spink.

DISCHARGE MEASUREMENTS.—Made from cable half a mile above gage or by wading.

CHANNEL AND CONTROL.—Boulders and gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.30 feet at 3.40 p. m. February 8 (discharge, 127 second-feet); minimum stage recorded, 2.16 feet August 18–23 (discharge, 0.2 second-foot).

1911–1924: Maximum stage recorded, 10 feet at 4 p. m. January 23, 1914 (discharge, 2,550 second-feet); minimum stage recorded, that of August 18–23, 1924.

DIVERSIONS.—Mokelumne Hill and Valley Springs ditch (capacity about 6 second-feet) diverts water about 2 miles above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

The following discharge measurements were made:

December 12, 1923: Gage height, 2.84 feet; discharge, 8.5 second-feet.

May 9, 1924: Gage height, 2.78 feet; discharge, 7.6 second-feet.

August 28, 1924: Gage height, 2.24 feet; discharge, 0.3 second-foot.

Daily discharge, in second-feet, of Middle Fork of Mokelumne River at West Point, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5.5	5.5	7.5	9	11	11	14	10	1.2	0.4	0.2	0.2
2.....	5.5	5.5	7.5	9	12	11	12	10	1.2	.4	.2	.2
3.....	5.5	6	7.5	9	11	11	31	10	1.2	.3	.2	.2
4.....	5.5	6	7.5	25	10	11	25	9	1.2	.3	.2	.2
5.....	5.5	6	7	18	9	10	22	8	1.2	.3	.2	.2
6.....	6	6	7	17	9	10	22	7.5	1.2	.2	.2	.2
7.....	12	6	11	11	75	10	22	7	1.0	.2	.2	.2
8.....	19	7	11	10	127	10	22	6.5	1.0	.2	.2	.2
9.....	8	6.5	11	11	75	9	21	6.5	1.0	.2	.2	.2
10.....	7.5	7	11	11	34	9	21	6.5	1.2	.2	.2	.2
11.....	7	6.5	10	11	25	8.5	21	6.5	1.2	.2	.2	.2
12.....	6.5	6.5	8	12	20	8.5	20	6.5	1.3	.2	.2	.2
13.....	6	6.5	10	11	18	8	19	6	1.3	.2	.2	.2
14.....	5.5	6.5	14	11	16	8	18	5.5	1.3	.2	.2	.3
15.....	6	6	12	10	16	8	18	5.5	1.5	.2	.2	.3

Daily discharge, in second-feet, of Middle Fork of Mokelumne River at West Point, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16-----	6	6	11	10	14	7.5	17	5	1.5	0.2	0.2	0.3
17-----	6	6	9	9	14	7	16	4.7	1.3	.2	.2	.3
18-----	6	6	8	11	13	7	15	4.0	1.0	.2	.2	.4
19-----	6	6	8	11	13	7	14	3.3	.9	.2	.2	.4
20-----	6	6	8	13	13	7	14	2.7	.8	.2	.2	.4
21-----	6	6	7.5	11	13	7.5	13	2.4	.7	.2	.2	.5
22-----	6	6	7.5	11	12	8	12	2.1	.6	.2	.2	.5
23-----	6	6	7	10	12	10	12	1.8	.5	.2	.2	.6
24-----	6	6	7	10	12	10	13	1.6	.5	.2	.2	.6
25-----	6	6	7	9	11	11	12	1.5	.5	.2	.2	.7
26-----	6	6	8.5	18	11	16	12	1.5	.5	.2	.2	.7
27-----	5.5	6	9	38	11	12	12	1.5	.5	.2	.2	.8
28-----	5.5	6	9	25	11	16	11	1.3	.5	.2	.2	.8
29-----	5.5	6	8.5	18	11	20	11	1.3	.4	.2	.2	.8
30-----	5.5	6.5	9	14	-----	16	11	1.3	.4	.2	.2	.8
31-----	5.5	-----	9	12	-----	16	-----	1.3	-----	.2	.2	-----

Monthly discharge of Middle Fork of Mokelumne River at West Point, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	12	5.5	6.27	386
November.....	7	5.5	6.13	365
December.....	14	7	8.67	545
January.....	36	9	13.4	824
February.....	127	9	22.0	1,270
March.....	20	7	10.4	640
April.....	31	11	16.8	1,000
May.....	10	1.3	4.78	294
June.....	1.5	.4	.95	56.5
July.....	.4	.2	.22	13.5
August.....	.2	.2	.20	12.3
September.....	.8	.2	.39	23.2
The year.....	127	.2	7.47	5,430

SOUTH FORK OF MOKELUMNE RIVER NEAR RAIL ROAD FLAT, CALIF.

LOCATION.—In sec. 34, T. 6 N., R. 14 E., at Laidet ranch, 5 miles above mouth of Licking Fork and 5 miles east of Rail Road Flat, Calaveras County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 23, 1911, to September 30, 1924.

GAGE.—Vertical staff fastened to alder tree on right bank 100 feet above suspension footbridge; read by C. M. Laidet.

DISCHARGE MEASUREMENTS.—Made from cable 150 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel; shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.18 feet at 8.20 a. m. February 8 (discharge, 101 second-feet); minimum discharge, 1.4 second-feet for several days during July, August, and September.

1911-1924: Maximum stage recorded, 6.9 feet at 4.20 p. m. January 25, 1914 (discharge, 3,330 second-feet); minimum discharge, that of July, August and September, 1924.

DIVERSIONS.—A small amount of water is used for irrigation at Laidet ranch.

REGULATION.—No information.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Staff gage read to hundredths twice daily. Observer absent for several short periods and from July 27 to August 27. Daily discharge

ascertained by applying mean daily gage height to rating table or interpolating for days on which gage was not read, except July 27 to August 27, for which it was estimated. Records good.

The following discharge measurements were made:

December 12, 1923: Gage height, 1.44 feet; discharge, 9 second-feet.

May 9, 1924: Gage height, 1.42 feet; discharge, 9 second-feet.

August 28, 1924: Gage height, 1.23 feet; discharge, 1.1 second-feet.

Daily discharge, in second-feet, of South Fork of Mokelumne River near Rail Road Flat, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	10	15	9.5	16	13	17	12	5	2.4		1.6
2	9	10	12	9	15	19	18	11	4.2	2.4		1.8
3	9	9.5	11	12	14	17	19	11	4.2	2.2		1.4
4	9	9	9.5	15	12	15	24	10	4.2	2.4		1.4
5	9	9	9.5	14	17	15	29	9.5	4.2	2.4		1.8
6	14	9	9	13	20	13	32	9	3.4	2.4		1.4
7	18	9	15	12	72	13	35	8	3.4	2.4		1.4
8	15	12	13	14	97	12	33	8	3.4	2.4		1.4
9	11	12	11	13	76	12	31	8	3.4	2.2		1.4
10	10	13	12	12	47	12	31	7.5	3.4	2.4		1.8
11	10	12	12	12	36	12	29	7.5	3.8	2.4		1.8
12	10	10	10	11	33	11	28	7.5	4.2	2.2		1.4
13	10	10	12	12	30	11	27	7.5	4.2	2.4		1.4
14	9	9.5	17	12	28	10	26	7.5	3	2.2		1.4
15	9.5	9.5	15	12	25	9.5	25	7.5	3.4	2.0	1.4	1.8
16	10	9	13	11	22	9.5	22	7.5	3.4	2.0		1.6
17	9	9	12	11	19	9.5	21	6.5	3	2.2		1.4
18	9	9	12	11	18	9	21	6.5	2.9	2.0		1.6
19	9	9	14	11	16	8	19	6.5	2.9	2.0		1.8
20	9	8	11	11	15	10	19	6.5	2.8	1.6		1.8
21	8	9	11	9.5	15	11	18	6	2.6	1.8		1.6
22	9.5	9	9.5	9.5	14	11	18	6	2.8	1.6		1.8
23	9.5	9	9.5	9.5	13	14	22	6	2.4	1.6		1.8
24	9.5	8	9	9.5	13	12	20	6	2.4	1.6		2.0
25	10	7.5	9.5	11	12	13	17	6	2.8	1.4		1.8
26	10	7.5	15	18	12	15	16	6	2.6	1.6		1.6
27	10	7	13	37	12	17	15	6	2.8			1.8
28	10	7	11	46	12	19	15	6	2.6		1.4	1.8
29	10	7.5	12	33	12	22	13	5	2.4		1.5	1.8
30	10	15	12	21		19	12	5.5	2.6			1.6
31	10		10	15		18		5				1.8

NOTE.—Braced figures show estimated mean discharge for the period indicated.

Monthly discharge of South Fork of Mokelumne River near Rail Road Flat, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	18	8	10.1	621
November	15	7	9.47	564
December	15	9	11.8	726
January	46	9	14.7	904
February	97	12	25.6	1,470
March	22	8	13.3	818
April	35	12	22.4	1,330
May	12	5	7.37	453
June	5	2.4	3.28	195
July	2.4		1.99	122
August	1.8		1.43	87.9
September	2.0	1.4	1.64	97.6
The year	97	1.4	10.2	7,390

SUTTER CREEK NEAR VOLCANO, CALIF.

LOCATION.—In sec. 22, T. 12 E., R. 7 N., 1 mile southwest of Volcano, Amador County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 12 to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet below gage or by wading.

CHANNEL AND CONTROL.—Sand, gravel, and small boulders. May shift somewhat. Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during period, from water-stage recorder, 1.60 feet during afternoon of March 29 (discharge, 19 second-feet); minimum stage, 0.98 foot September 11–15 (discharge, 0.1 second foot).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—There are several small diversions above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve fairly well defined for range of stage during year. Water-stage recorder stopped frequently for a few days at a time. No record received April 12–19. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge interpolated for days of no gage-height record. Records good.

The following discharge measurements were made:

May 8, 1924: Gage height, 1.19 feet; discharge, 2.5 second-feet.

August 27, 1924: Gage height, 1.00 foot; discharge, 0.1 second-foot.

Daily discharge, in second-feet, of Sutter Creek near Volcano, Calif., for the year ending September 30, 1924

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		4.9	13	4.2	0.7	0.3	0.1	0.1
2		5	12	3.5	.7	.3	.1	.1
3		5	14	3.1	.6	.3	.1	.1
4		5	23	3.1	.6	.3	.1	.1
5		4.9	13	2.8	.6	.3	.1	.1
6		4.9	13	2.6	.6	.3	.1	.1
7		4.9	11	2.6	.6	.2	.1	.1
8		4.9	11	2.4	.6	.2	.1	.1
9		4.9	7.5	2.4	.5	.2	.1	.1
10		4.9	7	2.3	.5	.1	.1	.1
11		4.9	7	2.3	.4	.1	.1	.1
12	7	4.9	6.5	2.1	.4	.1	.1	.1
13	6	4.7	6	2.3	.3	.1	.1	.1
14	4.9	4.7	6	2.0	.3	.1	.1	.1
15	4.7	3.8	5.5	2.0	.3	.1	.1	.1
16	4.4	4.0	5	1.8	.3	.1	.1	.1
17	4.4	4.2	4.8	1.6	.3	.1	.1	.1
18	4.7	4.2	4.5	1.6	.3	.1	.1	.1
19	4.5	4.2	4.1	1.5	.3	.1	.1	.1
20	4.4	4.7	3.8	1.5	.3	.1	.1	.1
21	4.3	4.7	3.8	1.5	.3	.1	.1	.1
22	4.2	4.9	3.8	1.5	.3	.1	.1	.1
23	4.0	6.5	4.4	1.3	.3	.1	.1	.1
24	4.9	8	5.5	1.2	.3	.1	.1	.1
25	4.9	13	4.4	1.2	.3	.1	.1	.2
26	4.9	30	4.4	1.2	.3	.1	.1	.2
27	4.9	23	4.4	1.2	.3	.1	.1	.2
28	4.9	23	4.4	1.0	.3	.1	.1	.2
29	4.9	27	4.4	1.0	.3	.1	.1	.2
30		19	4.2	.9	.3	.1	.1	.2
31		16		.8		.1	.1	

Monthly discharge of Sutter Creek near Volcano, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February 12-29.....	7	4.0	4.83	172
March.....	30	3.8	8.67	533
April.....	23	3.8	7.38	439
May.....	4.2	.8	1.95	120
June.....	.7	.3	.41	24.4
July.....	.3	.1	.15	9.2
August.....	.1	.1	.10	6.1
September.....	.2	.1	.12	7.1
The period.....				1,310

SUTTER CREEK AT SUTTER CREEK, CALIF.

LOCATION.—In northwest corner of T. 6 N., R. 11 E., three-eighths of a mile west of Sutter Creek, Amador County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 5, 1922, to September 30, 1924.

GAGE.—Staff gage in two sections on right bank 200 feet below footbridge.

First section inclined, second section vertical. Read by Franklin Daneri.

DISCHARGE MEASUREMENTS.—Made from footbridge or by wading.

CHANNEL AND CONTROL.—Large boulders and gravel. Willows on banks obstruct flow at high stages. Banks high and are not overflowed. One channel at all stages. Current swift.

EXTREMES OF DISCHARGE.—Maximum stage recorded during the year, 1.85 feet at 7.20 a. m. February 8 (discharge, 114 second-feet); practically no flow June 1 to September 30.

DIVERSIONS.—No information.

REGULATION.—No information.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 400 second-feet and extended above. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

November 3, 1923: Gage height, 0.82 foot; discharge, 9 second-feet.

January 26, 1924: Gage height, 1.04 feet; discharge, 18 second-feet.

June 12, 1924: Gage height, 0.35 foot; discharge, 0.9 second-foot.

Daily discharge, in second-feet, of Sutter Creek at Sutter Creek, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	9	8	13	16	12	10	16	7.5	1.1	0.8
2.....	8.5	8	10	13	11	8	16	7	1.0	.8
3.....	10	8	8	38	11	8	18	6	1.0	.8
4.....	7.5	8	8	23	11	8	16	5.5	.9	.9
5.....	7	8	8	18	11	8	16	5	.9	.8
6.....	8.5	8	11	16	21	7	16	4.9	.9	-----
7.....	8.5	8	10	16	16	7	15	4.6	.8	-----
8.....	8	8	9	15	109	7	14	4.0	.9	-----
9.....	7.5	8.5	9.5	14	50	7	13	4.0	.9	-----
10.....	8	9	10	14	22	7	11	4.0	.9	-----
11.....	9	8.5	10	13	15	7	10	4.0	.9	-----
12.....	8	8	10	14	15	6.5	11	4.0	.8	-----
13.....	8	8	10	13	13	6.5	11	4.0	.8	-----
14.....	8	8	19	11	14	6.5	11	4.0	.9	-----
15.....	8	8	17	11	15	6.5	10	4.0	.8	-----
16.....	8	8	14	11	14	7	10	4.0	.7	-----
17.....	7.5	8	12	11	18	7	10	4.0	.8	-----
18.....	7	8	17	11	17	7	11	4.0	.8	-----
19.....	7	8	11	10	16	7	10	4.0	.7	-----
20.....	7	8	11	8	12	11	8	4.0	.7	-----

Daily discharge, in second-feet, of Sutter Creek at Sutter Creek, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
21.....	7	8	11	8.5	11	13	9	4.0	0.7	-----
22.....	7	8	11	8	10	15	9	3.7	.7	-----
23.....	7.5	8.5	10	8	10	16	10	3.7	.7	-----
24.....	8	9	9	8	9	16	9.5	4.0	.7	-----
25.....	8	8.5	12	8	8	17	8.5	3.8	.7	-----
26.....	8	8	17	18	8	16	9	3.4	.7	-----
27.....	7.5	8	14	10	9	17	10	3.0	.7	-----
28.....	8	9	13	42	9	16	10	2.6	.8	-----
29.....	8	9	14	50	9.5	16	10	2.4	.7	-----
30.....	8	11	13	23	-----	17	9	2.2	.7	-----
31.....	8	-----	17	16	-----	17	-----	2.4	-----	-----

NOTE.—Total flow of stream diverted above gage June 1 to Sept. 30. The water passing gage during this period is the waste water from the town of Sutter Creek, which received its water supply from a diversion from the North Fork of Mokelumne River.

Monthly discharge of Sutter Creek at Sutter Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	10	7	7.90	486
November.....	11	8	8.30	494
December.....	19	8	11.9	732
January.....	50	8	16.0	984
February.....	109	8	17.5	1,010
March.....	17	3.5	10.5	646
April.....	18	8	11.6	690
May.....	7.5	2.2	4.12	253
June.....	1.1	.7	.81	48.2
July 1-5.....	.9	.8	.82	8.1
The period.....	-----	-----	-----	5,350

NORTH FORK OF COSUMNES RIVER NEAR PLEASANT VALLEY, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 9, T. 9 N., R. 12 E., 150 feet below bridge on Pleasant Valley-Grizzly Flat road, half a mile above mouth of Camp Creek, and 5 miles east of Pleasant Valley, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 1 to May 31, 1924, when station was discontinued.

GAGE.—Vertical staff fastened to solid rock on right bank; read by stage driver.

DISCHARGE MEASUREMENTS.—Made by wading 500 feet above gage.

CHANNEL AND CONTROL.—Control is solid rock. Banks are solid rock and are vertical.

DIVERSIONS.—Camp Creek ditch diverts about 2 miles above gage.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 100 second-feet and extended above. Staff gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

The following discharge measurements were made:

March 14, 1924: Gage height, 0.50 foot; discharge, 21 second-feet.

April 10, 1924: Gage height, 1.05 feet; discharge, 61 second-feet.

May 27, 1924: Gage height, —0.25 foot; discharge, 6 second-feet.

Daily discharge, in second-feet, of North Fork of Cosumnes River near Pleasant Valley, Calif., for the period February 1 to May 31, 1924

Day	Feb.	Mar.	Apr.	May	Day	Feb.	Mar.	Apr.	May
1.....	46	18	46	38	16.....	38	21	38	12
2.....	38	18	26	38	17.....	38	21	38	12
3.....	26	18	38	38	18.....	38	21	26	10
4.....	26	18	38	38	19.....	38	21	26	10
5.....	21	18	38	38	20.....	32	21	26	9
6.....	26	18	55	38	21.....	26	21	26	9
7.....	127	18	65	38	22.....	26	26	26	8
8.....	260	18	65	38	23.....	26	26	38	8
9.....	100	18	65	38	24.....	26	26	38	7
10.....	76	18	65	18	25.....	26	26	38	7
11.....	55	21	65	18	26.....	26	38	32	6
12.....	38	21	65	18	27.....	18	38	32	6
13.....	38	21	46	18	28.....	18	38	38	6
14.....	38	21	46	15	29.....	18	38	38	5
15.....	38	21	38	15	30.....		32	38	5
					31.....		32		5

Monthly discharge of North Fork of Cosumnes River near Pleasant Valley, Calif., for the period February 1 to May 31, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February.....	260	18	46.4	2,670
March.....	38	18	23.6	1,450
April.....	65	26	42.0	2,500
May.....	38	5	18.4	1,130
The period.....				7,750

NORTH FORK OF COSUMNES RIVER NEAR EL DORADO, CALIF.

LOCATION.—In sec. 23, T. 9 N., R. 10 E., at suspension footbridge at Celio's ranch, 4 miles above junction with Middle Fork and 5 miles south of El Dorado, Eldorado County. Martinez Creek enters $1\frac{1}{2}$ miles above station.

DRAINAGE AREA.—197 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 13, 1911, to September 30, 1924.

GAGE.—Staff in three sections on right bank at bridge; read by James Yates.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Gravel and solid rock; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.8 feet at 9.30 a. m. February 8 (discharge, 560 second-feet); no flow July 17 to September 30.

1911-1924: Maximum stage recorded, 14.2 feet January 25, 1914 (discharge, from extension of rating curve, about 6,930 second-feet); no flow July 17 to September 30, 1924.

DIVERSIONS.—The J. J. Crawford ditch (about 2 feet wide) diverts from Camp Creek, above station. The water is used for irrigation below Placerville.

REGULATION.—None

ACCURACY.—Stage-discharge relation changed slightly at extremely low water. Rating curves well defined. Staff gage read to half-tenths once daily except for a few scattered days. Daily discharge ascertained by applying daily gage height to rating table. Discharge interpolated for days on which gage was not read. Records good.

The following discharge measurements were:

June 13, 1924: Gage height, 2.85 feet discharge, 3.7 second-feet.

July 11, 1924: Gage height, 2.45 feet; discharge, 0.3 second-feet.

Daily discharge, in second-feet, of North Fork of Cosumnes River near El Dorado, Calif., for the year ending September 30, 1924.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	19	19	19	44	62	50	55	44	5.5	1.8
2.....	16	19	19	44	68	50	55	44	4.5	1.8
3.....	16	19	20	68	68	55	55	44	4.5	1.6
4.....	18	34	20	68	68	55	109	44	4.5	1.4
5.....	19	34	20	55	62	50	81	44	3.8	1.0
6.....	30	26	26	44	62	44	68	44	3.8	1.0
7.....	50	26	26	44	125	44	74	44	3.8	.8
8.....	50	26	22	55	560	44	94	44	3.8	.8
9.....	34	26	24	55	277	44	109	44	3.8	.6
10.....	34	26	26	55	181	44	94	34	3.8	.5
11.....	26	26	30	44	134	39	94	30	3.8	.5
12.....	26	26	30	39	109	34	94	26	3.8	.4
13.....	22	26	30	34	102	34	91	24	3.8	.2
14.....	19	22	30	34	94	34	88	22	3.8	.2
15.....	19	22	30	34	94	34	88	19	3.8	.2
16.....	19	19	30	34	81	34	81	19	3.8	.1
17.....	19	19	30	30	68	34	68	19	3.0	-----
18.....	22	19	30	30	68	34	68	19	3.0	-----
19.....	22	19	30	30	68	34	68	16	3.0	-----
20.....	19	19	30	30	68	34	68	13	3.0	-----
21.....	19	19	30	30	68	34	62	13	3.0	-----
22.....	19	19	30	34	62	44	62	11	3.0	-----
23.....	19	19	26	30	55	44	74	11	3.0	-----
24.....	19	19	26	26	50	55	81	9.5	3.0	-----
25.....	19	19	26	26	44	55	68	9.5	3.0	-----
26.....	19	19	50	39	44	81	55	9.5	2.4	-----
27.....	19	19	44	94	50	81	55	9.5	2.4	-----
28.....	19	19	34	143	50	81	55	9.5	2.4	-----
29.....	19	19	34	125	50	74	55	6.5	1.8	-----
30.....	19	19	39	94	-----	68	50	6.5	1.8	-----
31.....	19	-----	44	68	-----	62	-----	6.5	-----	-----

NOTE.—No flow July 17 to Sept. 30.

Monthly discharge of North Fork of Cosumnes River near El Dorado, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	50	16	22.8	1,400
November.....	34	19	22.1	1,320
December.....	50	19	29.2	1,800
January.....	143	26	51.0	3,140
February.....	560	44	99.7	5,730
March.....	81	34	48.5	2,980
April.....	109	50	74.0	4,400
May.....	44	6.5	23.8	1,460
June.....	5.5	1.8	3.41	203
July.....	1.8	0	.42	25.8
The year.....	560	0	30.9	22,500

NOTE.—No flow during August and September.

COSUMNES RIVER AT MICHIGAN BAR, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 36, T. 8 N., R. 8 E., at highway bridge at Michigan Bar, Sacramento County, $5\frac{1}{2}$ miles southwest of Latrobe. North and Middle Forks unite 12 miles above station.

DRAINAGE AREA.—525 square miles.

RECORDS AVAILABLE.—October 20, 1907, to September 30, 1924.

GAGE.—Vertical staff on downstream end of bridge pier, near left bank; read by C. B. Ruman.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Sand, gravel, and small boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.5 feet at 5 p. m. February 8 (discharge, 1,120 second-feet); no flow July 6 and July 9 to September 30.

1907–1923: Maximum stage recorded, 11 feet February 21, 1917 (discharge, 22,400 second-feet); no flow July 25 to September 16, 1908, September 4–11, 1918, August 29 to September 10, 1919, July 6, 1924, and July 9 to September 30, 1924.

DIVERSIONS.—Douglas and Enterprise ditches divert from the Middle and South Forks and have a combined capacity of about 50 second-feet. The water is used for power, domestic supply, and irrigation at Plymouth and vicinity. Slug Gulch ditch, having a capacity of 7 or 8 second-feet, also diverts from the Middle Fork when prior appropriations permit. Michigan Bar Canal, which has a capacity of about 50 second-feet, heads on the main Cosumnes at Muscadale Creek. No record is available showing the quantity of water that is diverted.

REGULATION.—Flow is partly regulated by diversions.

ACCURACY.—Stage-discharge relation changed slightly at extreme low water.

Rating curves well defined, Staff gage read to half-tenths twice daily.

Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Cosumnes River at Michigan Bar, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 28.....	3.38	258	May 21.....	2.39	34
Mar. 14.....	2.68	72	June 13.....	1.88	4.9

Daily discharge, in second-feet, of Cosumnes River at Michigan Bar, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	31	31	33	68	105	85	116	95	8	1.0
2.....	26	33	52	57	105	85	110	95	8	.9
3.....	22	33	42	42	128	85	105	89	8	.5
4.....	22	31	40	128	105	85	162	95	7	.5
5.....	24	31	31	101	95	85	168	85	5.5	.2
6.....	42	31	33	85	89	85	131	85	5.5	-----
7.....	52	31	48	68	345	82	128	76	5.5	.5
8.....	85	31	76	68	910	75	172	68	5	.2
9.....	68	36	61	85	600	68	188	68	5.5	-----
10.....	52	42	54	76	400	68	188	68	5.5	-----
11.....	42	42	40	68	320	68	188	61	5.5	-----
12.....	42	42	42	54	248	68	188	61	5.5	-----
13.....	42	42	44	54	225	71	181	65	5.5	-----
14.....	36	40	54	54	188	67	172	54	5.5	-----
15.....	31	36	95	54	172	65	168	54	5.5	-----
16.....	31	38	68	54	155	61	155	52	5.5	-----
17.....	31	31	54	54	139	55	128	42	4.8	-----
18.....	31	31	54	48	128	54	128	42	4.2	-----
19.....	31	31	57	42	128	54	128	33	3.5	-----
20.....	31	31	48	42	128	54	128	31	3.0	-----
21.....	31	31	42	52	128	54	128	30	3.0	-----
22.....	31	31	42	54	123	68	128	26	3.0	-----
23.....	31	31	42	48	105	71	128	22	3.0	-----
24.....	31	31	42	54	105	85	142	22	2.2	-----
25.....	31	31	48	44	103	101	133	19	2.1	-----
26.....	31	31	61	61	95	142	123	20	1.5	-----
27.....	31	31	82	128	85	155	105	17	1.5	-----
28.....	31	31	68	248	85	133	105	16	1.5	-----
29.....	31	31	48	188	83	128	103	14	1.5	-----
30.....	31	40	68	155	-----	128	103	12	1.2	-----
31.....	31	-----	71	123	-----	116	-----	12	-----	-----

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Cosumnes River at Michigan Bar, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	85	22	35.9	2,210
November.....	42	31	33.8	2,010
December.....	95	31	52.9	3,250
January.....	248	42	79.3	4,880
February.....	910	83	194	11,200
March.....	155	54	83.9	5,160
April.....	188	103	141	8,390
May.....	95	12	49.3	3,030
June.....	8	1.2	4.42	263
July.....	1.0	0	.12	7.4
The year.....	910	0	55.6	40,400

NOTE.—No flow during August and September.

CAMP CREEK NEAR SLY PARK, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 30, T. 10 N., R. 15 E., at dam site of proposed Granite Basin Reservoir, $1\frac{1}{2}$ miles off the Stonebreaker grade road to Silver Lake, 15 miles northeast of Sly Park, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 1, 1923, to November 1, 1924, when station was discontinued.

GAGE.—Water-stage recorder in a pipe well and box type shelter on right bank.

DISCHARGE MEASUREMENTS.—Made by wading or from temporary cable bridge at gage.

CHANNEL AND CONTROL.—Bed of stream, gravel and solid rock; smooth, channel straight for 60 feet above gage and 20 feet below. A long narrow pool at gage. Control is solid rock, permanent and the same for all stages.

EXTREMES OF DISCHARGE.—Maximum stage during period of record from water-stage recorder, 1.95 feet at 4 a. m. February 8 (discharge, 32 second-feet); no flow July 21 to October 4.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 20 second-feet. Operation of recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table, except for the period December 27 to January 27, for which it was estimated. Records good.

Discharge measurements of Camp Creek near Sly Park, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 28.....	0.50	0.6	Apr. 8.....	1.15	11	June 23.....	0.33	0.4
Jan. 18.....	.56	.7	Apr. 15.....	1.28	14	Aug. 19.....	.08	0
Feb. 16.....	.92	6.1	May 16.....	.98	7.4			

Daily discharge, in second-feet, of Camp Creek near Sly Park, Calif., for the period November 1, 1923, to November 1, 1924

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Oct.	Nov.
1	0.7	0.8	0.8	4.4	4.8	3.0	14	1.0	0.2	-----	1.2
2	.7	.8	.8	4.4	4.8	3.3	14	.8	.2	-----	-----
3	.7	.8	.8	4.4	4.4	4.0	14	.8	.1	-----	-----
4	.7	.8	.8	4.4	4.2	3.6	13	.7	.1	-----	-----
5	.7	.8	.8	4.2	4.2	4.0	11	.7	.1	0.1	-----
6	.8	.8	.8	6	4.0	6	11	.7	.1	.2	-----
7	.8	1.9	.8	19	4.2	9	11	.6	.1	.1	-----
8	1.0	1.5	.7	27	4.4	13	11	.6	.1	.1	-----
9	1.1	1.5	.7	18	4.0	15	11	.6	.1	.1	-----
10	1.0	1.5	.7	13	3.8	16	11	.6	.1	.1	-----
11	1.1	1.8	.7	9	3.8	16	10	.6	.1	.1	-----
12	1.0	1.7	.7	8	3.6	17	10	.6	.1	.1	-----
13	1.0	1.4	.7	7.5	3.6	18	9	.6	.1	.1	-----
14	1.0	1.9	.7	7	3.8	17	8	.6	.1	.1	-----
15	1.0	1.3	.7	6.5	3.8	14	7.5	.5	.1	.2	-----
16	.9	1.2	.7	6	3.8	13	7.5	.5	.1	.2	-----
17	.9	1.1	.7	5.5	3.3	13	7	.5	.1	.3	-----
18	.8	1.1	.7	5.5	3.5	14	6	.5	.1	.4	-----
19	.8	1.0	.7	5.5	3.5	14	5	.5	.1	.4	-----
20	.8	1.0	.7	5.5	3.3	14	4.6	.4	.1	.4	-----
21	.8	1.1	.7	5	3.8	15	3.8	.4	-----	.4	-----
22	.8	1.2	.7	4.9	3.8	15	3.3	.4	-----	.4	-----
23	.8	1.2	.7	4.6	3.8	15	2.8	.4	-----	.4	-----
24	.8	1.2	.7	4.6	4.8	13	2.4	.3	-----	.5	-----
25	.8	1.2	.7	4.4	4.8	12	2.1	.3	-----	.5	-----
26	.8	1.0	.7	4.4	4.9	12	1.8	.3	-----	.5	-----
27	.8	1.0	.7	4.4	5	12	1.6	.3	-----	.7	-----
28	.7	1.0	1.1	4.6	4.9	11	1.4	.3	-----	2.8	-----
29	.7	.9	.8	4.6	4.9	11	1.2	.2	-----	7.5	-----
30	.8	.9	7.5	-----	4.6	12	1.1	.2	-----	2.1	-----
31	-----	.9	4.6	-----	3.3	-----	1.0	-----	-----	1.4	-----

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Camp Creek near Sly Park, Calif., for the period November 1, 1923, to November 1, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November 1923	1.1	0.7	0.84	50.0
December 1923	1.9	.8	1.17	71.9
January 1924	8	.7	1.32	81.2
February	27	4.2	7.32	421
March	5	3.3	4.11	253
April	18	3.0	11.8	702
May	14	1.0	7.04	433
June	1.0	.2	.52	30.9
July	.2	0	.07	4.3
October	7.5	0	.65	40.0

NOTE.—No flow during August and September.

CAMP CREEK NEAR PLEASANT VALLEY, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 5, T. 9 N., R. 12 E., at highway bridge on road from Pleasant Valley to Grizzly Flat, 4 miles east of Pleasant Valley, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 1 to May 31, 1924, when station was discontinued.

GAGE.—Vertical staff fastened to solid rock on right bank; read by stage driver.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Channel is rough with a pool at gage. Banks are steep.

DIVERSIONS.—Camp Creek ditch diverts water about 2 miles above the station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 70 second-feet and extended above. Staff gage read to tenths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

The following discharge measurements were made:

March 14, 1924: Gage height, 0.35 foot; discharge, 7.9 second-feet.

April 10, 1924: Gage height, 1.30 feet; discharge, 32 second-feet.

May 27, 1924: Gage height, -0.10 foot; discharge, 3.0 second-feet.

Daily discharge, in second-feet, of Camp Creek near Pleasant Valley, Calif., for the period February 1 to May 31, 1924

Day	Feb.	Mar.	Apr.	May	Day	Feb.	Mar.	Apr.	May
1.....	22	8.5	22	12	16.....	28	7	22	3.5
2.....	28	8.5	22	12	17.....	22	7	22	3.5
3.....	16	8.5	22	12	18.....	22	7	16	3.5
4.....	16	8.5	28	10	19.....	22	7	16	3.5
5.....	16	8.5	28	10	20.....	22	7	14	3.5
6.....	22	6	32	8.5	21.....	16	7	14	3.5
7.....	126	6	32	8.5	22.....	16	8.5	12	3.5
8.....	195	6	32	8.5	23.....	16	8.5	16	3
9.....	91	6	28	8.5	24.....	16	10	16	3
10.....	64	6	30	6	25.....	12	10	16	3
11.....	64	6	28	6	26.....	12	16	22	3
12.....	36	6	28	6	27.....	8.5	22	22	3
13.....	36	6	24	6	28.....	8.5	22	22	3
14.....	28	7	22	4.9	29.....	8.5	22	22	3
15.....	28	7	22	3.8	30.....	-----	22	22	3
					31.....	-----	22	-----	3

Monthly discharge of Camp Creek near Pleasant Valley, Calif., for the period February 1 to May 31, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February.....	195	8.5	35.1	2,020
March.....	22	6	9.98	614
April.....	32	12	22.5	1,340
May.....	12	3	5.62	346
The period.....	-----	-----	-----	4,320

SACRAMENTO RIVER BASIN

MAIN STREAM

SACRAMENTO RIVER AT ANTLER, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 13, T. 35 N., R. 5 W., at highway bridge at Antler, Shasta County. Gregory Creek enters 200 feet below gage and Pit River 14 miles below.

DRAINAGE AREA.—461 square miles.

RECORDS AVAILABLE.—November 19, 1910, to December 31, 1911; April 18, 1919, to September 30, 1924.

GAGE.—Vertical staff on downstream end of wooden pier at right end of highway bridge.

DISCHARGE MEASUREMENTS.—Made from highway bridge.

CHANNEL AND CONTROL.—Gravel and small boulders; shifts slightly during high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.9 feet at 5 p. m. February 7 (discharge, 6,550 second-feet); minimum stage recorded 1.8 feet July 3 to September 23 except August 19 (discharge, 110 second-feet).

1910-1911; 1919-1924: Maximum stage recorded, 14.0 feet November 19, 1920 (discharge, 18,100 second-feet); minimum stage recorded, that of July 3 to September 23, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed from that of previous year. Rating curve well defined below 5,000 second-feet and extended above. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for flows above 5,000 second-feet, which may be in error owing to extension of rating curve.

Discharge measurements of Sacramento River at Antler, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 8.....	2.70	319	June 20.....	2.02	153
Apr. 25.....	2.46	245	June 26.....	1.90	134

Daily discharge, in second-feet, of Sacramento River at Antler, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	225	210	210	225	975	385	270	240	140	125	110	110
2.....	225	210	210	225	1,020	365	270	240	140	113	110	110
3.....	255	210	210	240	650	430	288	240	140	110	110	110
4.....	325	210	210	225	480	385	270	240	140	110	110	110
5.....	255	210	210	210	505	385	270	225	140	110	110	110
6.....	270	210	240	210	680	345	270	210	140	110	110	110
7.....	270	210	345	225	5,720	345	305	210	140	110	110	110
8.....	240	210	270	240	3,600	345	325	210	140	110	110	110
9.....	240	210	240	240	1,830	345	345	210	140	110	110	110
10.....	240	210	240	225	1,160	325	345	210	140	110	110	110
11.....	240	210	240	225	890	305	345	210	140	110	110	110
12.....	240	210	210	225	745	305	345	210	140	110	110	110
13.....	225	240	240	225	710	305	345	210	140	110	110	110
14.....	210	270	270	225	620	305	345	210	140	110	110	110
15.....	210	255	270	225	620	305	345	198	140	110	110	110
16.....	225	240	240	225	560	305	325	185	140	110	110	110
17.....	225	225	240	225	505	305	305	185	140	110	110	110
18.....	225	225	270	225	480	305	270	172	140	110	110	110
19.....	210	210	270	225	480	305	270	160	140	110	125	110
20.....	210	210	270	225	455	305	270	160	140	110	110	110
21.....	210	210	240	225	430	270	270	160	140	110	110	110
22.....	210	210	240	225	430	270	270	160	140	110	110	110
23.....	210	210	240	225	385	305	270	140	140	110	110	110
24.....	210	210	240	225	385	325	270	140	132	110	110	125
25.....	210	210	225	240	385	325	270	140	125	110	110	125
26.....	210	210	240	530	385	305	270	140	125	110	110	125
27.....	210	210	225	2,060	385	305	240	140	125	110	110	125
28.....	210	210	225	1,060	385	305	240	140	125	110	110	125
29.....	210	210	240	590	385	270	240	140	125	110	110	125
30.....	210	210	225	455	-----	270	240	140	125	110	110	125
31.....	210	-----	240	385	-----	270	-----	140	-----	110	110	-----

Monthly discharge of Sacramento River at Antler, Calif., for the year ending September 30, 1924

[Drainage area, 461 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October.....	325	210	228	0.495	0.57	14,000
November.....	270	210	216	.469	.52	12,900
December.....	345	210	241	.523	.60	14,800
January.....	2,080	210	346	.751	.87	21,300
February.....	5,720	385	905	1.96	2.11	52,100
March.....	430	275	320	.694	.80	19,700
April.....	345	240	290	.629	.70	17,300
May.....	240	140	184	.399	.46	11,300
June.....	140	125	137	.297	.33	8,150
July.....	125	110	111	.241	.28	6,820
August.....	125	110	110	.239	.28	6,760
September.....	125	110	114	.247	.28	6,780
The year.....	5,720	110	264	.573	7.80	192,000

SACRAMENTO RIVER NEAR RED BLUFF, CALIF.

LOCATION.—In lot 4, sec. 34, T. 28 N., R. 3 W., at lower end of Iron Canyon, 4 miles northeast of Red Bluff, Tehama County. Paines Creek enters 3 miles above and Antelope Creek 7 miles below station.

DRAINAGE AREA.—9,300 square miles, not including drainage area of Goose Lake—1,090 square miles—which belongs naturally in Pit River basin but has contributed no water except for a short time in 1869 and for more than two hours during a severe storm from the north in 1881, when the lake overflowed to North Fork of Pit River. Previously published figures of discharge in second-feet per square mile and run-off in inches, based on drainage area including Goose Lake, should be used with caution because of the large noncontributing area.

RECORDS AVAILABLE.—January 28, 1902, to September 30, 1924. In 1879 the State engineer and in 1893 and 1894 the commissioner of public works made measurements at this point. From April 30, 1895, to June 30, 1902, a gaging station was maintained at Jellys Ferry, 12 miles above Red Bluff.

GAGE.—Water-stage recorder in concrete well and shelter on left bank.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Coarse gravel and small boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 14.83 feet at 6 a. m. February 8 (discharge, 66,900 second-feet); minimum stage, 0.06 foot at 3 p. m. August 12 (discharge, 2,720 second-feet).

1902–1924: Maximum stage recorded, 35.2 feet February 3, 1909 (discharge, 278,000 second-feet); minimum stage that of August 12, 1924.

DIVERSIONS.—The Anderson-Cottonwood Canal has diverted from Sacramento River at Redding since 1918. A small amount of water is diverted from some of the minor tributaries for irrigation.

REGULATION.—No storage of any importance has been developed in the drainage area above the station. A small diurnal fluctuation at low water is probably caused by operation of power plants of Pacific Gas & Electric Co. on Hat Creek and Pit River.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder good except December 4-8, 12, and 27-30 when pencil tore the paper. Daily discharge ascertained by applying mean daily gage height to rating table, except February 7-8 for which hourly discharge was averaged. Discharge interpolated for days of no gage-height record. Records excellent.

The following discharge measurements were made:

April 28, 1924: Gage height, 0.60 foot; discharge, 3,620 second-feet.

June 29, 1924: Gage height, 0.12 foot; discharge, 2,870 second-feet.

June 30, 1924: Gage height, 0.12 foot; discharge, 2,790 second-feet.

Daily discharge, in second-feet, of Sacramento River near Red Bluff, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,920	4,100	4,200	4,200	5,650	4,790	4,300	3,490	3,060	2,980	2,900	2,900
2	3,920	4,100	4,100	4,100	8,910	4,790	4,300	3,490	3,060	2,980	2,900	2,900
3	4,100	4,200	4,100	4,200	7,160	4,900	4,200	3,490	3,060	2,900	2,900	2,900
4	4,690	4,010	4,100	4,300	6,120	4,900	4,590	3,400	2,980	2,900	2,900	2,900
5	4,590	4,010	4,100	4,300	5,650	4,790	4,490	3,400	2,980	2,900	2,810	2,900
6	4,490	4,010	4,200	4,300	5,880	4,690	4,390	3,320	2,980	2,810	2,810	2,900
7	4,590	4,010	4,300	4,300	17,800	4,590	4,390	3,400	2,900	2,900	2,810	2,900
8	4,390	4,010	4,300	4,390	47,300	4,590	4,390	3,320	2,980	2,980	2,810	2,900
9	4,300	4,010	4,300	4,490	19,400	4,590	4,390	3,240	2,980	2,980	2,900	2,900
10	4,200	4,010	4,300	4,390	12,600	4,590	4,200	3,240	3,060	2,990	2,900	2,900
11	4,300	4,010	4,010	4,300	9,860	4,490	4,010	3,320	2,980	2,900	2,810	2,900
12	4,200	4,010	4,010	4,300	8,300	4,490	4,010	3,320	2,980	2,900	2,810	2,900
13	4,200	4,100	4,010	4,300	7,710	4,390	4,010	3,320	2,980	2,900	2,810	2,900
14	4,100	4,100	4,300	4,200	7,160	4,390	3,920	3,400	2,980	2,980	2,900	2,900
15	4,100	4,200	4,300	4,200	6,630	4,300	4,010	3,400	2,980	2,900	2,900	2,980
16	4,100	4,100	4,300	4,200	6,630	4,300	4,010	3,320	2,980	2,900	2,900	2,980
17	4,100	4,100	4,300	4,200	6,120	4,300	3,920	3,240	2,980	2,900	2,900	2,980
18	4,100	4,010	4,390	4,200	5,880	4,100	4,100	3,240	2,900	2,810	2,900	2,980
19	4,100	4,010	4,590	4,200	5,650	4,100	4,010	3,240	2,980	2,900	2,980	2,980
20	4,100	4,010	4,590	4,200	5,650	4,010	3,740	3,150	2,900	2,900	3,060	2,900
21	4,100	4,100	4,490	4,100	5,430	4,010	3,740	3,150	2,900	2,900	3,060	2,900
22	4,100	4,100	4,390	4,100	5,320	4,100	3,920	3,150	2,900	2,900	3,060	2,980
23	4,100	4,100	4,300	4,100	5,210	4,100	3,830	3,150	2,980	2,900	3,060	3,060
24	4,100	4,200	4,300	4,010	5,100	4,300	3,920	3,060	2,980	2,900	2,980	3,060
25	4,010	4,200	4,300	4,100	5,100	4,490	3,660	3,060	2,980	2,900	2,900	3,060
26	4,100	4,010	4,300	4,390	5,000	4,390	3,580	3,060	2,900	2,900	2,900	2,980
27	4,100	4,100	4,300	6,370	4,900	4,390	3,580	3,060	2,980	2,900	2,900	2,980
28	4,010	4,100	4,300	12,600	4,900	4,390	3,660	3,060	2,980	2,900	2,980	3,060
29	4,010	4,100	4,200	7,160	4,790	4,490	3,680	3,150	2,900	2,810	2,900	3,150
30	4,100	4,200	4,200	5,880	-----	4,390	3,580	3,150	2,900	2,810	2,810	3,060
31	4,100	4,200	4,200	5,320	-----	4,300	-----	3,060	-----	2,900	2,900	-----

Monthly discharge of Sacramento River near Red Bluff, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	4,690	3,920	4,170	256,000
November	4,200	4,010	4,080	243,000
December	4,590	4,010	4,260	262,000
January	12,600	4,010	4,750	292,000
February	47,300	4,790	8,680	499,000
March	4,900	4,010	4,430	272,000
April	4,590	3,580	4,010	239,000
May	3,490	3,060	3,250	200,000
June	3,060	2,900	2,970	177,000
July	2,980	2,810	2,900	178,000
August	3,060	2,810	2,900	178,000
September	3,150	2,900	2,960	176,000
The year	47,300	2,810	4,100	2,970,000

SACRAMENTO RIVER AT BUTTE CITY, CALIF.

LOCATION.—At highway bridge at Butte City, Glenn County.

RECORDS AVAILABLE.—April 21 to November 3, 1921; June 18 to November 16, 1922; June 16, 1923, to February 7, 1924; and May 17 to September 30, 1924.

GAGE.—Water-stage recorder on fender pier of highway bridge about 100 feet above bridge.

CHANNEL AND CONTROL.—Well-defined channel; earth banks and gravel bottom. Control is riffle of small gravel about half a mile below gage.

DIVERSIONS.—Considerable diversion from main stream and tributaries above station for irrigation.

REGULATION.—See preceding paragraph.

ACCURACY.—Stage-discharge relation fairly permanent. Standard rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Records excellent.

Discharge measurements of Sacramento River at Butte City, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4	69.12	4,430	Feb. 3	71.42	9,140	July 24	67.18	1,600
Oct. 12	69.25	4,520	May 17	67.72	2,260	July 31	67.17	1,620
Oct. 20	69.17	4,430	May 22	67.56	2,080	Aug. 8	67.22	1,620
Oct. 28	69.20	4,170	May 29	67.46	2,020	Aug. 14	67.34	1,760
Nov. 13	69.14	4,330	June 5	67.33	1,760	Aug. 21	67.54	1,950
Nov. 29	69.10	4,280	June 12	67.39	1,730	Aug. 28	67.54	1,970
Dec. 13	69.26	4,330	June 19	67.34	1,800	Sept. 4	67.49	1,910
Dec. 20	69.47	4,910	June 26	67.35	1,790	Sept. 11	67.66	2,220
Dec. 28	69.30	4,440	July 3	67.33	1,860	Sept. 18	67.80	2,410
Jan. 5	69.27	4,460	July 10	67.27	1,700	Sept. 25	67.98	2,640
Jan. 18	69.22	4,490	July 17	67.22	1,640			

Daily discharge, in second-feet, of Sacramento River at Butte City, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	May	June	July	Aug.	Sept.
1	4,230	4,400	4,400	4,580	6,190		1,910	1,800	1,680	1,850
2	4,090	4,400	4,400	4,580	6,400		1,850	1,800	1,680	1,910
3	4,060	4,230	4,400	4,580	8,800		1,800	1,850	1,740	1,910
4	4,230	4,400	4,400	4,400	7,900		1,800	1,800	1,740	1,910
5	4,760	4,230	4,400	4,580	7,030		1,800	1,800	1,740	1,970
6	4,950	4,230	4,400	4,580	6,610		1,680	1,740	1,630	2,090
7	4,760	4,230	4,400	4,580	7,240		1,680	1,740	1,630	2,090
8	4,760	4,230	4,580	4,580			1,680	1,740	1,580	2,090
9	4,580	4,230	4,950	4,580			1,680	1,740	1,580	2,160
10	4,580	4,230	4,760	4,580			1,740	1,740	1,680	2,220
11	4,580	4,230	4,580	4,580			1,680	1,740	1,680	2,220
12	4,400	4,230	4,580	4,580			1,740	1,680	1,630	2,220
13	4,400	4,230	4,400	4,580			1,740	1,630	1,680	2,280
14	4,400	4,400	4,580	4,580			1,740	1,630	1,740	2,280
15	4,400	4,400	4,580	4,580			1,740	1,680	1,800	2,280
16	4,400	4,400	4,580	4,400			1,740	1,680	1,740	2,350
17	4,230	4,400	4,580	4,400		2,220	1,800	1,630	1,740	2,420
18	4,230	4,400	4,580	4,400		2,220	1,850	1,580	1,800	2,420
19	4,400	4,400	4,580	4,400		2,160	1,800	1,580	1,800	2,280
20	4,400	4,400	4,760	4,400		2,090	1,910	1,530	1,850	2,280
21	4,400	4,230	4,950	4,400		2,090	1,910	1,530	1,910	2,350
22	4,400	4,230	4,760	4,400		2,090	1,800	1,530	1,970	2,420
23	4,230	4,230	4,760	4,400		2,160	1,800	1,580	1,970	2,480
24	4,400	4,230	4,760	4,400		2,160	1,850	1,630	1,970	2,550
25	4,400	4,400	4,580	4,400		2,090	1,800	1,630	1,970	2,620
26	4,400	4,400	4,580	4,760		2,160	1,800	1,630	1,970	2,620
27	4,230	4,400	4,580	5,560		2,030	1,800	1,630	1,970	2,620
28	4,230	4,230	4,580	8,120		1,970	1,800	1,630	1,970	2,620
29	4,400	4,230	4,580	11,500		2,030	1,800	1,630	1,970	2,690
30	4,400	4,400	4,580	8,120		2,090	1,800	1,630	1,970	2,760
31	4,400		4,580	6,610		2,030		1,630	1,850	

Monthly discharge of Sacramento River at Butte City, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	4,950	4,060	4,410	271,000
November.....	4,400	4,230	4,310	256,000
December.....	4,950	4,400	4,590	282,000
January.....	11,500	4,400	5,070	312,000
February 1-7.....	8,800	6,190	7,170	99,600
May 17-31.....	2,230	1,970	2,110	62,800
June.....	1,910	1,680	1,780	106,000
July.....	1,850	1,530	1,670	103,000
August.....	1,970	1,580	1,760	110,000
September.....	2,760	1,850	2,300	137,000

SACRAMENTO RIVER AT COLUSA, CALIF.

LOCATION.—At highway bridge at Colusa, Colusa County.

RECORDS AVAILABLE.—April 11 to October 31, 1921; June 17 to November 15, 1922; June 16, 1923, to February 7, 1924; and May 16 to September 30, 1924.

GAGE.—Water-stage recorder on highway bridge fender pier in middle of river about 50 feet above bridge.

DISCHARGE MEASUREMENTS.—Made from boat 400 feet below gage.

CHANNEL AND CONTROL.—Shifting sand; control is cross section and slope of channel.

DIVERSIONS.—Considerable water is diverted above station from main stream and tributaries for irrigation.

REGULATION.—See preceding paragraph.

ACCURACY.—Stage-discharge relation not permanent. Standard rating curves well defined. Water-stage recorder record excellent except December 8-12 and August 21-27. Daily discharge ascertained by shifting-control method. Records good.

Discharge measurements of Sacramento River at Colusa, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4.....	38.94	4,260	Jan. 26.....	39.44	4,620	July 17.....	36.11	1,620
Oct. 12.....	39.22	4,550	Feb. 3.....	42.14	7,970	July 24.....	36.09	1,610
Oct. 20.....	39.19	4,470	May 16.....	37.10	2,170	July 31.....	36.10	1,610
Oct. 28.....	39.02	4,300	May 17.....	36.99	1,980	Aug. 8.....	36.10	1,490
Nov. 5.....	39.13	4,500	May 22.....	36.63	1,900	Aug. 14.....	36.18	1,630
Nov. 21.....	39.09	4,500	May 28.....	36.52	1,830	Aug. 21.....	36.60	1,940
Dec. 7.....	39.16	4,540	June 6.....	36.36	1,650	Aug. 28.....	36.67	2,010
Dec. 13.....	39.29	4,520	June 12.....	36.44	1,780	Sept. 4.....	36.58	2,000
Dec. 20.....	39.64	4,930	June 19.....	36.37	1,730	Sept. 11.....	36.80	2,170
Dec. 28.....	39.38	4,580	June 26.....	36.26	1,690	Sept. 18.....	37.09	2,360
Jan. 5.....	39.32	4,450	July 2.....	36.17	1,680	Sept. 25.....	37.27	2,500
Jan. 11.....	39.41	4,630	July 10.....	36.21	1,650			

Daily discharge, in second-feet, of Sacramento River at Colusa, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	May	June	July	Aug.	Sept.
1	4,310	4,430	4,550	4,630	6,550	-----	1,830	1,710	1,590	1,890
2	4,310	4,430	4,550	4,510	6,190	-----	1,770	1,710	1,650	1,960
3	4,190	4,430	4,550	4,510	8,050	-----	1,710	1,770	1,650	1,960
4	4,310	4,550	4,430	4,510	8,800	-----	1,710	1,770	1,650	2,030
5	4,550	4,430	4,430	4,510	7,680	-----	1,650	1,710	1,650	1,960
6	5,270	4,430	4,550	4,630	7,050	-----	1,650	1,770	1,590	2,030
7	5,030	4,430	4,550	4,510	6,800	-----	1,650	1,710	1,530	2,100
8	5,030	4,310	4,670	4,510	-----	-----	1,650	1,710	1,470	2,100
9	4,910	4,430	5,030	4,510	-----	-----	1,650	1,710	1,470	2,170
10	4,790	4,430	4,870	4,630	-----	-----	1,710	1,650	1,590	2,100
11	4,670	4,430	4,750	4,630	-----	-----	1,770	1,650	1,650	2,170
12	4,670	4,430	4,630	4,630	-----	-----	1,770	1,650	1,590	2,100
13	4,670	4,430	4,510	4,630	-----	-----	1,770	1,650	1,590	2,170
14	4,550	4,430	4,510	4,510	-----	-----	1,710	1,590	1,650	2,240
15	4,550	4,550	4,630	4,510	-----	-----	1,710	1,690	1,710	2,240
16	4,430	4,550	4,630	4,510	-----	2,170	1,710	1,590	1,710	2,240
17	4,550	4,550	4,750	4,510	-----	2,030	1,710	1,590	1,770	2,310
18	4,430	4,550	4,630	4,510	-----	1,960	1,770	1,530	1,770	2,390
19	4,430	4,550	4,630	4,510	-----	1,890	1,710	1,630	1,770	2,310
20	4,550	4,430	4,750	4,510	-----	1,890	1,710	1,630	1,830	2,310
21	4,550	4,430	4,870	4,390	-----	1,960	1,770	1,530	1,830	2,310
22	4,550	4,430	4,870	4,390	-----	1,890	1,770	1,470	1,830	2,310
23	4,430	4,430	4,750	4,390	-----	1,890	1,710	1,530	1,890	2,390
24	4,550	4,430	4,630	4,390	-----	1,890	1,710	1,590	1,890	2,390
25	4,550	4,550	4,630	4,390	-----	1,890	1,710	1,530	1,960	2,480
26	4,550	4,670	4,630	4,630	-----	1,890	1,710	1,530	1,960	2,570
27	4,430	4,550	4,630	4,990	-----	1,890	1,710	1,690	2,030	2,570
28	4,430	4,430	4,630	6,680	-----	1,890	1,770	1,690	2,030	2,570
29	4,430	4,430	4,630	10,600	-----	1,830	1,770	1,690	2,030	2,570
30	4,430	4,430	4,510	10,200	-----	1,890	1,770	1,690	2,030	2,660
31	4,310	-----	4,630	7,550	-----	1,890	-----	1,690	2,030	-----

Monthly discharge of Sacramento River at Colusa, Calif., for the year ending September 30, 1923

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	5,270	4,190	4,560	280,000
November	4,670	4,310	4,470	266,000
December	5,030	4,430	4,650	266,000
January	10,600	4,390	5,080	312,000
February 1-7	8,800	6,190	7,300	101,000
May 16-31	2,170	1,830	1,920	60,900
June	1,890	1,650	1,720	102,000
July	1,770	1,470	1,620	99,600
August	2,030	1,470	1,750	108,000
September	2,660	1,890	2,250	134,000

SACRAMENTO RIVER AT KNIGHTS LANDING, CALIF.

LOCATION.—At Southern Pacific Railroad bridge at Knights Landing, Yolo County.

RECORDS AVAILABLE.—April 1 to October 31, 1921; June 17 to November 7, 1922; June 17, 1923, to February 7, 1924; and May 15 to September 30, 1924.

GAGE.—Water-stage recorder on middle pier of bridge.

DISCHARGE MEASUREMENTS.—Made from boat about 500 feet above gage.

CHANNEL AND CONTROL.—Shifting sand; control is cross section and slope of channel.

DIVERSIONS.—Considerable water is diverted for irrigation from main stream and tributaries above station.

REGULATION.—See preceding paragraph.

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table except December 21-26 and May 15 to September 30 for which shifting-control method was used. Records good.

Discharge measurements of Sacramento River at Knights Landing, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 3.	16.58	4,870	Jan. 17.	16.50	4,810	July 16.	10.13	982
Oct. 11.	16.77	4,880	Jan. 25.	16.28	4,710	July 23.	10.16	964
Oct. 19.	16.32	4,590	Feb. 2.	16.88	6,970	Do.	10.12	915
Oct. 27.	16.39	4,560	May 15.	12.60	1,600	July 30.	10.33	1,070
Nov. 4.	16.20	4,430	May 21.	11.84	1,840	Do.	10.34	1,070
Nov. 12.	16.22	4,500	May 28.	11.74	1,760	Aug. 7.	10.67	1,260
Nov. 20.	16.10	4,480	June 6.	11.08	1,370	Aug. 13.	10.81	1,250
Nov. 28.	16.16	4,610	June 13.	11.05	1,500	Aug. 20.	11.03	1,520
Dec. 6.	16.23	4,490	June 18.	11.09	1,590	Aug. 27.	11.94	2,010
Dec. 12.	16.56	4,870	Do.	11.11	1,540	Sept. 3.	11.62	1,800
Dec. 20.	16.76	4,930	July 25.	10.61	1,250	Sept. 10.	12.18	2,150
Dec. 27.	16.50	4,880	July 2.	10.31	1,090	Sept. 17.	12.68	2,360
Jan. 4.	16.45	4,790	July 9.	10.53	1,200	Sept. 24.	13.23	2,650
Jan. 10.	16.58	4,870	Do.	10.54	1,190			

Daily discharge, in second-feet, of Sacramento River at Knights Landing, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	May	June	July	Aug.	Sept.
1.	4,920	4,510	4,510	4,890	7,920		1,550	1,180	1,130	1,920
2.	4,720	4,510	4,580	4,890	6,990		1,450	1,050	1,150	1,820
3.	4,720	4,510	4,580	4,820	6,880		1,400	1,030	1,150	1,820
4.	4,650	4,510	4,580	4,750	8,160		1,400	1,150	1,220	1,870
5.	4,650	4,580	4,510	4,820	8,400		1,350	1,130	1,220	1,920
6.	4,920	4,510	4,510	4,890	7,800		1,350	1,050	1,280	1,990
7.	5,120	4,510	4,580	4,890	7,320		1,400	1,130	1,220	1,920
8.	5,120	4,580	4,650	4,890			1,400	1,180	1,200	2,040
9.	5,050	4,510	4,920	4,890			1,350	1,180	1,180	2,090
10.	4,980	4,510	4,980	4,890			1,280	1,150	1,150	2,140
11.	4,920	4,510	4,850	4,890			1,250	1,150	1,200	2,090
12.	4,850	4,510	4,780	4,960			1,400	1,100	1,220	2,140
13.	4,850	4,450	4,720	4,890			1,500	1,100	1,200	2,200
14.	4,780	4,510	4,780	4,890			1,450	1,200	1,200	2,260
15.	4,720	4,510	4,850	4,820		1,700	1,450	1,130	1,250	2,320
16.	4,650	4,580	4,920	4,820		1,870	1,500	982	1,320	2,320
17.	4,720	4,580	4,920	4,820		1,870	1,500	958	1,400	2,350
18.	4,650	4,580	4,850	4,820		1,870	1,550	1,030	1,450	2,440
19.	4,680	4,580	4,920	4,820		1,820	1,600	1,100	1,450	2,500
20.	4,580	4,450	4,920	4,820		1,700	1,550	1,130	1,500	2,500
21.	4,580	4,510	4,920	4,750		1,850	1,500	1,150	1,600	2,560
22.	4,580	4,510	4,980	4,750		1,650	1,500	1,100	1,700	2,620
23.	4,580	4,510	4,980	4,680		1,650	1,400	982	1,870	2,620
24.	4,510	4,510	4,920	4,680		1,700	1,280	1,050	1,960	2,680
25.	4,580	4,510	4,850	4,680		1,760	1,200	1,100	2,040	2,680
26.	4,650	4,510	4,850	4,750		1,760	1,300	1,080	2,090	2,740
27.	4,650	4,450	4,820	5,030		1,760	1,280	1,050	1,980	2,800
28.	4,580	4,450	4,820	5,690		1,760	1,200	1,100	1,870	2,740
29.	4,510	4,450	4,890	7,800		1,760	1,200	1,080	2,040	2,680
30.	4,510	4,510	4,890	10,200		1,650	1,220	1,050	2,040	2,620
31.	4,510		4,820	9,480		1,650		1,080	1,980	

Monthly discharge of Sacramento River at Knights Landing, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	5,120	4,510	4,720	290,000
November	4,580	4,450	4,510	268,000
December	4,980	4,510	4,800	295,000
January	10,200	4,680	5,280	325,000
February 1-7	8,400	6,880	7,640	106,000
May 15-31	1,870	1,650	1,740	58,700
June	1,600	1,200	1,390	82,700
July	1,200	958	1,090	67,000
August	2,090	1,130	1,490	91,600
September	2,800	1,820	2,310	137,000

PIT RIVER BASIN

PIT RIVER NEAR BIEBER, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 34, T. 37 N., R. 7 E., 1 mile below dam site of proposed Big Valley Reservoir, at head of Muck Valley, and 8 miles south of Bieber, Lassen County.

DRAINAGE AREA.—2,950 square miles, not including drainage area of Goose Lake.

RECORDS AVAILABLE.—1904–1908, 1913–1914, and September 12, 1921, to September 30, 1924.

GAGE.—Inclined staff gage in three sections on right bank at same datum as original gage.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Boulders and solid rock; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5 feet February 11–14 (discharge, 1,160 second-feet); no flow June 28 to September 30, 1904–1908; 1913–1914; and 1921–1924: Maximum stage recorded, 16.4 feet March 19, 1907 (discharge, 27,500 second-feet); no flow September 9–24, 1923, and June 28 to September 30, 1924.

DIVERSIONS.—There are numerous irrigation diversions between Bieber and Alturas and along South Fork of Pit River.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Staff gage read to half-tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records good.

The following discharge measurements were made:

October 13, 1923: Gage height, 2.56 feet; discharge, 48 second-feet.

April 21, 1924: Gage height, 2.76 feet; discharge, 68 second-feet.

Daily discharge, in second-feet, of Pit River near Bieber, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5	41	77	250	580	155	65	12	45
2	6	37	77	250	520	155	77	10	45
3	6	41	84	250	470	155	110	10	45
4	14	45	84	250	470	155	215	10	37
5	45	45	92	250	470	155	215	10	29
6	50	50	92	250	470	155	215	10	26
7	45	55	110	232	580	155	215	14	23
8	45	55	110	215	675	155	215	18	23
9	45	60	110	215	850	155	215	18	18
10	45	65	110	215	1,000	155	185	20	14
11	45	65	110	215	1,160	155	185	23	10
12	45	65	130	185	1,160	155	185	23	7
13	51	65	130	185	1,160	130	155	23	5
14	55	71	130	155	1,160	110	155	23	4.0
15	55	71	130	155	1,080	92	155	20	3.0
16	55	71	155	130	1,000	84	130	18	3.0
17	55	71	155	130	980	71	110	18	2.2
18	55	71	155	130	850	60	110	18	2.2
19	55	71	155	110	745	55	92	18	2.2
20	60	71	185	110	710	55	77	14	1.5
21	65	71	215	110	640	55	71	14	1.5
22	65	77	250	110	580	55	55	14	1.5
23	65	84	268	110	470	55	45	14	1.0
24	65	92	250	110	370	60	29	14	1.0
25	65	92	250	130	325	71	23	12	1.0
26	65	92	250	142	285	77	18	10	.5
27	65	92	250	155	215	84	12	8.5	.5
28	60	92	250	325	185	84	12	7	-----
29	55	84	250	470	155	84	12	7	-----
30	50	77	250	710	-----	84	12	7	-----
31	50	-----	250	710	-----	84	-----	7	-----

NOTE.—No flow June 28 to Sept. 30.

Monthly discharge of Pit River near Bieber, Calif., for the year ending September 30 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	65	5	48.6	2,990
November.....	92	37	68.0	4,050
December.....	268	77	165	10,100
January.....	710	110	225	13,800
February.....	1,160	155	665	38,200
March.....	155	55	107	6,590
April.....	215	12	112	6,660
May.....	23	7	14.3	879
June.....	45	0	11.7	696
The year.....	1,160	0	116	84,100

NOTE.—No flow during July, August, and September.

PIT RIVER AT FALL RIVER MILLS, CALIF.

LOCATION.—In sec. 6, T. 36 N., R. 5 E., three-fourths mile below mouth of Fall River and town of Fall River Mills, Shasta County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 12, 1921, to September 30, 1924; not complete for 1923.

GAGE.—Water-stage recorder on right bank. From March 12, 1921, to October 22, 1922, gage was located three-fourths mile upstream, 300 feet below junction of Fall and Pit Rivers.

DISCHARGE MEASUREMENTS.—Made from cables 300 feet and three-fourths mile, above gage, or from footbridge 500 feet below gage.

CHANNEL AND CONTROL.—Lava rock and boulders; control partly overgrown with willows.

EXTREMES OF DISCHARGE.—Maximum stage during year, estimated about 3.15 feet at 10 a. m. February 8 (discharge, 1,730 second-feet); minimum stage recorded, 0.26 foot at 9 a. m. June 11 (discharge, 44 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—There are many irrigation diversions above gage, and beginning October 23, 1922, Mount Shasta Power Corporation has diverted practically entire flow of Fall River.

REGULATION.—Diversions, including those of Mount Shasta Power Corporation and McArthur, affect flow considerably.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record and results of most of the discharge measurements furnished by Mount Shasta Power Corporation.

Discharge measurements of Pit River at Fall River Mills, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 15.....	0.85	105	Jan. 15.....	0.85	129	Feb. 21.....	1.51	344
Oct. 16.....	.91	115	Jan. 24.....	.85	131	Apr. 18.....	1.43	308
Oct. 22.....	1.21	223	Feb. 1.....	1.90	549	June 28.....	.81	106
Oct. 24.....	1.26	236	Feb. 3.....	2.06	629	July 10.....	.33	50
Nov. 5.....	.70	95	Feb. 8.....	2.75	1,300	Aug. 25.....	.61	85
Dec. 28.....	1.06	176	Feb. 11.....	2.42	982			

PIT RIVER BASIN

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Daily discharge, in second-feet, of Pit River at Fall River Mills, Calif., for the year ending September 30, 1924.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	65	132	152	147	520	244	174	150	132	97	88	107
2.....	65	120	188	134	604	244	177	110	126	88	109	126
3.....	77	100	216	137	572	252	210	110	188	82	97	160
4.....	109	95	213	137	566	255	275	104	250	90	104	92
5.....	110	95	210	137	560	255	295	244	275	124	104	105
6.....	120	97	213	142	566	248	315	174	263	174	140	134
7.....	134	100	227	147	667	230	366	110	259	114	177	160
8.....	134	109	238	150	1,500	220	376	104	244	88	98	168
9.....	134	112	206	147	1,500	252	358	163	202	74	95	168
10.....	132	118	165	142	1,220	255	331	213	199	50	116	182
11.....	122	118	171	134	940	255	340	126	238	52	163	177
12.....	128	114	199	128	910	255	287	130	244	157	122	199
13.....	130	114	216	128	810	248	311	86	216	179	100	234
14.....	126	120	216	126	681	241	410	114	196	163	94	210
15.....	126	124	216	126	590	227	455	130	154	105	137	147
16.....	134	124	234	128	510	174	500	168	132	109	118	79
17.....	152	124	227	124	470	150	470	196	137	154	109	63
18.....	179	126	244	128	425	126	295	165	134	154	150	68
19.....	132	124	252	122	385	128	241	188	124	157	188	77
20.....	130	124	244	120	358	144	323	199	134	179	168	109
21.....	140	126	230	122	331	142	188	122	165	177	112	104
22.....	213	174	213	120	303	137	227	110	234	160	94	90
23.....	241	185	196	122	283	137	196	179	163	137	86	86
24.....	248	267	220	122	319	147	216	192	122	128	84	107
25.....	248	224	224	128	311	157	263	182	144	105	82	128
26.....	252	234	220	134	307	160	275	216	165	104	83	157
27.....	252	224	182	150	283	168	263	220	132	104	90	227
28.....	252	216	185	192	259	182	243	109	130	120	88	124
29.....	248	213	216	303	255	182	227	80	174	144	122	95
30.....	213	182	185	319	-----	182	206	90	144	124	160	98
31.....	157	-----	177	455	-----	177	-----	100	-----	97	107	-----

Monthly discharge of Pit River at Fall River Mills, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	252	65	158	9,720
November.....	267	95	144	8,570
December.....	252	152	210	12,900
January.....	455	120	156	9,590
February.....	1,500	255	586	33,700
March.....	255	126	199	12,200
April.....	500	174	294	17,500
May.....	244	80	145	9,100
June.....	275	122	181	10,800
July.....	179	50	122	7,500
August.....	188	82	116	7,130
September.....	234	63	133	7,910
The year.....	1,500	50	202	147,000

PIT RIVER NEAR PECKS BRIDGE, CALIF.

LOCATION.—In sec. 30, T. 37 N., R. 3 E., $1\frac{1}{2}$ miles below mouth of Burney Creek and 2 miles west of Pecks Bridge, Shasta County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 24, 1922, to August 7, 1924, when the station was discontinued.

GAGE.—Water-stage recorder on right bank.

DISCHARGE MEASUREMENTS.—Made from cable about 200 feet below gage.

CHANNEL AND CONTROL.—One straight channel in canyon, rocky, permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.07 feet at noon February 8 (discharge, 3,690 second-feet); minimum stage, 0.72 foot at 8 p. m. May 24 and 9 a. m. June 5 (discharge, 1,570 second-feet).

1922-1924: Maximum stage, from water-stage recorder, 5.20 feet April 24, 1922 (discharge, 6,930 second-feet); minimum stage, that of May 24 and June 5, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—There are numerous irrigation diversions from Pit River and tributaries above gage.

REGULATION.—Several power plants above gage control flow to some extent.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record and results of most of the discharge measurements furnished by the Mount Shasta Power Corporation.

Discharge measurements of Pit River near Pecks Bridge, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 8.....	1.12	1,940	Jan. 22.....	1.33	2,020	Mar. 6.....	1.44	2,170
Dec. 21.....	1.46	2,070	Feb. 6.....	1.90	2,660	Apr. 29.....	1.06	1,810
Jan. 10.....	1.48	2,140	Feb. 10.....	2.63	3,160	June 19.....	.86	1,670
Jan. 14.....	1.37	2,140	Feb. 14.....	2.09	2,520	June 27.....	.88	1,700

Daily discharge, in second-feet, of Pit River near Pecks Bridge, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1.....	1,990	2,150	2,070	2,110	2,520	2,150	2,110	1,830	1,670	1,790	1,750
2.....	2,070	2,150	2,110	2,070	2,610	2,190	2,110	1,830	1,670	1,750	1,790
3.....	2,110	2,070	2,110	2,110	2,610	2,190	2,150	1,790	1,600	1,710	1,710
4.....	2,110	2,110	2,110	2,110	2,520	2,190	2,190	1,710	1,630	1,710	1,670
5.....	2,070	2,070	2,110	2,030	2,520	2,150	2,270	1,750	1,670	1,710	1,670
6.....	2,070	2,070	2,110	2,030	2,520	2,150	2,270	1,790	1,630	1,830	1,670
7.....	2,150	2,110	2,150	2,070	2,790	2,150	2,270	1,710	1,670	1,790	1,790
8.....	2,190	2,070	2,190	2,150	3,490	2,150	2,270	1,710	1,710	1,750	-----
9.....	2,150	2,070	2,190	2,110	3,270	2,190	2,190	1,750	1,710	1,750	-----
10.....	2,150	2,070	2,110	2,070	3,170	2,150	2,030	1,830	1,670	1,750	-----
11.....	2,110	2,030	2,030	2,070	2,970	2,150	2,030	1,750	1,710	1,750	-----
12.....	2,150	2,110	2,070	2,070	2,970	2,150	1,990	1,750	1,710	1,790	-----
13.....	2,110	2,150	2,110	2,030	2,880	2,150	1,870	1,830	1,710	1,750	-----
14.....	2,150	2,110	2,150	2,110	2,700	2,150	2,030	1,790	1,710	1,750	-----
15.....	2,070	2,110	2,150	2,070	2,610	2,150	2,110	1,750	1,710	1,710	-----
16.....	2,110	2,150	2,150	2,070	2,520	2,110	2,110	1,710	1,670	1,670	-----
17.....	2,150	2,070	2,150	2,070	2,520	2,070	2,270	1,750	1,670	1,710	-----
18.....	2,110	2,070	2,190	2,070	2,430	2,070	1,990	1,750	1,670	1,710	-----
19.....	2,110	2,070	2,190	2,030	2,430	1,990	1,830	1,710	1,670	1,710	-----
20.....	2,070	2,110	2,190	2,030	2,350	2,030	2,070	1,750	1,710	1,750	-----
21.....	2,110	2,070	2,150	2,070	2,270	2,070	2,030	1,790	1,710	1,750	-----
22.....	2,110	2,150	2,150	2,070	2,270	2,070	1,990	1,750	1,830	1,750	-----
23.....	2,150	2,190	2,150	2,070	2,190	2,110	1,990	1,710	1,790	1,750	-----
24.....	2,150	2,190	2,150	2,070	2,270	2,150	1,830	1,710	1,710	1,750	-----
25.....	2,150	2,070	2,190	2,070	2,150	2,110	1,830	1,630	1,710	1,750	-----
26.....	2,150	2,190	2,190	2,150	2,190	2,110	1,950	1,630	1,750	1,710	-----
27.....	2,110	2,150	2,110	2,150	2,190	2,110	1,870	1,750	1,710	1,710	-----
28.....	2,150	2,150	2,110	2,190	2,190	2,150	1,870	1,670	1,670	1,710	-----
29.....	2,110	2,150	2,110	2,190	2,150	2,110	1,790	1,670	1,750	1,750	-----
30.....	2,110	2,110	2,110	2,270	-----	2,110	1,830	1,630	1,830	1,790	-----
31.....	2,070	-----	2,110	2,350	-----	2,110	-----	1,630	-----	1,750	-----

Monthly discharge of Pit River near Pecks Bridge, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2, 190	1, 990	2, 120	130, 000
November.....	2, 190	2, 030	2, 110	126, 000
December.....	2, 190	2, 030	2, 130	131, 000
January.....	2, 350	2, 030	2, 100	129, 000
February.....	3, 490	2, 150	2, 560	147, 000
March.....	2, 190	1, 990	2, 130	131, 000
April.....	2, 270	1, 790	2, 040	121, 000
May.....	1, 830	1, 630	1, 740	107, 000
June.....	1, 830	1, 600	1, 700	101, 000
July.....	1, 830	1, 670	1, 740	107, 000
August 1-7.....	1, 790	1, 670	1, 720	23, 900
The period.....				1, 250, 000

PIT RIVER AT LINDSAY FLAT, CALIF.

LOCATION.—In sec. 9, T. 36 N., R. 2 E., Shasta County, half a mile above Lindsay Flat, 3 miles below Rock Creek, and 11 miles below Pecks Bridge.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder on right bank, one-fourth mile above Pit No. 3 power house.

DISCHARGE MEASUREMENTS.—Made from cable about 250 feet below gage.

CHANNEL AND CONTROL.—Rough, rocky, strewn with boulders; practically permanent. One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.80 feet at 1 p. m. February 8 (discharge, 3,840 second-feet); minimum stage 4.85 feet at 11 a. m. August 15 (discharge, 1,560 second-feet).

1923-24: Maximum stage, 7.09 feet at 5 p. m. January 17, 1923 (discharge, 4,320 second-feet); minimum stage, 4.44 feet at 3 p. m. July 1, 1923 (discharge, 1,310 second-feet), due to power regulation above.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—There are numerous irrigation diversions from Pit River and tributaries above gage.

REGULATION.—Several power plants above gage control flow to some extent.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 3,000 second-feet and fairly well defined above. Daily discharge ascertained by applying mean daily gage height to rating table except November 4-28, for which it was estimated by comparison with records for other Pit River stations. Records excellent.

COOPERATION.—Gage-height record and results of measurements furnished by Mount Shasta Power Corporation.

Discharge measurements of Pit River at Lindsay Flat, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 6.....	5.44	1, 950	Jan. 22.....	5.45	2, 060	Mar. 6.....	5.55	2, 130
Dec. 4.....	5.53	2, 070	Feb. 6.....	5.92	2, 530	June 27.....	5.14	1, 730
Jan. 1.....	5.47	1, 990	Feb. 9.....	6.53	3, 250	Sept. 29.....	5.18	1, 860

Daily discharge, in second-feet, of Pit River at Lindsay Flat, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,960	2,050	2,050	2,050	2,440	2,150	2,100	1,880	1,800	1,800	1,760	1,730
2.....	2,000	2,100	2,050	2,000	2,580	2,150	2,050	1,920	1,800	1,760	1,800	1,730
3.....	2,000	2,050	2,100	2,050	2,580	2,200	2,100	1,880	1,760	1,760	1,730	1,800
4.....	2,050	2,100	2,100	2,050	2,510	2,150	2,150	1,800	1,800	1,730	1,700	1,760
5.....	2,050	2,050	2,100	1,960	2,440	2,100	2,200	1,800	1,800	1,730	1,700	1,760
6.....	2,000	2,050	2,100	2,000	2,510	2,150	2,200	1,880	1,760	1,800	1,700	1,730
7.....	2,050	2,100	2,150	2,050	2,780	2,150	2,260	1,800	1,800	1,800	1,760	1,730
8.....	2,100	2,050	2,150	2,100	3,680	2,150	2,320	1,760	1,800	1,760	1,760	1,760
9.....	2,050	2,050	2,150	2,100	3,520	2,150	2,150	1,800	1,760	1,760	1,730	1,760
10.....	2,100	2,050	2,100	2,050	3,370	2,150	2,050	1,880	1,760	1,760	1,700	1,760
11.....	2,050	2,000	2,000	2,000	3,140	2,150	2,000	1,800	1,760	1,760	1,730	1,760
12.....	2,100	2,050	2,000	2,000	3,070	2,100	1,960	1,800	1,800	1,800	1,760	1,730
13.....	2,050	2,100	2,100	2,000	3,000	2,150	1,880	1,880	1,800	1,760	1,730	1,760
14.....	2,050	2,100	2,100	2,100	2,780	2,150	2,000	1,840	1,800	1,760	1,730	1,800
15.....	2,000	2,100	2,100	2,000	2,640	2,150	2,100	1,840	1,800	1,730	1,700	1,840
16.....	2,000	2,100	2,100	2,000	2,510	2,100	2,050	1,800	1,760	1,700	1,730	1,800
17.....	2,050	2,050	2,100	2,000	2,440	2,050	2,320	1,840	1,760	1,730	1,730	1,800
18.....	2,050	2,050	2,150	2,000	2,380	2,050	2,050	1,800	1,800	1,730	1,730	1,760
19.....	2,050	2,050	2,150	2,000	2,320	2,000	1,840	1,800	1,760	1,730	1,800	1,760
20.....	2,050	2,100	2,150	2,000	2,260	2,000	2,000	1,800	1,760	1,760	1,800	1,760
21.....	2,050	2,050	2,100	2,000	2,260	2,050	2,050	1,840	1,760	1,760	1,800	1,800
22.....	2,050	2,100	2,100	2,000	2,200	2,050	1,960	1,800	1,840	1,760	1,760	1,760
23.....	2,100	2,150	2,100	2,000	2,150	2,050	2,000	1,760	1,840	1,760	1,760	1,760
24.....	2,050	2,150	2,100	2,000	2,200	2,100	1,880	1,800	1,800	1,760	1,760	1,760
25.....	2,050	2,100	2,100	2,000	2,150	2,100	1,880	1,760	1,760	1,760	1,760	1,730
26.....	2,050	2,150	2,100	2,050	2,200	2,100	1,920	1,760	1,800	1,760	1,760	1,730
27.....	2,050	2,100	2,050	2,100	2,200	2,100	1,880	1,880	1,760	1,730	1,760	1,840
28.....	2,050	2,100	2,050	2,150	2,200	2,100	1,880	1,800	1,730	1,730	1,730	1,840
29.....	2,000	2,100	2,100	2,150	2,150	2,100	1,880	1,800	1,730	1,760	1,730	1,760
30.....	2,050	2,050	2,050	2,260	-----	2,100	1,880	1,800	1,800	1,760	1,760	1,730
31.....	2,050	-----	2,050	2,320	-----	2,100	-----	1,800	-----	1,730	1,760	-----

Monthly discharge of Pit River at Lindsay Flat, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2,100	1,960	2,040	125,000
November.....	2,150	2,000	2,080	124,000
December.....	2,150	2,000	2,090	129,000
January.....	2,320	1,960	2,050	126,000
February.....	3,680	2,150	2,570	148,000
March.....	2,200	2,000	2,110	130,000
April.....	2,320	1,840	2,080	121,000
May.....	1,920	1,760	1,820	112,000
June.....	1,840	1,730	1,780	106,000
July.....	1,800	1,700	1,750	108,000
August.....	1,800	1,700	1,750	108,000
September.....	1,840	1,730	1,770	105,000
The year	3,680	1,700	1,990	1,440,000

PIT RIVER AT BIG BEND, CALIF.

LOCATION.—In sec. 36, T. 37 N., R. 1 W., at site of former Big Bend Ferry, one-fourth mile above Big Bend post office, formerly Henderson, Shasta County.

Nelson Creek enters half a mile above station and Kosk Creek 1 mile below.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 28, 1910, to September 30, 1924.

GAGE.—Water-stage recorder on left bank 50 feet above old ferry cable.

Datum lowered 7.69 feet June 21, 1924.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet downstream from water-stage recorder.

CHANNEL AND CONTROL.—Rough; boulders and coarse gravel; fairly permanent.

One channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.65 feet at 6 p. m. February 8 (discharge, 4,200 second-feet); minimum stage, 7.70 feet (new datum) at 3.30 p. m. August 14 (discharge, 1,570 second-feet, regulated by power plant above).

1910-1924: Maximum stage, 5.39 feet at 8 p. m. April 25, 1917 (discharge, 13,600 second-feet); minimum stage, -0.15 foot at 4 p. m. July 1, 1923 (discharge, 1,420 second-feet, flow regulated).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Considerable water is diverted for irrigation in Fall River and Hat Creek Valleys. See Pit River near Bieber.

REGULATION.—Plants of Mount Shasta Power Corporation affect flow during low water.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Water-stage recorder record fair March 16 to May 5 as clock stopped frequently; excellent October 1 to March 15 and June 21 to September 30. Staff gage read twice daily to hundredths May 6 to June 20. Daily discharge ascertained by applying mean daily gage height to rating table or by interpolating for days when recorder clock stopped. Records good.

The following discharge measurements were made:

October 5, 1923: Gage height, 0.36 foot; discharge, 2,000 second-feet.

June 21, 1924: Gage height, 7.89 feet; discharge, 1,800 second-feet.

Daily discharge, in second-feet, of Pit River at Big Bend, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2, 140	2, 210	2, 210	2, 210	2, 660	2, 280	2, 210	1, 930	1, 860	1, 860	1, 860	1, 800
2.....	2, 210	2, 280	2, 210	2, 140	2, 740	2, 350	2, 210	1, 930	1, 800	1, 860	1, 860	1, 800
3.....	2, 210	2, 210	2, 280	2, 210	2, 700	2, 350	2, 280	1, 930	1, 800	1, 860	1, 860	1, 930
4.....	2, 210	2, 210	2, 280	2, 140	2, 660	2, 280	2, 350	1, 930	1, 800	1, 800	1, 740	1, 860
5.....	2, 210	2, 140	2, 280	2, 140	2, 580	2, 280	2, 350	1, 930	1, 800	1, 800	1, 800	1, 930
6.....	2, 210	2, 140	2, 280	2, 140	2, 740	2, 280	2, 350	1, 930	1, 800	1, 930	1, 740	1, 860
7.....	2, 210	2, 140	2, 350	2, 210	3, 060	2, 280	2, 420	1, 860	1, 800	1, 930	1, 860	1, 860
8.....	2, 210	2, 140	2, 350	2, 210	4, 000	2, 280	2, 500	1, 800	1, 800	1, 860	1, 860	1, 930
9.....	2, 210	2, 140	2, 420	2, 210	3, 700	2, 280	2, 280	1, 800	1, 800	1, 860	1, 800	1, 930
10.....	2, 210	2, 070	2, 210	2, 210	3, 660	2, 280	2, 140	1, 930	1, 740	1, 860	1, 740	1, 930
11.....	2, 210	2, 070	2, 210	2, 140	3, 420	2, 280	2, 140	1, 860	1, 800	1, 860	1, 800	1, 930
12.....	2, 210	2, 210	2, 140	2, 210	3, 240	2, 280	2, 140	1, 800	1, 800	1, 930	1, 860	1, 860
13.....	2, 140	2, 210	2, 210	2, 140	3, 150	2, 280	2, 000	1, 930	1, 800	1, 860	1, 860	1, 930
14.....	2, 210	2, 210	2, 280	2, 210	2, 980	2, 280	2, 140	1, 930	1, 800	1, 860	1, 800	2, 000
15.....	2, 210	2, 210	2, 280	2, 140	2, 820	2, 280	2, 070	1, 860	1, 800	1, 860	1, 800	2, 000
16.....	2, 210	2, 280	2, 280	2, 140	2, 740	2, 280	2, 280	1, 800	1, 800	1, 740	1, 860	1, 930
17.....	2, 210	2, 210	2, 280	2, 140	2, 660	2, 210	2, 210	1, 860	1, 800	1, 860	1, 800	1, 930
18.....	2, 210	2, 210	2, 280	2, 140	2, 580	2, 210	2, 140	1, 860	1, 800	1, 860	1, 800	1, 930
19.....	2, 210	2, 210	2, 280	2, 140	2, 580	2, 140	1, 930	1, 800	1, 800	1, 800	1, 930	1, 860
20.....	2, 140	2, 210	2, 280	2, 140	2, 420	2, 140	2, 070	1, 800	1, 800	1, 860	1, 860	1, 930
21.....	2, 140	2, 210	2, 210	2, 140	2, 420	2, 210	2, 140	1, 860	1, 800	1, 860	1, 930	1, 930
22.....	2, 140	2, 210	2, 210	2, 140	2, 420	2, 210	2, 070	1, 800	1, 860	1, 860	1, 860	1, 930
23.....	2, 210	2, 350	2, 280	2, 140	2, 350	2, 210	1, 930	1, 800	1, 860	1, 860	1, 860	1, 930
24.....	2, 140	2, 280	2, 210	2, 140	2, 420	2, 210	1, 930	1, 800	1, 860	1, 860	1, 860	1, 860
25.....	2, 210	2, 210	2, 280	2, 140	2, 280	2, 210	2, 000	1, 800	1, 800	1, 860	1, 860	1, 800
26.....	2, 210	2, 280	2, 280	2, 210	2, 350	2, 210	2, 070	1, 800	1, 860	1, 860	1, 860	1, 860
27.....	2, 210	2, 210	2, 210	2, 280	2, 350	2, 210	1, 930	1, 930	1, 800	1, 800	1, 860	1, 930
28.....	2, 210	2, 280	2, 210	2, 350	2, 350	2, 280	1, 930	1, 800	1, 740	1, 800	1, 800	2, 000
29.....	2, 140	2, 210	2, 210	2, 350	2, 280	2, 210	1, 930	1, 800	1, 800	1, 860	1, 800	1, 930
30.....	2, 210	2, 210	2, 210	2, 420	-----	2, 210	1, 930	1, 800	1, 930	1, 860	1, 860	1, 800
31.....	2, 210	-----	2, 210	2, 500	-----	2, 210	-----	1, 800	-----	1, 800	1, 860	-----

Monthly discharge of Pit River at Big Bend, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2,210	2,140	2,190	135,000
November.....	2,350	2,070	2,210	131,000
December.....	2,420	2,140	2,280	139,000
January.....	2,500	2,140	2,200	135,000
February.....	4,000	2,280	2,770	159,000
March.....	2,350	2,140	2,250	138,000
April.....	2,500	1,930	2,140	127,000
May.....	1,930	1,800	1,850	114,000
June.....	1,930	1,740	1,810	108,000
July.....	1,930	1,740	1,850	114,000
August.....	1,930	1,740	1,840	113,000
September.....	2,000	1,800	1,900	113,000
The year.....	4,000	1,740	2,100	1,530,000

PIT RIVER NEAR YDALPOM, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 32, T. 34 N., R. 3 W., at Silverthorne Ferry, $1\frac{1}{2}$ miles southwest of Ydalpom, Shasta County, and $7\frac{1}{2}$ miles above junction with Sacramento River. Squaw Creek enters half a mile above station and McCloud River 4 miles below.

DRAINAGE AREA.⁷—5,260 square miles, not including drainage area of Goose Lake.

RECORDS AVAILABLE.—November 16, 1910, to September 30, 1923, and May 1 to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and house on left bank about 100 feet above ferry. Prior to 1924 record was referred to a staff gage about 350 feet below ferry. Control is same for both gages.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet above ferry cable.

CHANNEL AND CONTROL.—Rock and gravel, practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year probably occurred during period of no record; minimum stage from water-stage recorder, 4.38 feet at 8 p. m. August 15 (discharge, 1,690 second-feet).

1910-1924: Maximum discharge recorded, about 47,000 second-feet December 31, 1913; minimum stage that of August 15, 1924.

DIVERSIONS.—See Pit River at Henderson.

REGULATION.—See Pit River at Henderson.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve very well defined. Water-stage recorder operated satisfactorily May 4 to September 30. Daily discharge ascertained by applying mean daily gage height to rating table, except for the period May 1-3, for which it was estimated. Records excellent.

Discharge measurements of Pit River near Ydalpom, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4.....	2.84	2,740	Apr. 27.....	2.39	2,200	June 27.....	4.63	2,000
Jan. 24.....	2.51	2,350	May 9.....	4.66	2,000			
Mar. 8.....	2.69	2,500	June 20.....	4.59	1,860			

⁷ See drainage area of Sacramento River near Red Bluff.

Daily discharge, in second-feet, of Pit River near Ydalpom, Calif., for the year ending September 30, 1924

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1-----	2,010	1,960	2,010	1,900	1,900	16-----	2,010	1,900	1,840	1,900	2,010
2-----	2,010	1,960	1,960	1,960	1,900	17-----	2,010	1,900	1,840	1,840	1,960
3-----	2,010	1,900	1,960	1,960	1,900	18-----	1,960	1,900	1,900	1,900	1,960
4-----	2,010	1,960	1,900	1,840	1,960	19-----	2,010	1,900	1,900	1,960	1,900
5-----	1,960	1,900	1,900	1,840	1,960	20-----	1,960	1,900	1,900	2,010	1,900
6-----	2,070	1,900	1,960	1,840	1,900	21-----	2,010	1,900	1,900	1,960	1,900
7-----	2,010	1,900	1,960	1,840	1,900	22-----	2,010	1,960	1,900	1,960	2,010
8-----	1,960	1,960	1,960	1,960	1,900	23-----	1,960	2,010	1,900	1,960	1,900
9-----	1,960	1,900	1,960	1,900	1,960	24-----	1,960	1,960	1,900	1,900	1,960
10-----	2,070	1,900	1,900	1,840	1,900	25-----	1,960	1,900	1,900	1,900	1,900
11-----	2,070	1,900	1,960	1,790	1,960	26-----	1,960	1,960	1,900	1,960	1,900
12-----	1,960	1,960	1,960	1,900	1,900	27-----	2,010	1,900	1,900	1,960	1,960
13-----	2,070	1,900	1,960	1,900	1,960	28-----	2,010	1,840	1,840	1,840	2,070
14-----	2,070	1,900	1,900	1,840	1,960	29-----	1,960	1,900	1,840	1,840	1,960
15-----	2,070	1,900	1,900	1,840	2,010	30-----	1,960	1,960	1,960	1,960	1,900
						31-----	1,960	-----	1,900	1,900	-----

Monthly discharge of Pit River near Ydalpom, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May-----	2,070	1,960	2,000	123,000
June-----	2,010	1,840	1,920	114,000
July-----	2,010	1,840	1,920	118,000
August-----	2,010	1,790	1,900	117,000
September-----	2,070	1,900	1,940	115,000
The period-----	-----	-----	-----	587,000

PINE CREEK NEAR ALTURAS, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 35, T. 42 N., R. 13 E., at Alturas Electric Light & Power Co.'s power house, 6 miles above mouth and 9 miles southeast of Alturas, Modoc County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 27, 1918, to September 30, 1924.

GAGE.—Vertical staff fastened to wall of machine shop on left bank, 30 feet below discharge pipe of power plant; read by power-house operator.

DISCHARGE MEASUREMENTS.—Made by wading or from footbridge above gage.

CHANNEL AND CONTROL.—Large irregular boulders and gravel; rough; permanent. Left bank is a sloping stone wall; right bank slopes gradually. Channel straight above and below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.70 feet at 6.45 p. m. April 5 (discharge, 93 second-feet); minimum stage recorded, 0.70 foot at 6.25 a. m. September 21 (discharge, 3.5 second-feet).

1918–1924: Maximum stage recorded, 3.20 feet at 5 p. m. March 29, 1919, and 5 p. m. December 30, 1920 (discharge, 147 second-feet); minimum stage 0.8 foot at 10.30 a. m. January 5 and 7.30 a. m. January 26, 1919 (discharge, 2.3 second-feet).

DIVERSIONS.—Alturas Electric Light & Power Co.'s canal diverts from Pine Creek but returns water to creek 30 feet above gage.

REGULATION.—Diurnal fluctuation caused by operation of power plant just above gage.

ACCURACY.—Stage-discharge relation changed slightly. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by I. W. Gibbins.

Discharge measurements of Pine Creek near Alturas, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet.</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 12.....	1.43	15	June 23.....	1.43	14	Sept. 28.....	0.80	4.2
Oct. 12.....	1.45	17	Aug. 18.....	1.22	10			
June 23.....	1.41	16	Sept. 21.....	.72	3.6			

Daily discharge, in second-feet, of Pine Creek near Alturas, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	14	14	17	11	14	11	12	39	21	11	6.5	7.5
2.....	14	14	14	11	14	12	13	36	20	11	6.5	6.5
3.....	13	14	15	9	12	14	15	38	21	11	5.5	8.5
4.....	19	12	16	10	13	15	31	39	19	11	7.5	6.5
5.....	13	15	17	11	13	16	58	39	18	12	8.5	6
6.....	49	14	17	10	28	16	32	41	19	11	7.5	6.5
7.....	16	13	17	12	15	14	16	42	18	11	6.5	5.5
8.....	20	14	15	12	55	18	18	42	17	12	6.5	6.5
9.....	17	15	11	12	28	12	17	41	16	10	7	6.5
10.....	15	14	13	11	18	13	20	40	17	8.5	6.5	6.5
11.....	17	11	9	11	12	12	20	42	17	10	7	6.5
12.....	16	15	15	11	13	12	20	44	16	9	9.5	6.5
13.....	14	14	15	10	13	12	18	43	15	8	6.5	6.5
14.....	11	16	13	11	12	12	34	41	20	9	7	9
15.....	14	14	12	11	12	12	20	41	16	8.5	7	6.5
16.....	12	13	11	10	11	12	18	40	15	8	7.5	7
17.....	12	13	13	11	11	12	17	42	15	8	8	6
18.....	11	11	17	11	10	12	17	36	14	9	7	6
19.....	12	14	14	10	11	13	26	40	14	8.5	9.5	5.5
20.....	14	15	16	9.5	12	13	26	38	14	6.5	9	5
21.....	11	12	17	9	12	12	29	37	14	9	7.5	4.7
22.....	14	15	13	9.5	12	13	30	35	10	7.5	6	5.5
23.....	15	14	12	10	13	12	26	32	13	8	7	5.5
24.....	15	20	11	10	12	14	27	35	14	8.5	9.5	6.4
25.....	15	12	12	10	12	13	27	30	13	7	6	6
26.....	13	14	14	11	14	14	27	30	13	8.5	6.5	7.5
27.....	12	14	11	23	13	13	26	29	14	7	9	6.5
28.....	12	14	11	38	13	13	30	27	14	9	9.5	7.5
29.....	17	14	11	36	12	13	30	24	14	9.5	7.5	6.5
30.....	16	16	10	19	-----	11	38	23	12	7.5	6	6.5
31.....	17	-----	14	15	-----	13	-----	22	-----	7	5.5	-----

Monthly discharge of Pine Creek near Alturas, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	49	11	15.5	953
November.....	20	11	14.0	833
December.....	17	9	13.6	836
January.....	38	9	13.1	806
February.....	55	10	15.2	874
March.....	18	11	13.0	799
April.....	58	12	24.6	1,460
May.....	44	22	36.4	2,240
June.....	21	10	15.8	940
July.....	12	6.5	9.08	558
August.....	9.5	5.5	7.31	449
September.....	9	4.7	6.45	384
The year.....	58	4.7	15.3	11,100

BEAR CREEK NEAR DANA, CALIF.

LOCATION.—In sec. 1, T. 38 N., R. 3 E., 2 miles north of Dana, Shasta County, and above all large springs supplying lower Bear Creek and Fall River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 31, 1921, to September 30, 1924.

GAGE.—Inclined and vertical staffs on right bank about 500 feet below C. A. Erickson ranch house.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet below gage.

CHANNEL AND CONTROL.—One straight channel with high banks. Rough, rocky, and practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.60 feet February 8 (discharge, 138 second-feet); minimum stage, dry May 7 to September 30.

1921-1924: Maximum stage recorded, 5.06 feet May 7, 1922 (discharge, 365 second-feet); minimum stage, creek practically dry September 5, 1923, October 3, 1923, and May 7 to September 30, 1924.

ICE.—Stage-discharge relation seriously affected by ice December 11 to January 26.

DIVERSIONS.—Two small irrigation ditches divert above gage, probably not more than 5 second-feet.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve fairly well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying mean daily gage reading to rating table, except during period affected by ice, and February 6 for which it was estimated. Records fair.

COOPERATION.—Gage-height record furnished by Mount Shasta Power Corporation.

No discharge measurements were made in 1924.

Daily discharge, in second-feet, of Bear Creek near Dana, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1.....	0	0.5	1.4		10	2.7	2.2	0.7
2.....	0	.6	1.4		12	2.6	4.2	.6
3.....	0	.6	1.4		19	2.2	6	.6
4.....	1.5	.6	1.4		15	2.0	11	.5
5.....	1.8	.6	1.3		14	1.8	18	.4
6.....	1.4	.6	1.3		16	1.6	21	.3
7.....	1.2	.6	1.3		56	1.5	19	
8.....	1.0	.6	1.2		138	1.4	18	
9.....	.7	.6	1.2		42	1.3	11	
10.....	.6	.7	1.2		40	1.1	8	
11.....	.6	.7			43	1.0	7	
12.....	.5	1.0			51	.9	6	
13.....	.5	1.0			58	.8	4.0	
14.....	.5	1.0		1.0	67	.8	3.7	
15.....	.4	1.0			10	.8	3.6	
16.....	.4	1.0			9.5	.7	3.4	
17.....	.4	1.0			8	.7	3.2	
18.....	.5	1.0			7	.6	2.7	
19.....	.5	1.0			6.5	.6	2.6	
20.....	.5	1.2			6	.6	2.5	
21.....	.6	1.2	1.0		5.5	1.2	2.5	
22.....	.6	1.2			5.5	1.3	2.4	
23.....	.9	1.2			5	1.4	2.2	
24.....	.8	1.2			4.6	1.5	2.1	
25.....	.7	1.3			4.3	1.7	2.0	
26.....	.6	1.3			4.2	2.0	.6	
27.....	.6	1.3		5.5	3.6	2.7	.6	
28.....	.6	1.4		9.5	3.4	2.3	.7	
29.....	.6	1.4		13	3.2	2.1	.8	
30.....	.6	1.4		7.5		1.9	.7	
31.....	.5			8		1.7		

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Bear Creek near Dana, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1.8	0	0.65	40.0
November.....	1.4	.5	.96	57.1
December.....	1.4		1.10	67.6
January.....	13		2.24	133
February.....	138	3.2	23.0	1,320
March.....	2.7	.6	1.47	90.4
April.....	21	.6	5.72	340
May.....	.7	.0	.10	6.1
The year.....	138	0	2.84	2,060

NOTE.—No flow June to September.

McARTHUR DRAINAGE CANAL AT McARTHUR, CALIF.

LOCATION.—At county bridge at McArthur, Shasta County.

RECORDS AVAILABLE.—December 1, 1923, to September 30, 1924.

GAGE.—Staff gage attached to downstream side of right abutment of bridge, about 200 feet above gates controlling canal spillway to Pit River.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Channel has been cut through fine soil. Spillway gates 200 feet below gage control stage-discharge relation.

DIVERSIONS.—The canal diverts from the headwaters of Fall River, one heading at Tule Lake and another at Tule River, and at its lower end spills into Pit River.

It has a very flat gradient and may be used both for irrigation and drainage by manipulation of checks and spillway gates.

REGULATION.—The flow of the canal is entirely regulated by headgates, checks, and spillways.

ACCURACY.—On account of the regulation below gage and moss in the channel stage-discharge relation changes continually. The results of discharge measurement only are published, which due to regulation may not be the mean for the day. Records fair.

COOPERATION.—Results of discharge measurements furnished by Mount Shasta Power Corporation.

The canal is used for irrigation and drainage of lands on the north side of Pit River near McArthur. Below the gage a small amount of water is taken from the canal for irrigation on the south side of Pit River and also about 3 second-feet to supply the local hydroelectric plant.

Discharge measurements, in second-feet, of McArthur drainage canal at McArthur, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	43	29	34	51	41	105	94	80	73	123
2.....		26	35		41	87	80	66	54	80
3.....	40	27		57	62	86	173	72	83	138
4.....	41	27	32	56	47	65	218	67	80	69
5.....	41	26	33	57	42	344		68	87	51
6.....	42			53		95	252	145	106	94
7.....	44	24		25	38	74	230	83	165	130
8.....	43	26	79	17	25	74	191	59	67	147
9.....		26		70	37	106	152	54	71	148
10.....	38	25	51	69	39	227	175	8	77	145
11.....	36	25	47	67	86	102	214	5	158	146
12.....	40	24		66	87	99	199	158	111	197
13.....	39		45	42	111	24	172	162	87	205
14.....	39	25	41	44	306	110	168	150	91	172
15.....	39	26	39	43	311	110	113	99	108	122
16.....		25	38		332		97	105	109	32
17.....	41	24		40	282	109	98	132	93	17
18.....	40	26	36	39	103	152	102	137	157	52
19.....	38	25	35	34	92	147	107	145	161	44
20.....	23		27	37	261	195	118	154	123	85
21.....	18	24	5	38	118	102	121	158	71	71
22.....	18		5	35	93	105	197	148	57	66
23.....		30	4		86	157	136	118	68	63
24.....	21	29	71	40	124	176	92	117	66	88
25.....		31	67	38	164	166	128	77	63	106
26.....	23	29	69	42	186	155	158	88	66	102
27.....	36		57	44	183	205	103	81	73	197
28.....	36	33	64	44	181	77	96	81	77	68
29.....	28	33	51	41	186	62	166	153	125	54
30.....		33			176	98	117	93	142	73
31.....	28	32		39		99		78	67	

MCCLOUD RIVER AT BAIRD, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 23, T. 34 N., R. 4 W., at United States fishery at Baird, Shasta County, 2 miles above junction with Pit River. Bailey Creek enters 2,000 feet above station and John Creek 2,000 feet below.

DRAINAGE AREA.—665 square miles.

RECORDS AVAILABLE.—December 22, 1910, to September 30, 1924.

GAGE.—Staff gage in four sections, two inclined and two vertical, on right bank 600 feet above hatchery; read by employees of United States fishery.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage.

CHANNEL AND CONTROL.—Gravel and cobblestones; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.4 feet at 5 p. m. February 7 (discharge, 6,790 second-feet); minimum stage recorded, 0.82 foot August 29 to September 11 (discharge, 740 second-feet).

1910-1924: Maximum stage recorded, 14.3 feet at noon February 2, 1917 (discharge, 27,600 second-feet); minimum stage, that of August 29 to September 11, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation fairly permanent. Rating curve well defined below 1,500 second-feet and fairly well defined above. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record furnished by W. K. Hancock, superintendent of the United States fishery.

Discharge measurements of McCloud River at Baird, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 4.....	1.43	1,030	Mar. 10.....	1.18	920	June 27.....	0.88	777
Jan. 24.....	1.02	806	June 19.....	.90	778			

Daily discharge, in second-feet, of McCloud River at Baird, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	905	830	860	860	1,090	955	880	855	780	780	760	740
2.....	905	830	860	860	1,220	980	880	855	780	780	760	740
3.....	1,090	830	860	860	1,090	980	880	830	780	780	760	740
4.....	1,000	830	860	860	1,060	955	880	830	780	780	760	740
5.....	930	830	860	860	980	930	905	830	780	780	760	740
6.....	1,030	830	860	860	1,030	930	905	830	780	780	760	740
7.....	980	830	980	860	5,250	930	930	830	780	780	760	740
8.....	955	830	880	880	4,730	930	930	830	780	780	760	740
9.....	930	830	880	860	2,600	930	930	830	780	780	760	740
10.....	930	880	880	860	1,790	930	905	830	805	760	760	740
11.....	930	880	880	860	1,520	930	930	830	805	760	760	740
12.....	955	880	880	860	1,360	930	930	830	780	760	760	760
13.....	930	830	880	830	1,290	930	905	830	780	760	760	760
14.....	930	830	880	830	1,220	930	905	830	780	760	760	760
15.....	930	830	880	830	1,150	905	905	830	780	760	760	760
16.....	980	830	880	830	1,150	905	905	805	780	760	760	760
17.....	980	830	880	830	1,150	880	880	805	780	760	760	760
18.....	980	880	905	830	1,090	880	880	805	780	760	760	760
19.....	1,000	880	930	830	1,060	880	880	805	780	760	760	760
20.....	1,030	880	880	830	1,060	880	880	805	780	760	760	760
21.....	930	780	880	830	1,030	905	880	805	780	760	760	760
22.....	980	880	880	830	1,030	905	880	805	760	760	760	760
23.....	930	880	880	830	1,030	905	880	805	760	760	760	760
24.....	880	880	880	830	1,000	905	880	805	760	760	760	760
25.....	880	880	880	830	980	905	880	805	760	760	760	760
26.....	880	880	880	930	980	830	855	805	760	760	760	760
27.....	880	860	880	1,220	980	905	855	805	760	760	760	760
28.....	880	860	880	1,290	980	930	855	805	760	760	760	760
29.....	880	880	880	1,030	980	905	855	805	760	760	760	760
30.....	880	880	860	980	-----	880	855	805	780	760	740	760
31.....	830	-----	860	955	-----	880	-----	780	-----	760	740	-----

Monthly discharge of McCloud River at Baird, Calif., for the year ending September 30, 1924

[Drainage area, 665 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October.....	1,090	830	940	1.41	1.63	57,800
November.....	880	780	852	1.28	1.43	50,700
December.....	980	860	880	1.32	1.62	54,100
January.....	1,290	840	888	1.34	1.54	54,600
February.....	5,250	980	1,450	2.18	2.35	83,400
March.....	980	880	918	1.38	1.69	56,400
April.....	930	855	890	1.34	1.50	53,000
May.....	855	780	818	1.23	1.42	50,300
June.....	805	760	776	1.17	1.30	46,200
July.....	780	760	766	1.15	1.53	47,100
August.....	760	740	758	1.14	1.31	46,800
September.....	760	740	753	1.13	1.26	44,600
The year.....	5,250	740	888	1.34	18.18	645,000

THOMAS CREEK BASIN

THOMAS CREEK AT PASKENTA, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 4, T. 23 N., R. 6 W., at highway bridge at Paskenta, Tehama County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 2, 1921, to September 30, 1924. Also gage heights October 10, 1920, to January 1, 1921.

GAGE.—Vertical staff attached to upstream end of center pier of highway bridge; read by L. H. Flood.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Gravel and sand; shifts at high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.65 feet at 5 p. m. February 7 (discharge, about 2,270 second-feet); no flow June 25 to September 30.

1921-1924: Maximum stage recorded, 8.9 feet at noon November 18, 1920 (discharge not determined); no flow September 9 and 10, 1921, September 7 to October 3, 1922, and June 25 to September 30, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly February 8. Rating curves fairly well defined. Staff gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record from October 1 to March 31 furnished by W. H. Phillips.

The following discharge measurements were made:

March 7, 1924: Gage height, 2.28 feet; discharge, 39 second-feet.

March 7, 1924: Gage height, 2.28 feet; discharge, 41 second-feet.

April 28, 1924: Gage height, 2.18 feet; discharge, 21 second-feet.

Daily discharge, in second-feet, of Thomas Creek at Paskenta, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	13	13	24	37	448	83	52	30	3.4
2	13	8.5	24	41	580	83	43	30	3.4
3	15	8.5	30	62	580	107	40	35	3.4
4	24	8.5	30	62	500	107	40	35	3.4
5	24	8.5	30	53	369	83	47	35	3.4
6	24	8.5	30	44	245	83	47	30	3.4
7	24	8.5	88	44	1,380	83	47	30	3.4
8	13	13	141	53	1,010	62	47	25	3.4
9	10	13	44	53	425	52	47	25	3.4
10	8.5	13	30	53	245	43	47	25	1.6
11	10	13	30	53	245	27	47	18	1.0
12	13	13	30	53	200	25	47	18	.8
13	17	17	30	53	200	14	47	18	.6
14	17	17	53	53	165	8.5	47	18	.6
15	8.5	24	44	62	165	8.5	47	18	.6
16	8.5	24	37	62	165	18	47	18	.6
17	8.5	24	37	62	165	27	47	18	.8
18	7.5	24	30	62	165	25	47	18	1.6
19	6	24	30	53	209	16	47	18	1.6
20	6	24	30	44	222	22	47	18	.9
21	6	17	30	44	193	30	47	12	.5
22	6	17	30	44	182	35	40	12	.3
23	6	17	30	44	172	40	43	12	.2
24	8.5	17	30	44	165	43	43	8.5	.1
25	8.5	17	30	44	165	58	43	8.5	-----
26	8.5	17	30	58	150	62	43	7.5	-----
27	8.5	17	33	95	135	62	43	7.5	-----
28	8.5	17	37	141	107	52	43	4.9	-----
29	10	24	37	88	107	52	43	4.9	-----
30	13	24	37	88	-----	52	43	3.4	-----
31	13	-----	37	107	-----	52	-----	4.0	-----

NOTE.—No flow June 25 to Sept. 30.

Monthly discharge of Thomas Creek at Paskenta, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	24	6	11.8	726
November.....	24	8.5	16.4	976
December.....	141	24	38.2	2,350
January.....	141	37	59.7	3,670
February.....	1,380	107	312	17,900
March.....	107	8.5	48.9	3,010
April.....	52	40	45.3	2,700
May.....	35	3.4	18.2	1,120
June.....	3.4	0	1.41	83.9
The year.....	1,380	0	44.9	32,500

NOTE.—No flow during July, August, and September.

DEER CREEK BASIN

DEER CREEK NEAR VINA, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 23, T. 25 N., R. 1 W., $2\frac{1}{2}$ miles northeast of Roberts ranch house, $9\frac{1}{2}$ miles northeast of Vina, Tehama County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 17, 1911, to December 31, 1915, and March 9, 1920, to September 30, 1924.

GAGE.—Vertical staff fastened to a sycamore tree on left bank, one-fourth mile above site of old sheep bridge.

DISCHARGE MEASUREMENTS.—Made from cable 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shifts slightly during extremely high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.8 feet February 8 (discharge, 1,900 second-feet); minimum stage recorded, 1.62 feet June 29, 30, and July 1 (discharge, 60 second-feet).

1911–1915; 1920–1924: Maximum stage recorded, 11.0 feet at 3.30 p. m. December 31, 1913 (discharge, 6,920 second-feet); minimum stage, that of June 29, 30, and July 1, 1924.

DIVERSIONS.—No information.

REGULATION.—No information.

ACCURACY.—Stage-discharge relation permanent during the year. Rating curve well defined. Staff gage read about twice a week to hundredths. Daily discharge ascertained by applying daily gage height to rating table or by interpolating for days on which gage was not read. Records fair.

COOPERATION.—Gage-height record furnished by Stanford-Vina Ranch Irrigation Co. through C. W. Wright, irrigation superintendent.

Discharge measurements of Deer Creek near Vina, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	1.90	94	Mar. 11.....	1.92	98	July 1.....	1.67	65
Do.....	1.90	93	Apr. 29.....	1.88	89			

Daily discharge, in second-feet, of Deer Creek near Vina, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	83	89	82	144	238	110	89	69	60	63	64
2	210	83	89	82	144	238	110	88	69	61	63	64
3	153	83	89	82	135	231	122	86	69	62	63	64
4	96	83	89	84	126	224	135	85	69	62	63	64
5	96	83	89	86	126	224	135	85	69	63	63	64
6	92	83	89	89	126	224	130	84	69	63	63	64
7	89	83	94	91	238	211	126	82	68	63	64	64
8	89	83	98	93	1,900	198	168	82	68	63	64	64
9	87	83	103	90	565	174	210	82	68	64	64	64
10	84	83	103	88	300	150	187	81	68	64	64	64
11	82	83	103	86	250	126	164	81	67	64	64	64
12	82	83	101	86	200	135	145	80	66	64	64	64
13	82	84	99	86	175	144	126	80	66	64	64	64
14	82	84	89	85	164	128	126	80	66	64	64	64
15	82	85	89	85	154	112	126	79	65	64	64	64
16	82	84	89	84	149	96	126	77	64	64	64	64
17	82	83	89	83	144	96	126	76	66	64	64	64
18	82	82	92	83	175	96	126	75	68	64	70	64
19	82	82	94	82	206	96	126	73	70	64	75	64
20	82	82	96	82	238	96	126	72	68	64	74	64
21	82	82	93	82	233	96	126	72	66	64	74	65
22	83	82	90	82	228	103	126	72	64	64	71	65
23	83	82	90	82	224	110	118	72	64	64	68	65
24	83	82	89	82	224	110	111	71	64	64	65	65
25	83	82	89	82	228	110	103	71	64	64	65	65
26	83	82	87	126	233	110	100	70	64	63	65	65
27	83	82	84	210	238	110	96	70	63	63	64	65
28	83	84	82	177	238	160	94	70	62	63	64	65
29	83	87	82	144	238	210	92	70	60	63	64	65
30	83	89	82	144	210	210	90	70	60	63	64	65
31	83	82	82	144	210	210	69	69	63	64	64	65

Monthly discharge of Deer Creek near Vina, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	210	82	94.3	5,800
November	89	82	83.2	4,950
December	103	82	91.1	5,600
January	210	82	98.8	6,080
February	1,900	126	267	15,400
March	238	96	154	9,470
April	210	90	127	7,560
May	89	69	77.2	4,750
June	70	60	66.1	3,930
July	64	60	63.3	3,890
August	75	63	65.5	4,030
September	65	64	64.3	3,830
The year	1,900	60	104	75,300

STONY CREEK BASIN

STONY CREEK NEAR STONYFORD, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 35, T. 18 N., R. 7 W., at East Park feed canal diversion dam, $3\frac{1}{2}$ miles west of Stonyford, Colusa County.

DRAINAGE AREA.—97 square miles (measured by United States Bureau of Reclamation).

RECORDS AVAILABLE.—April 1, 1913, to December 31, 1914; November 26, 1918, to December 19, 1920; October 1, 1921, to September 30, 1924.

GAGE.—Water-stage recorder at diversion dam.

DISCHARGE.—Discharge record is sum of flow over diversion dam, flow through fishway, flow diverted by feed canal, and flow over feed canal spillway. Flow over dam and in feed canal computed by weir formulas.

CHANNEL AND CONTROL.—Diversion dam acts as control for the water-stage recorder. A 16-foot weir is control in feed canal. There is a fish ladder in dam and a spillway in feed canal below head gates.

DIVERIONS.—East Park feed canal diverts at the dam and empties into East Park Reservoir.

REGULATION.—None.

COOPERATION.—Daily-discharge record furnished by United States Bureau of Reclamation through R. C. E. Weber, project manager.

Daily discharge, in second-feet, of Stony Creek near Stonyford, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	35	27	29	41	85	41	40	37	21	14	14	14
2.....	35	27	29	33	116	49	48	37	21	14	14	14
3.....	35	27	29	41	77	49	64	34	21	14	14	14
4.....	38	27	29	38	67	40	49	32	21	14	14	14
5.....	38	27	29	37	62	37	42	32	21	14	14	14
6.....	35	27	29	34	80	36	47	32	21	14	14	14
7.....	35	29	40	33	578	36	47	32	18	14	14	14
8.....	35	29	34	33	850	36	47	32	18	14	14	14
9.....	33	32	32	33	326	36	44	32	18	14	14	14
10.....	33	32	32	33	178	34	44	32	18	14	14	14
11.....	30	32	32	33	142	34	43	32	18	14	14	14
12.....	27	32	32	26	108	34	45	32	18	14	14	14
13.....	27	32	32	32	96	33	45	32	18	14	14	14
14.....	27	32	46	31	83	33	45	32	18	14	14	14
15.....	27	32	46	31	66	30	45	34	18	14	14	14
16.....	27	32	43	30	67	32	46	32	18	14	14	14
17.....	27	32	40	32	60	32	46	29	18	14	14	14
18.....	27	32	37	33	61	32	43	27	18	14	14	14
19.....	27	32	34	28	58	32	40	27	18	14	16	14
20.....	27	32	36	28	58	32	40	27	18	14	16	14
21.....	27	32	36	28	53	33	40	27	18	14	16	14
22.....	27	32	36	28	53	33	40	27	16	14	16	14
23.....	27	32	34	29	50	33	40	24	16	14	16	14
24.....	27	32	34	29	50	33	40	24	14	14	16	14
25.....	27	32	34	29	47	37	40	24	14	14	16	14
26.....	27	32	34	198	47	37	40	24	14	14	16	14
27.....	27	32	34	391	45	34	37	24	14	14	14	14
28.....	27	32	36	155	43	36	37	24	14	14	14	14
29.....	27	32	36	87	42	33	37	22	14	14	14	14
30.....	27	32	36	66	-----	33	37	22	14	14	14	14
31.....	27	-----	36	60	-----	34	-----	22	-----	14	-----	-----

Monthly discharge of Stony Creek near Stonyford, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	38	27	29.7	1,830
November.....	32	27	30.8	1,830
December.....	45	29	34.7	2,130
January.....	391	26	56.8	3,490
February.....	850	42	126	7,250
March.....	49	30	35.3	2,170
April.....	64	37	43.3	2,580
May.....	37	22	29.0	1,780
June.....	21	14	17.5	1,040
July.....	14	14	14.0	861
August.....	16	14	14.5	892
September.....	14	14	14.0	833
The year.....	850	14	36.8	26,700

STONY CREEK NEAR ELK CREEK, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 27, T. 20 N., R. 6 W., at county road bridge $2\frac{1}{2}$ miles south of Elk Creek, Glenn County.

DRAINAGE AREA.—298 square miles (measured by United States Bureau of Reclamation).

RECORDS AVAILABLE.—May 1, 1919, to September 30, 1924.

GAGE.—Vertical staff in two sections; read once daily to half-tenths, by Cecil Gollnick.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel, solid rock; permanent. Banks subject to overflow.

EXTREMES OF DISCHARGE.—1919-1924: Maximum stage, from floodmarks, 7.80 feet January 31, 1921 (discharge, about 10,200 second-feet); no flow part of July, August, and September, 1924.

DIVERSIONS.—No information.

REGULATION.—Water is stored in East Park Reservoir on Little Stony Creek and released during irrigating season.

COOPERATION.—Daily-discharge record furnished by the United States Bureau of Reclamation through R. C. E. Weber, project manager.

Daily discharge, in second-feet, of Stony Creek near Elk Creek, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	27	31	25	29	18	10	133	88	0.5		
2	27	27	31	24	49	20	10	117	88	.5		
3	26	29	31	24	31	18	49	127	95	.5		
4	26	29	31	25	31	16	31	88	97	.5		
5	26	29	31	27	31	14	102	100	95	.4		
6	26	27	31	27	72	14	102	102	88	.4		
7	26	27	31	24	255	14	117	105	95	.3		
8	26	33	31	24	630	12	108	108	97	.3		
9	26	32	31	24	450	14	108	114	97	.2	2	
10	26	29	31	24	170	14	102	114	97	.2	2.5	1
11	27	29	31	24	82	14	95	111	95	.1	2.5	1
12	27	29	31	21	43	12	88	117	95	.1	2.5	1
13	27	31	33	21	37	10	85	117	95		2.5	1
14	27	31	35	20	37	11	53	111	88		2.5	1
15	27	31	35	17	29	10	49	105	88		2	1
16	27	29	42	15	27	12	38	105	80			1
17	27	29	38	10	29	12	18	102	37			
18	26	29	35	10	29	12	18	88	26			
19	27	31	35	15	29	10	12	91	21			
20	27	31	35	15	29	10	10	95	18			
21	27	31	33	15	27	10	88	91	13			
22	29	31	29	15	25	8	102	91	13			
23	27	31	27	15	23	10	130	91	7			
24	27	31	27	15	23	10	123	95	5			
25	27	31	27	15	23	10	138	95	1			
26	26	31	25	70	18	12	146	95	.5			
27	26	31	25	138	18	10	133	95	.5			
28	27	31	25	210	18	10	146	95	.5			
29	27	31	24	59	18	10	146	82	.5			
30	27	31	24	47		8	146	88	.5			
31	27		25	29		8		88				

NOTE.—No flow July 13 to Aug. 8, Aug. 16 to Sept. 9, and Sept. 17-30.

Monthly discharge of Stony Creek near Elk Creek, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	29	26	26.7	1,640
November	33	27	30.0	1,790
December	42	24	30.7	1,890
January	210	10	33.7	2,070
February	630	18	79.7	4,580
March	20	8	12.0	738
April	146	10	83.4	4,960
May	133	82	102	6,270
June	97	.5	54.0	3,210
July	.5	0	.13	8.0
August	2.5	0	.53	32.6
September	1	0	.23	13.7
The year	630	0	37.5	27,200

STONY CREEK NEAR ORLAND, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 7, T. 22 N., R. 4 W., at county road bridge near Simpson ranch, 10 miles northwest of Orland, Glenn County, Calif.

DRAINAGE AREA.—636 square miles (measured by United States Bureau of Reclamation).

RECORDS AVAILABLE.—January 1, 1920, to September 30, 1924.

GAGE.—Vertical staff in two sections at bridge; read once daily to hundredths, by Leonora Simpson.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel consists of gravel; shifting. Banks subject to overflow at high water.

EXTREMES OF DISCHARGE.—1920-1924: Maximum stage recorded, 10.3 feet January 30, 1921 (discharge, 19,500 second-feet); no flow November 11, 1920, and August 24 to September 30, 1924.

DIVERSIONS.—No information.

REGULATION.—Water is stored in East Park Reservoir on Little Stony Creek and released during irrigating season.

COOPERATION.—Daily discharge record furnished by the United States Bureau of Reclamation through R. C. E. Weber, project manager.

Daily discharge, in second-feet, of Stony Creek near Orland, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1.-----	21	10	25	20	87	40	19	116	47	3.0	1.0
2.-----	21	12	27	18	154	40	19	93	47	3.0	1.0
3.-----	21	12	27	18	136	40	44	90	45	2.9	.9
4.-----	21	12	27	18	104	40	108	87	45	2.8	.9
5.-----	21	12	34	21	87	31	116	87	42	2.7	.8
6.-----	19	12	46	21	87	31	116	84	41	2.7	.8
7.-----	19	12	51	21	112	31	118	83	40	2.5	.7
8.-----	19	15	51	23	1,650	31	123	85	51	2.5	.7
9.-----	19	16	51	25	775	31	122	84	48	2.3	.6
10.-----	17	16	48	27	325	24	118	83	48	2.3	.6
11.-----	18	18	50	27	300	19	116	83	51	2.3	.6
12.-----	18	19	51	33	232	19	112	87	54	2.3	.5
13.-----	18	20	51	34	104	19	102	87	41	2.3	.5
14.-----	18	21	52	33	104	19	100	81	38	2.3	.5
15.-----	16	21	52	29	87	19	57	85	54	2.3	.5
16.-----	15	21	56	29	87	19	44	78	54	2.2	.5
17.-----	15	21	51	27	87	19	36	66	30	2.2	.4
18.-----	15	21	51	25	87	19	35	65	20	2.1	.4
19.-----	14	21	50	21	73	19	36	65	14	2.1	.4
20.-----	14	21	48	21	70	19	37	65	9	2.0	.3
21.-----	14	21	48	21	65	18	44	58	7	1.9	.3
22.-----	14	21	48	25	57	18	65	58	7	1.8	.2
23.-----	14	21	40	25	57	18	104	58	4	1.7	.2
24.-----	10	21	39	27	57	18	118	57	4	1.6	-----
25.-----	10	21	34	34	57	18	126	61	4	1.5	-----
26.-----	10	21	27	51	57	22	126	61	4	1.4	-----
27.-----	10	21	27	118	40	21	118	61	4	1.3	-----
28.-----	10	25	21	325	40	21	118	60	4	1.2	-----
29.-----	10	25	21	305	40	19	118	60	3.5	1.1	-----
30.-----	10	25	21	115	-----	18	116	52	3.5	1.1	-----
31.-----	10	-----	20	87	-----	18	-----	52	-----	1.1	-----

NOTE.—No flow Aug. 24 to Sept. 30.

Monthly discharge of Stony Creek near Orland, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	21	10	15.5	953
November.....	25	10	18.5	1,100
December.....	56	20	40.2	2,470
January.....	325	18	52.4	8,220
February.....	1,650	40	180	10,400
March.....	40	18	23.8	1,460
April.....	126	19	87.7	5,220
May.....	116	52	73.9	4,540
June.....	54	3.5	28.8	1,710
July.....	3.0	1.1	2.08	128
August.....	1.0	0	.43	26.4
September.....	0	0	0	0
The year.....	1,650	0	43.0	31,200

LITTLE STONY CREEK NEAR LODOGA, CALIF.

LOCATION.—At East Park Reservoir, 4 miles above junction with Stony Creek and $3\frac{1}{2}$ miles northwest of Lodoga, Colusa County.

DRAINAGE AREA.—102 square miles.

RECORDS AVAILABLE.—January 1, 1908, to September 30, 1924.

GAGE.—Record beginning December 1, 1910, is from gage at dam; prior to that date gage was a short distance below present site. Gage read by J. J. Lea.

DISCHARGE.—Natural flow computed from gage readings at the dam. Correction made for evaporation, measured by evaporation pan at reservoir, and for storage and release of water for use on Orland project. When discharge is 10 second-feet or less it is computed from weir and current-meter measurements taken at the head of the reservoir about 3 miles above dam.

EXTREMES OF DISCHARGE.—1907-1924: Maximum stage recorded, 11.8 feet February 2, 1909 (discharge, 7,060 second-feet); minimum stage, no flow during parts of nearly every year.

DIVERSIONS.—No information.

REGULATION.—East Park Reservoir is used for storage for the Orland project of the United States Bureau of Reclamation. Water from Stony Creek is diverted to the reservoir by the East Park feed canal.

COOPERATION.—Daily-discharge record furnished by United States Bureau of Reclamation, through R. C. E. Weber, project manager.

Daily discharge, in second-feet, of Little Stony Creek near Lodoga, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1.....		2	10	7	9	1.5	16.....		2	5	10	5	0.5
2.....		2	10	10	9	1.5	17.....		3	5	10	4	.5
3.....		2	10	10	9	1.5	18.....		3	5	10	4	.5
4.....		5	7	10	9	1.5	19.....		3	5	10	4	.5
5.....		10	8	10	8	1.5	20.....		3	5	8	3	.5
6.....		4	30	10	8	1.5	21.....		3	5	6	2.5	.5
7.....		2	215	10	7	1	22.....		3	5	4	2.5	.5
8.....		2	130	10	7	1	23.....		3	5	4	2.5	.5
9.....		2	60	10	7	1	24.....		3	5	4	2.5	.5
10.....		2	25	10	6	1	25.....		80	5	45	2.5	.5
11.....		2	20	10	6	1	26.....		76	5	55	2	.5
12.....		2	11	10	6	1	27.....	2	67	5	45	2	.5
13.....		2	8	10	5	1	28.....	2	50	5	32	2	.5
14.....		2	7	10	5	1	29.....	2	36	5	25	1.5	.5
15.....		2	5	10	5	1	30.....	2	10		20	1.5	
							31.....	2	10		9		

NOTE.—No flow Oct. 1 to Dec. 26 and May 30 to Sept. 30.

Monthly discharge of Little Stony Creek near Lodoga, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December.....	2	0	0.32	19.7
January.....	80	2	12.8	787
February.....	215	5	21.6	1,240
March.....	55	4	14.3	879
April.....	9	1.5	4.92	293
May.....	1.5	0	.81	49.8
The year.....	215	0	4.51	3,270

NOTE.—No flow during months for which no discharge is given.

FEATHER RIVER BASIN

NORTH FORK OF FEATHER RIVER NEAR PRATTVILLE, CALIF.

LOCATION.—In sec. 28, T. 27 N., R. 8 E., at Great Western Power Co.'s dam at Lake Almanor, 4 miles above mouth of Butt Creek and 5 miles southeast of Prattville, Plumas County.

DRAINAGE AREA.—506 square miles above dam.

RECORDS AVAILABLE.—June 13, 1905, to September 30, 1924.

DISCHARGE.—The record of discharge from March 7, 1914, to May 7, 1921, is sum of flow through gates in dam and over the dam, obtained from gate openings and head on reservoir. From May 7, 1921, the discharge is sum of flow over dam, through gates, and through tunnel diverting into Butt Creek for the Caribou plant of Great Western Power Co.

EXTREMES OF DISCHARGE.—1905–1924: Maximum discharge recorded, 10,000 second-feet, March 19, 1907; no flow April 15 and 16, 1914, parts of January to April, 1919, and April 21, 1923.

DIVERSIONS.—Water is diverted by a tunnel into Butt Creek and then diverted by another tunnel from Butt Creek to the Caribou plant of the Great Western Power Co., on North Fork of Feather River.

REGULATION.—Water is stored in Lake Almanor for benefit of Caribou and Big Bend plants of the Great Western Power Co. There was 178,450 acre-feet of water in reservoir on September 30, 1923, and 80,100 acre-feet on September 30, 1924.

COOPERATION.—Record of daily discharge and monthly contents furnished by Great Western Power Co.; monthly discharge and run-off computed by United States Geological Survey.

Daily discharge, in second-feet, of North Fork of Feather River near Prattville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,230	1,150	793	576	450	310	328	148	492	890	890	212
2	1,150	995	681	770	292	310	315	490	429	890	890	212
3	1,120	700	818	730	250	410	311	845	567	890	890	212
4	953	994	870	873	550	577	247	875	655	890	815	212
5	904	1,150	881	708	550	455	138	206	715	890	815	212
6	497	1,150	970	557	293	410	220	15	715	890	815	212
7	1,140	1,150	512	750	30	401	240	15	669	875	815	212
8	1,150	1,100	537	573	17	284	124	415	381	875	815	212
9	1,000	962	725	780	25	306	120	415	665	875	815	212
10	910	733	818	787	115	400	114	415	562	890	615	212
11	998	796	818	633	268	479	115	348	890	890	195	212
12	883	1,310	818	550	255	500	62	515	890	890	147	212
13	550	1,250	568	687	210	400	83	515	890	1,150	147	212
14	1,240	1,250	741	747	289	400	186	321	890	890	103	212
15	1,130	1,200	542	764	368	83	215	513	890	890	79	212
16	1,060	1,090	1,200	691	173	217	294	515	890	890	849	212
17	1,000	742	769	752	218	400	315	355	890	890	514	212
18	1,000	1,250	775	661	310	400	315	315	890	890	55	212
19	883	1,200	787	450	310	405	165	411	890	890	55	235
20	806	1,200	1,080	695	310	415	165	709	890	890	55	235
21	850	1,240	1,180	826	310	415	315	530	890	890	59	235
22	1,190	1,200	319	810	310	215	502	421	890	890	63	384
23	1,620	1,030	654	762	175	232	442	415	890	890	458	1,270
24	1,340	773	634	633	262	411	336	365	890	890	326	898
25	994	1,090	291	587	481	326	315	309	890	890	177	893
26	1,120	900	729	550	461	315	215	415	890	890	212	893
27	683	856	737	171	412	315	215	415	890	890	212	893
28	875	491	691	250	410	315	577	415	890	890	212	908
29	1,350	831	558	332	410	78	565	415	890	890	212	908
30	1,400	879	376	490	-----	244	525	192	890	890	375	908
31	1,150	-----	642	471	-----	405	-----	250	-----	890	375	-----

Monthly discharge of North Fork of Feather River near Prattville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet					Run-off in acre-feet		
	Maximum	Minimum	Observed mean	Gain or loss in storage	Corrected for storage	Observed	Gain or loss in storage	Corrected for storage
October	1,620	497	1,040	-543	495	64,000	-33,400	30,400
November	1,310	491	1,020	-456	564	60,700	-27,100	33,600
December	1,200	291	726	-150	577	44,600	-9,220	35,500
January	873	171	633	-75	558	38,900	-4,610	34,300
February	550	17	294	+480	774	16,900	+27,600	44,500
March	577	73	349	+178	528	21,500	+10,900	32,500
April	577	62	269	+251	520	16,000	+14,900	30,900
May	875	15	403	-20	383	24,800	-1,230	23,600
June	890	381	798	-518	280	47,500	-30,800	16,700
July	1,150	875	897	-574	323	55,200	-35,300	19,900
August	890	55	421	-98	323	25,900	-6,030	19,900
September	1,270	212	416	-32	384	24,800	-1,900	22,800
The year	1,620	15	607	-132	475	441,000	-96,000	345,000

NOTE.—Records not corrected for evaporation from Lake Almanor.

NORTH FORK OF FEATHER RIVER AT BIG BAR, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 32, T. 23 N., R. 5 E., one-fourth mile above Big Bar station on Western Pacific Railway, Butte County, 7 miles above intake of Great Western Power Co.'s power plant at Big Bend.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 24, 1911, to September 30, 1924.

GAGE.—Water-stage recorder installed at present location November, 1912.

Gage datum 1,348.96 feet above sea level.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage.

CHANNEL AND CONTROL.—Solid rock, boulders, and gravel; practically permanent.

EXTREMES OF DISCHARGE.—1911–1924: Maximum mean daily discharge, 35,000 second-feet January 1, 1914; minimum mean daily discharge, 423 second-feet June 8, 1924.

DIVERSIONS.—No information.

REGULATION.—Flow partly regulated by Lake Almanor.

COOPERATION.—Daily-discharge record furnished by Great Western Power Co.

Daily discharge, in second-feet, of North Fork of Feather River at Big Bar, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,430	1,510	1,400	816	1,530	1,090	1,060	1,160	490	774	807	707
2	1,660	1,430	737	897	1,660	1,020	1,200	1,130	575	758	785	716
3	1,410	1,360	1,100	1,200	798	1,020	1,280	1,020	725	704	777	745
4	1,630	1,060	1,180	1,200	803	1,160	1,180	844	830	666	692	707
5	1,460	1,470	1,150	1,110	789	1,320	1,230	939	745	571	745	727
6	1,380	1,460	1,160	830	1,700	1,170	1,200	1,060	725	585	769	760
7	1,050	1,530	1,090	1,090	7,420	1,150	1,290	1,030	669	645	799	871
8	1,450	1,490	1,070	1,080	9,110	1,090	1,520	1,020	423	754	795	725
9	1,460	1,460	901	1,160	7,140	816	1,540	973	631	762	802	897
10	1,410	1,310	1,060	1,200	3,500	1,050	1,580	930	673	721	836	895
11	1,460	897	1,060	1,190	2,170	1,160	1,430	746	750	707	656	913
12	1,430	1,300	1,280	1,070	1,950	1,100	1,360	776	733	675	741	891
13	1,250	1,510	1,290	807	1,860	1,070	1,190	901	716	615	809	907
14	1,080	1,580	1,220	1,240	1,680	973	1,260	973	652	902	858	897
15	1,580	1,580	1,150	1,160	1,670	920	1,330	944	448	704	1,060	751
16	1,430	1,570	825	1,170	1,510	794	1,330	949	588	774	818	892
17	1,490	1,460	1,420	1,170	1,120	887	1,260	863	729	758	1,400	905
18	1,430	939	1,230	1,120	1,250	963	1,160	823	750	730	950	886
19	1,420	1,510	1,220	1,140	1,360	973	1,120	767	754	793	780	892
20	1,260	1,470	1,210	737	1,370	1,000	977	873	725	688	826	886
21	1,170	1,620	1,380	1,100	1,430	954	1,120	897	686	644	822	908
22	1,350	1,610	1,420	1,140	1,120	863	1,280	873	508	732	772	716
23	1,510	1,440	780	1,220	1,150	897	1,260	767	525	839	751	887
24	2,080	1,440	1,180	1,130	1,070	863	1,210	639	825	789	981	956
25	1,620	878	835	1,120	1,140	1,020	1,160	486	758	802	851	953
26	1,480	1,240	1,020	1,260	1,260	1,030	1,150	588	767	741	756	939
27	1,400	1,250	1,170	1,700	1,290	1,040	944	758	733	721	757	974
28	1,060	1,240	1,120	1,710	1,240	1,060	992	729	635	641	714	952
29	1,430	925	1,050	1,550	1,170	996	1,180	703	512	745	713	723
30	1,580	1,170	830	1,480	-----	830	1,210	508	645	749	710	976
31	1,620	-----	1,040	1,400	-----	954	-----	508	-----	760	851	-----

Monthly discharge of North Fork of Feather River at Big Bar, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,080	1,050	1,430	87,900
November	1,620	878	1,360	80,900
December	1,420	737	1,120	68,900
January	1,710	737	1,170	71,900
February	9,110	789	2,110	121,000
March	1,320	794	1,010	62,100
April	1,580	944	1,230	73,200
May	1,160	486	838	51,500
June	830	423	664	39,500
July	902	571	723	44,500
August	1,400	656	819	50,400
September	976	707	852	50,700
The year	9,110	423	1,110	802,000

FEATHER RIVER AT OROVILLE, CALIF.

LOCATION.—In sec. 8, T. 19 N., R. 4 E., at highway bridge at Oroville, Butte County, 6 miles below junction of North and Middle Forks.

DRAINAGE AREA.—3,640 square miles.

RECORDS AVAILABLE.—January 1, 1902, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and wooden shelter, on right bank 200 feet below bridge, at same datum as United States Weather Bureau vertical staff, which is in two sections on bridge pier near right bank.

DISCHARGE MEASUREMENTS.—Made from cable 1,000 feet above bridge. At extremely low water measurements have been made from a boat about 1,000 feet below bridge.

CHANNEL AND CONTROL.—Boulders and gravel. A sand and gravel bar on left bank at control is partly covered with young willows; shifts at extremely low water.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 11.80 feet at 3.30 a. m. February 8 (discharge, 49,800 second-feet); minimum stage, —1.16 feet at 6 a. m. June 30 (discharge, 402 second-feet).

1902–1924: Maximum discharge recorded, 187,000 second-feet March 19, 1907; minimum stage, that of June 30, 1924.

DIVERSIONS.—Minor diversions from tributaries above station.

STORAGE.—See North Fork of Feather River near Prattville, Calif.

REGULATION.—Operation of the Big Bend plant of the Great Western Power Co. causes considerable diurnal fluctuations in stage, especially during extremely low water.

ACCURACY.—Stage-discharge relation changed June 1. Rating curves well defined. Water-stage recorder stopped October 17–29, January 8–12, 16–26, and February 28 to March 11. Water below level of intake pipe part of nearly every day, May 9 to September 30. Hydrograph corrected from record by another recorder in same pool, operated by Western Canal Co. Daily discharge ascertained with a discharge integrator, except for periods of no record, which were estimated. Records good.

COOPERATION.—Attendant for water-stage recorder furnished by Sutter Butte Canal Co. from April 1, 1924.

Discharge measurements of Feather River at Oroville, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Apr. 29.....	1.32	1,890	July 18.....	—0.92	502	July 19.....	—0.41	756
Apr. 30.....	.00	883	Do.....	.23	1,150	Do.....	— .16	885
June 16.....	— .94	491	Do.....	.23	1,094	Do.....	— .08	918
July 2.....	— .56	648	Do.....	.22	1,136	Do.....	— .14	897
July 18.....	— .93	489	July 19.....	— .42	748			
Do.....	— .93	499	Do.....	— .42	731			

Daily discharge, in second-feet, of Feather River at Oroville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,570	1,770	1,590	1,260	2,020		1,830	1,680	880	920	900	810
2	1,710	1,710	1,300	1,030	2,880		1,800	1,670	870	930	880	870
3	1,710	1,640	1,320	1,480	2,380		3,090	1,640	1,000	850	810	880
4	1,910	1,330	1,490	1,630	2,030		2,130	1,450	1,060	790	910	870
5	1,810	1,670	1,450	1,450	2,040		1,980	1,350	1,030	760	920	890
6	1,740	1,750	1,460	1,130	2,500	1,700	2,070	1,490	1,000	790	910	890
7	1,690	1,710	2,370	1,290	22,200		2,530	1,470	970	770	900	1,010
8	1,850	1,740	1,830		34,700		2,880	1,410	860	940	940	830
9	1,760	1,700	1,500		10,900		2,920	1,420	900	910	930	1,040
10	1,720	1,670	1,280	1,440	6,580		2,840	1,390	1,000	870	800	960
11	1,670	1,190	1,450		4,790		2,770	1,250	1,020	840	890	1,030
12	1,720	1,520	1,530		4,010	1,500	2,650	1,230	1,040	830	910	1,030
13	1,530	1,840	1,520	1,150	3,530	1,480	2,410	1,410	970	730	890	1,040
14	1,340	1,810	1,720	1,280	3,200	1,440	2,510	1,320	940	980	1,080	1,030
15	1,710	1,850	1,620	1,350	2,980	1,380	2,460	1,320	850	940	1,150	890
16	1,700	1,750	1,190		2,690	1,370	2,220	1,260	860	890	960	1,060
17		1,760	1,820		2,360	1,230	2,070	1,290	940	930	1,340	1,040
18		1,220	1,630	1,500	2,220	1,360	2,040	1,080	980	830	1,190	1,050
19		1,710	1,670		2,280	1,340	1,970	1,070	960	910	980	1,050
20		1,800	1,580		2,230	1,360	1,810	1,180	910	730	1,020	1,050
21		1,800	1,640		2,180	1,400	1,880	1,240	950	850	990	1,020
22		1,840	1,790		2,030	1,320	2,080	1,180	830	870	950	850
23		1,780	1,140	1,400	1,870	1,500	2,040	1,140	780	860	910	1,070
24		1,690	1,420		1,900	1,440	2,080	990	990	870	1,050	1,070
25	1,700	1,230	1,240		1,710	1,640	1,910	970	930	870	1,060	1,080
26		1,400	1,350		1,880	1,670	1,780	890	920	830	900	1,130
27		1,510	1,450	3,010	1,860	1,710	1,650	1,080	920	730	910	1,100
28		1,470	1,360	4,560	1,700	1,690	1,520	990	870	840	870	960
29	1,550	1,240	1,300	2,760	1,700	1,790	1,750	1,000	780	830	860	1,000
30	1,770	1,520	1,330	2,280		1,640	1,700	950	720	850	870	1,160
31	1,910		1,400	2,090		1,530		820		870	960	

NOTE.—Braced figures show estimated mean discharge for the period indicated.

Monthly discharge of Feather River at Oroville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October			1,710	105,000
November	1,850	1,190	1,620	96,400
December	2,370	1,140	1,510	92,800
January	4,560		1,640	101,000
February	34,700		4,670	269,000
March			1,560	95,900
April	2,920	1,520	2,150	128,000
May	1,680	820	1,250	76,900
June	1,060	720	924	55,000
July	980	730	852	52,400
August	1,340	800	956	58,800
September	1,160	810	992	59,000
The year	34,700	720	1,640	1,190,000

FEATHER RIVER AT NICOLAUS, CALIF.

LOCATION.—At highway bridge at Nicolaus, Sutter County.

RECORDS AVAILABLE.—June 13 to October 28, 1921; June 18 to November 15, 1922; June 16, 1923, to January 18, 1924, and May 16 to September 30, 1924.

GAGE.—Water-stage recorder on middle fender pier 50 feet above bridge.

DISCHARGE MEASUREMENTS.—Made from boat or by wading 500 feet above gage.

CHANNEL AND CONTROL.—Shifting sand; control is cross section and slope of river.

DIVERSIONS.—Considerable water is diverted for irrigation above station.

REGULATION.—Partly regulated by diversions above and by operation of power plants of Great Western Power Co.

ACCURACY.—Stage-discharge relation changed slightly during period October 1 to January 18 and on September 10. Rating curves fairly well defined. Water-stage recorder operated satisfactorily except November 19–25, December 12–14, and June 2–6. No record obtained January 19 to May 15. Daily discharge ascertained by applying mean daily gage height to rating table, or by shifting-control method, or by interpolating for short periods of no gage-height record. Records good.

Discharge measurements of Feather River at Nicolaus, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	24.50	1,940	Feb. 4.....	25.46	3,140	July 19.....	21.06	32
Oct. 13.....	24.54	2,000	Feb. 11.....	32.65	13,500	July 26.....	20.98	26
Oct. 21.....	24.36	1,810	May 15.....	23.30	881	Aug. 1.....	20.56	1
Oct. 30.....	24.22	1,750	May 18.....	23.05	728	Aug. 9.....		0
Nov. 7.....	24.40	1,870	May 23.....	22.66	512	Aug. 16.....		0
Nov. 14.....	24.35	1,810	May 30.....	22.04	233	Aug. 23.....	20.83	12
Nov. 22.....	24.30	1,800	June 7.....	21.97	219	Aug. 28.....	20.94	24
Dec. 8.....	24.75	2,110	June 13.....	21.45	79	Sept. 5.....	21.00	29
Dec. 14.....	24.41	1,940	June 20.....	21.44	90	Sept. 13.....	22.13	340
Dec. 22.....	24.38	1,930	June 27.....	21.12	36	Sept. 20.....	22.50	515
Dec. 29.....	24.10	1,630	July 5.....	21.18	50	Sept. 27.....	22.86	708
Jan. 19.....	24.20	1,810	July 11.....	21.09	34			

Daily discharge, in second-feet, of Feather River at Nicolaus, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	May	June	July	Aug.	Sept.
1.....	1,840	2,270	1,590	1,740	-----	219	46	1	42
2.....	1,740	2,220	1,790	1,790	-----	220	58	-----	36
3.....	1,940	2,100	1,690	1,490	-----	221	50	-----	32
4.....	2,000	2,050	1,400	1,640	-----	222	55	-----	27
5.....	2,220	1,840	1,540	2,000	-----	223	47	-----	31
6.....	2,320	1,740	1,540	2,000	-----	224	38	-----	29
7.....	2,320	1,940	1,590	1,840	-----	225	40	-----	35
8.....	2,490	1,940	2,490	1,690	-----	219	43	-----	32
9.....	2,320	1,940	2,320	1,940	-----	129	39	-----	42
10.....	2,270	2,000	1,690	2,100	-----	109	38	-----	52
11.....	2,270	2,000	1,350	2,000	-----	115	36	-----	109
12.....	2,220	1,740	1,600	2,000	-----	149	32	-----	203
13.....	2,160	1,640	1,860	1,890	-----	111	34	-----	334
14.....	1,840	1,940	2,120	1,840	-----	86	28	-----	435
15.....	1,590	2,100	2,380	1,690	-----	75	19	-----	470
16.....	1,640	2,100	2,320	1,940	824	64	17	-----	435
17.....	1,840	2,100	2,000	1,940	762	65	28	-----	402
18.....	1,840	2,000	2,000	1,940	732	67	35	-----	505
19.....	1,840	1,950	2,270	-----	630	83	33	14	515
20.....	1,790	1,900	2,160	-----	582	81	32	51	505
21.....	1,890	1,840	2,100	-----	565	67	27	46	535
22.....	1,890	1,780	2,050	-----	560	59	21	25	565
23.....	1,890	1,720	2,160	-----	535	54	16	13	565
24.....	2,050	1,660	1,940	-----	495	52	16	12	560
25.....	2,320	1,600	1,690	-----	470	46	12	12	658
26.....	2,490	1,540	1,790	-----	420	38	19	7	681
27.....	2,220	1,490	1,640	-----	360	41	15	8	693
28.....	2,160	1,640	1,840	-----	316	46	10	16	717
29.....	1,940	1,640	1,740	-----	288	49	8	30	717
30.....	1,940	1,590	1,740	-----	260	49	4	32	609
31.....	2,160	-----	1,790	-----	225	-----	1	39	-----

NOTE.—No record January 19 to May 15; no flow on other days for which no discharge is given.

Monthly discharge of Feather River at Nicolaus, Calif., for the year ending September, 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2,490	1,590	2,050	126,000
November.....	2,270	1,490	1,870	111,000
December.....	2,490	1,350	1,880	116,000
January 1-18.....	2,100	1,490	1,860	66,400
May 16-31.....	824	225	502	15,900
June.....	225	38	114	6,780
July.....	58	1	28.9	1,780
August.....	51	0	9.9	609
September.....	717	27	352	20,900

SPANISH CREEK AT KEDDIE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 22, T. 25 N., R. 9 E., at highway bridge at Keddle, Plumas County, 2 miles above junction with Indian Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 22, 1911, to September 30, 1924.

GAGE.—Staff gage in two sections on left bank 250 feet below bridge, installed at this location September 30, 1917; read by H. W. Hagen.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—A rock-filled crib dam was partly built on control August 19, 1919, and completed during summer of 1921.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.40 feet at 4 p. m. February 8 (discharge, from extension of rating curve, about 1,730 second-feet); minimum discharge estimated to be about 9 second-feet during parts of June to September.

1911-1924: Maximum discharge recorded, about 9,450 second-feet at 11 a. m. December 31, 1913, and at 1 p. m. January 2, 1914; minimum discharge, that during June to September, 1924.

DIVERSIONS.—Water is diverted from Spanish Creek for irrigation in American Valley.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve fairly well defined. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. The discharge was interpolated during June, July, and August, when the water was flowing through the rock-filled dam. Records good, except June to September for which they are fair.

The following discharge measurements were made:

May 2, 1924: Gage height, 5.15 feet; discharge, 50 second-feet.

May 2, 1924: Gage height, 5.15 feet; discharge, 48 second-feet.

July 18, 1924: Gage height, 4.64 feet; discharge, 11 second-feet.

Daily discharge, in second-feet, of Spanish Creek at Keddie, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	52	64	64	60	130	78	100	58	17	9.5	10	9
2.....	54	64	67	60	125	78	96	57	17	9.5	10	11
3.....	57	64	71	60	130	78	96	57	16	9.5	10	10
4.....	64	62	74	60	150	78	96	51	13	9	10	12
5.....	62	60	74	60	162	78	96	45	12	9	10	11
6.....	60	62	78	60	245	78	100	43	12	9	10	10
7.....	58	64	87	60	1,130	78	100	43	12	9	10	10
8.....	62	64	96	62	1,730	78	100	36	13	9	10	14
9.....	65	65	96	64	585	74	100	34	13	9	10	12
10.....	64	65	91	64	370	74	100	30	13	9	9	12
11.....	62	64	87	64	260	74	96	30	13	9	9	12
12.....	60	62	87	64	260	74	96	30	10	10	9	12
13.....	60	62	82	64	245	74	96	30	10	10	10	13
14.....	58	60	82	64	230	74	96	30	10	10	10	13
15.....	58	60	87	67	215	74	96	29	10	10	9	18
16.....	58	60	82	67	200	74	96	27	11	10	9	18
17.....	58	60	82	69	200	74	89	25	11	10	11	17
18.....	57	60	78	71	175	71	89	24	11	10	12	17
19.....	57	60	78	71	170	71	89	22	11	10	12	17
20.....	54	58	71	67	160	69	89	21	10	9	13	17
21.....	57	58	71	67	145	69	89	19	9	9	11	19
22.....	64	58	71	67	125	74	89	19	9	9	9	21
23.....	60	58	67	67	100	78	89	19	9	9	11	21
24.....	60	58	64	74	100	78	89	19	9	9	11	21
25.....	60	64	64	57	100	89	89	19	9	9	11	22
26.....	60	64	64	195	96	100	89	19	9	9	10	24
27.....	60	62	64	230	89	100	78	19	9	9	10	22
28.....	62	60	60	206	89	100	69	18	9.5	9	10	22
29.....	62	60	60	200	82	100	69	18	9.5	9	9	22
30.....	64	64	60	175	100	100	60	13	9.5	9	9	26
31.....	64	-----	60	150	-----	100	-----	18	-----	9	9	-----

Monthly discharge of Spanish Creek at Keddie, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	65	52	59.8	3,680
November.....	65	58	61.5	3,660
December.....	96	60	74.8	4,000
January.....	230	60	90.2	5,550
February.....	1,730	82	269	15,500
March.....	100	69	86.3	4,940
April.....	100	60	90.9	5,410
May.....	58	18	29.9	1,840
June.....	17	9	11.2	666
July.....	10	9	9.51	572
August.....	13	9	10.1	621
September.....	26	9	16.2	964
The year.....	1,730	9	66.0	48,000

MIDDLE FORK OF FEATHER RIVER AT SLOAT, CALIF.

LOCATION.—Half a mile above Sloat, Plumas County, three-fourths of a mile above mouth of Poplar Creek and $1\frac{1}{2}$ miles below Cromberg.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 3, 1910, to September 30, 1924.

GAGE.—Water-stage recorder on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 1 mile above gage or by wading.

CHANNEL AND CONTROL.—Boulders and gravel; control practically permanent.

Left bank, flat and timbered, will be submerged at flood stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.20 feet at 4 a. m. February 8 (discharge, 1,440 second-feet); minimum stage, 2.36 feet August 8-13 (discharge, 22 second-feet).

1910-1924: Maximum stage recorded, 13.0 feet April 7, 1911 (discharge, 9,640 second-feet); minimum stage that of August 8-13, 1924.

ICE.—Stage-discharge relation affected by ice during January.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent during year. Record from water-stage recorder good. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

May 5, 1924: Gage height, 3.16 feet; discharge, 147 second-feet.

May 5, 1924: Gage height, 3.16 feet; discharge, 149 second-feet.

July 17, 1924: Gage height, 2.45 feet; discharge, 28 second-feet.

Daily discharge, in second-feet, of Middle Fork of Feather River at Sloat, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	66	69	78	143	124	163	152	53	29	27	24
2.....	71	69	78	160	114	180	167	50	28	27	24
3.....	66	71	74	193	112	176	167	49	28	24	24
4.....	74	71	76	218	117	173	160	45	27	24	24
5.....	69	69	88	232	112	160	149	43	27	23	24
6.....	92	69	72	277	117	176	138	42	27	23	24
7.....	96	69	120	806	138	235	135	41	26	23	24
8.....	78	69	99	1,130	112	246	132	43	27	22	24
9.....	72	69	83	729	110	246	143	43	27	22	24
10.....	69	83	86	598	107	243	160	43	27	22	24
11.....	68	76	90	490	107	235	170	41	28	22	25
12.....	65	76	86	425	94	232	154	40	28	22	25
13.....	62	76	84	363	90	243	138	38	28	22	25
14.....	61	78	86	305	86	254	124	38	28	23	26
15.....	61	78	83	265	86	204	120	38	28	23	27
16.....	59	76	83	224	86	180	112	37	28	23	30
17.....	58	74	81	207	88	167	112	37	29	24	29
18.....	59	74	79	186	86	167	107	37	30	24	27
19.....	59	74	83	176	86	180	103	37	30	24	27
20.....	59	88	84	167	84	190	99	36	30	25	25
21.....	59	83	83	157	84	193	90	35	30	26	27
22.....	66	81	86	149	86	196	83	33	30	26	28
23.....	71	79	86	146	92	228	76	33	29	26	27
24.....	71	76	86	143	99	190	69	32	27	25	27
25.....	71	74	81	140	105	170	68	32	27	26	27
26.....	71	76	78	132	110	154	65	31	27	25	27
27.....	69	74	68	132	117	154	66	31	27	24	27
28.....	69	72	78	130	132	146	65	30	27	24	27
29.....	69	74	81	127	160	143	61	30	27	24	27
30.....	69	76	81	-----	160	143	58	30	27	24	27
31.....	69	-----	83	-----	170	-----	55	-----	27	24	-----

Monthly discharge of Middle Fork of Feather River at Sloat, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	96	58	68.3	4,200
November.....	88	69	74.9	4,450
December.....	120	68	83.4	5,130
January.....	-----	-----	90	5,530
February.....	1,130	127	295	17,000
March.....	170	84	109	6,700
April.....	254	143	192	11,400
May.....	170	55	113	6,950
June.....	53	30	38.3	2,280
July.....	30	27	27.9	1,720
August.....	27	22	24.0	1,480
September.....	30	24	25.9	1,540
The year.....	1,130	22	94.1	68,400

NOTE.—Discharge for January estimated, because of ice, by comparison with record for Middle Fork of Feather River at Nelson Point.

MIDDLE FORK OF FEATHER RIVER NEAR NELSON POINT, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 16, T. 23 N., R. 10 E., three-fourths of a mile below mouth of Nelson Creek, 7 miles southeast of Quincy, and 2 miles below Nelson Point, Plumas County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 13, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 300 feet below gage and by wading.

CHANNEL AND CONTROL.—Bed of stream is gravel, fairly permanent; banks are steep, slightly wooded, and are not overflowed. Control is gravel and boulders and appears permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.88 feet at 3 a. m. February 8 (discharge, 1,810 second-feet); minimum stage, 0.13 foot August 12-14 (discharge, 36 second-feet).

ICE.—Pool was frozen over during winter but control was free of ice.

DIVERSIONS.—Numerous small diversions for irrigation above.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record excellent except March 1-6, when paper was torn, and July 13, 14, September 27-30, when clock stopped. Daily discharge ascertained by applying mean daily gage height to rating table except February 7, for which hourly discharge was averaged. Discharge for periods of no gage-height record estimated from records of flow at Sloat. Records excellent.

Discharge measurements of Middle Fork of Feather River near Nelson Point, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
May 3.....	1.45	278	July 18.....	0.22	43
Do.....	1.44	274	July 19.....	.23	47

Daily discharge, in second-feet, of Middle Fork of Feather River near Nelson Point, Calif., for the period December 13, 1923, to September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		110	180	162	225	260	95	62	43	40
2.....		117	213	160	243	273	90	62	40	40
3.....		119	227	160	252	276	86	62	40	40
4.....		120	252	160	243	257	82	62	40	40
5.....		120	257	165	232	238	79	59	39	40
6.....		117	331	170	252	222	77	57	40	40
7.....		117	1,190	210	313	218	77	56	38	40
8.....		117	1,410	194	365	220	77	54	38	40
9.....		117	840	180	365	225	80	54	37	41
10.....		119	660	177	357	243	80	53	37	41
11.....		119	545	175	357	246	80	53	37	41
12.....		119	460	166	342	230	80	53	36	42
13.....	138	117	414	162	350	215	80	51	36	43
14.....	144	117	361	162	377	201	80	49	36	45
15.....	140	119	316	162	290	194	79	47	37	53
16.....	138	119	286	162	266	184	79	47	39	52
17.....	138	119	257	162	254	180	79	46	40	49
18.....	140	119	240	160	254	169	79	44	42	47
19.....	144	117	232	156	266	154	79	44	45	47
20.....	142	119	227	160	279	146	76	46	44	48
21.....	140	119	222	158	286	138	76	44	42	49
22.....	138	119	210	162	296	135	76	43	42	49
23.....	133	119	206	164	346	131	74	43	42	49
24.....	138	119	191	173	299	126	70	41	41	48
25.....	138	119	186	175	263	119	70	40	40	48
26.....	135	119	182	177	252	113	69	40	39	47
27.....	129	142	180	184	254	113	66	40	38	47
28.....	135	222	177	198	252	111	65	38	37	47
29.....	120	266	164	222	249	106	64	41	38	47
30.....	115	166	-----	227	254	101	64	41	39	47
31.....	110	162	-----	227	-----	98	-----	42	39	-----

Monthly discharge of Middle Fork of Feather River near Nelson Point, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December 13-31.....	144	110	134	5,050
January.....	222	110	128	7,870
February.....	1,410	164	366	21,100
March.....	227	156	175	10,800
April.....	377	225	288	17,100
May.....	276	98	182	11,200
June.....	95	64	76.9	4,580
July.....	62	38	48.8	3,000
August.....	45	36	39.4	2,420
September.....	53	40	44.9	2,670
The period.....				85,800

MIDDLE FORK OF FEATHER RIVER NEAR OROVILLE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 32, T. 20 N., R. 5 E., at highway bridge at Bidwell Bar, 2 miles above junction with North Fork, and 7 miles northeast of Oroville, Butte County. Canyon Creek enters three-fourths mile below station and South Fork $1\frac{1}{4}$ miles above.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 7, 1911, to September 30, 1924.

GAGE.—Vertical staff in two sections; low-water section fastened to sycamore tree 100 feet above bridge; high-water section 150 feet above bridge; read by T. W. Curry.

DISCHARGE MEASUREMENTS.—Made from cable 250 feet below bridge.

CHANNEL AND CONTROL.—Boulders and gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.04 feet at 8 a. m. February 8 (discharge, 9,760 second-feet); minimum stage recorded, 1.50 feet August 30 to September 15 (discharge, 100 second-feet).

1911-1924: Maximum stage recorded, 18.0 feet at 4 p. m. December 31, 1913 (discharge, from extension of rating curve, about 34,200 second-feet); minimum stage, that of August 30 to September 15, 1924.

DIVERSIONS.—The Palermo Land & Water Co.'s canal and South Feather Land & Water Co.'s canal divert from South Fork of Feather River and tributaries.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly on February 8. Rating curves well defined. Staff gage read to hundredths once daily. Daily discharge ascertained by applying gage height to rating table. Records good.

Discharge measurements of Middle Fork of Feather River near Oroville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 6.....	2.57	328	Apr. 30.....	3.26	583	July 23.....	1.60	115
Do.....	2.59	339	June 15.....	1.94	179			
Mar. 21.....	3.08	491	July 1.....	1.72	135			

Daily discharge, in second-feet, of Middle Fork of Feather River near Oroville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	254	254	310	296	565	610	610	588	224	139	109	100
2	241	254	268	215	960	655	610	588	212	139	109	100
3	254	254	268	268	750	710	700	588	212	139	112	100
4	310	254	254	388	700	678	850	565	201	136	112	100
5	340	241	254	325	655	610	750	542	201	132	112	100
6												
7	325	241	241	296	750	588	800	500	190	129	109	100
8	440	241	960	282	5,340	565	1,080	480	186	125	106	100
9	388	241	565	282	9,760	565	1,210	460	186	125	106	100
10	325	241	480	340	4,820	542	1,280	440	186	125	106	100
11	310	241	310	310	2,820	542	1,280	440	190	122	106	100
12												
13	296	254	282	282	2,150	520	1,140	460	190	122	106	100
14	282	254	254	268	1,680	520	1,140	460	190	122	106	100
15	282	254	254	282	1,510	480	1,140	480	186	122	106	100
16	268	254	440	282	1,350	480	1,080	422	182	122	106	100
17	254	254	388	282	1,210	480	1,080	405	182	122	106	100
18												
19	254	254	340	282	1,080	480	905	373	178	122	106	106
20	254	254	254	282	1,020	460	800	373	174	122	106	112
21	254	254	310	254	905	460	800	358	170	122	106	115
22	254	254	340	254	905	440	750	343	170	122	115	112
23	254	254	340	254	850	440	750	315	170	122	129	109
24												
25	254	268	310	254	800	460	750	315	166	120	125	109
26	254	254	282	254	800	440	750	302	162	118	122	109
27	254	254	254	254	750	520	750	288	158	115	118	109
28	254	254	254	254	750	520	850	288	150	115	115	109
29	254	254	254	254	700	520	700	288	150	115	112	109
30												
31	254	254	325	370	678	565	678	261	146	115	109	112
	254	241	310	800	678	542	655	261	146	115	106	112
	254	241	254	1,680	655	542	610	248	146	112	106	112
	254	241	268	1,020	632	610	610	248	143	109	106	112
	241	325	340	750		588	588	236	143	109	100	112
	241		325	632		610		224		109	100	

Monthly discharge of Middle Fork of Feather River near Oroville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	440	241	278	17,100
November	325	241	253	15,100
December	960	241	332	20,400
January	1,680	215	395	24,300
February	9,760	565	1,590	91,500
March	700	440	540	33,200
April	1,280	588	857	51,000
May	588	224	392	24,100
June	224	143	176	10,500
July	139	109	122	7,500
August	129	100	110	6,760
September	115	100	105	6,250
The year	9,760	100	424	308,000

SOUTH FORK OF FEATHER RIVER AT ENTERPRISE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 1, T. 19 N., R. 6 E., 800 feet above mouth of Powell Creek and half a mile above highway bridge at Enterprise, Butte County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 8, 1911, to September 30, 1924.

GAGE.—Inclined staff bolted to ledge on right bank; read by Agnes Parks Alm.

DISCHARGE MEASUREMENTS.—Made from cable 90 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shift during high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.5 feet at 4.50 p. m. February 7 and 10 a. m. February 8 (discharge, 3,800 feet); minimum discharge, 0.8 second-foot October 25 to November 5.

1911-1924: Maximum stage recorded, 12.05 feet February 25, 1917 (discharge, from extension of rating curve, 10,600 second-feet); minimum stage recorded, 2.45 feet August 11, 1917 (discharge, 0.2 second-foot).

DIVERSIONS.—The diversion dam of the Palermo Land & Water Co.'s canal is 1 mile above station. The South Feather Land & Water Co.'s canal diverts from Lost and Pinkard Creeks above station. This water is used for irrigation in the vicinity of Wyandotte and Bangor.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed February 8. Rating curves fairly well defined. Staff gage read to half-tenths once daily except February 7 and 8 when it was read three times a day. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of South Fork of Feather River at Enterprise, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.
Mar. 12.....	4.42	73	Apr. 30.....	4.11	45
Do.....	4.42	77	June 15.....	3.34	1.2

Daily discharge, in second-feet, of South Fork of Feather River at Enterprise, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5	0.8	11	18	190	105	72	48	1.0	1.0	1.0	1.0
2.....	1.0	.8	7.5	18	75	85	72	48	1.0	1.0	1.0	1.0
3.....	1.0	.8	7.5	18	47	135	85	44	1.0	1.0	1.0	1.0
4.....	1.0	.8	5	18	39	105	135	36	1.0	1.0	1.0	1.0
5.....	11	.8	5	18	27	95	105	36	1.0	1.0	1.0	1.0
6.....	14	1.0	5	18	47	85	165	29	1.0	1.0	1.0	1.0
7.....	57	1.0	110	18	2,700	85	280	22	1.0	1.0	1.0	1.0
8.....	18	1.0	27	18	2,980	85	240	22	1.0	1.0	1.0	1.0
9.....	14	2.5	27	14	1,420	85	280	15	1.0	1.0	1.0	1.0
10.....	11	2.5	14	11	910	85	280	15	1.0	1.0	1.0	1.0
11.....	11	2.5	14	11	700	72	280	12	1.0	1.0	1.0	1.0
12.....	11	2.5	14	14	380	72	280	12	1.0	1.0	1.0	1.0
13.....	7.5	2.5	14	14	330	72	240	12	1.0	1.0	1.0	1.0
14.....	7.5	2.5	33	14	305	61	200	9	1.0	1.0	1.0	1.0
15.....	7.5	7.5	22	14	240	61	200	3.5	1.0	1.0	1.0	1.0
16.....	7.5	7.5	18	11	240	56	200	2.5	1.0	1.0	1.0	1.0
17.....	7.5	7.5	14	11	240	56	135	1.5	1.0	1.0	1.0	1.0
18.....	7.5	7.5	14	11	200	52	85	1.0	1.0	1.0	1.0	1.0
19.....	7.5	7.5	18	11	200	48	85	1.0	1.0	1.0	1.0	1.0
20.....	7.5	7.5	18	11	165	44	85	1.0	1.0	1.0	1.0	1.0
21.....	7.5	7.5	18	11	165	44	85	1.0	1.0	1.0	1.0	1.0
22.....	7.5	7.5	14	11	105	44	85	1.0	1.0	1.0	1.0	1.0
23.....	5	7.5	14	11	105	44	78	1.0	1.0	1.0	1.0	1.0
24.....	2.5	7.5	14	11	105	44	78	1.0	1.0	1.0	1.0	1.0
25.....	.8	3.8	18	11	105	61	36	1.0	1.0	1.0	1.0	1.0
26.....	.8	3.8	18	33	105	61	36	1.0	1.0	1.0	1.0	1.0
27.....	.8	3.8	18	330	135	61	36	1.0	1.0	1.0	1.0	1.0
28.....	.8	3.8	18	280	105	61	56	1.0	1.0	1.0	1.0	1.0
29.....	.8	3.8	14	190	105	61	52	1.0	1.0	1.0	1.0	1.0
30.....	.8	14	18	110	-----	61	52	1.0	1.0	1.0	1.0	1.0
31.....	.8	-----	18	57	-----	72	-----	1.0	-----	1.0	1.0	-----

Monthly discharge of South Fork of Feather River at Enterprise, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	57	0.8	7.84	482
November.....	14	.8	4.33	258
December.....	110	5	18.7	1,150
January.....	330	11	43.4	2,670
February.....	2,980	27	430	24,700
March.....	135	44	68.6	4,280
April.....	280	36	137	8,150
May.....	48	1.0	12.3	756
June.....	1.0	1.0	1.0	59.5
July.....	1.0	1.0	1.0	61.5
August.....	1.0	1.0	1.0	61.5
September.....	1.0	1.0	1.0	59.5
The year.....	2,980	.8	58.8	42,700

PALERMO LAND & WATER CO.'S CANAL AT ENTERPRISE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 1, T. 19 N., R. 6 E., 1,000 feet above Alm's residence at Enterprise, Butte County, and three-fourths of a mile below intake at diversion dam on South Fork of Feather River.

RECORDS AVAILABLE.—October 8, 1911, to September 30, 1924.

GAGE.—Vertical staff on right wall of concrete approach to sheet-iron flume; read by Agnes Parks Alm.

DISCHARGE MEASUREMENTS.—Made from foot plank at gage.

CHANNEL AND CONTROL.—Control is throat of concrete approach to metal flume.

EXTREMES OF DISCHARGE.—1911–1924: Maximum discharge recorded, 41 second-feet June 17, 1918, and July 10–30, 1922; no flow during periods of every year.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table or by averaging discharge for parts of a day when head gates were changed. Records good.

Canal furnishes water for irrigation below Oroville.

The following discharge measurements were made:

April 30, 1924: Gage height, 2.34 feet; discharge, 38 second-feet.

June 15, 1924: Gage height, 1.55 feet; discharge, 16.1 second-feet.

Daily discharge, in second-feet, of Palermo Land & Water Co.'s canal at Enterprise, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	27	28	19.4	12.2	8.9	12.8	14.3	37	23	12.0	15.9	10.3
2.....	29	28	19.4	12.4	8.9	12.8	14.3	37	23	12.0	8.7	10.3
3.....	29	28	19.4	12.8	8.9	12.8	14.3	37	23	11.7	8.3	10.4
4.....	32	26	19.4	12.8	8.9	13.5	14.3	37	20	11.7	7.8	10.3
5.....	25	26	18.3	12.8	8.9	14.3	14.3	38	19.4	10.4	7.5	10.3
6.....	26	26	18.3	12.8	7.9	15.3	14.3	38	19.4	9.6	8.9	10.3
7.....	26	26	10.0	12.8	7.2	16.3	15.1	38	19.4	9.9	10.6	10.1
8.....	28	26	14.3	12.8	7.2	16.3	15.1	38	18.3	10.3	11.0	10.3
9.....	28	28	14.3	12.8	8.3	16.3	16.3	38	18.3	10.3	7.3	10.6
10.....	31	28	13.9	12.8	8.9	16.3	19.4	38	19.4	9.4	17.3	10.6
11.....	33	28	13.9	12.8	8.9	8.2	19.4	38	19.4	9.1	22	10.3
12.....	33	25	13.9	12.8	8.9	0	19.4	38	18.3	10.3	20	9.8
13.....	31	22	13.9	12.8	8.9	5.3	20	38	18.3	9.9	20	10.1
14.....	28	18.3	13.9	12.8	8.9	15.9	20	38	17.3	9.9	20	9.9
15.....	28	16.3	13.9	12.8	8.9	15.9	20	38	17.3	9.8	20	9.8

Daily discharge, in second-feet, of Palermo Land & Water Co.'s canal at Enterprise, Calif., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	28	16.3	13.5	12.8	8.9	15.9	23	38	16.3	9.8	20	10.3
17.....	28	16.3	13.2	12.8	8.9	15.9	23	38	16.3	10.4	20	10.3
18.....	28	16.3	13.2	12.8	8.9	15.9	26	37	16.3	12.0	8.9	9.9
19.....	28	16.3	13.2	12.8	8.9	15.9	25	36	16.3	10.3	22	9.2
20.....	28	16.3	13.2	12.8	8.9	15.7	25	36	16.3	10.1	24	9.4
21.....	30	16.3	13.2	12.8	8.9	15.5	25	33	15.9	10.3	23	9.4
22.....	30	16.3	13.2	12.8	8.9	15.5	25	32	13.7	9.8	22	9.4
23.....	30	16.3	13.2	12.8	10.5	15.5	25	30	13.9	9.9	20	9.4
24.....	29	16.3	13.2	12.8	12.8	15.5	26	30	13.7	9.9	20	10.3
25.....	28	20	12.2	12.8	12.8	14.9	30	29	12.2	9.8	23	10.4
26.....	28	23	12.2	11.8	12.8	14.3	32	28	13.7	9.9	20	10.4
27.....	28	23	12.2	8.9	12.8	14.3	34	28	12.8	10.3	17.3	10.4
28.....	28	23	12.2	8.9	12.8	14.3	34	26	12.4	10.3	11.7	10.3
29.....	28	21	12.2	8.9	12.8	14.3	36	25	12.4	10.1	10.3	10.1
30.....	28	19.4	12.2	8.9	-----	14.3	37	24	12.4	11.3	10.3	9.9
31.....	28	-----	12.2	8.9	-----	14.3	-----	23	-----	18.3	10.3	-----

Monthly discharge of Palermo Land & Water Co.'s canal at Enterprise, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	33	26	28.7	1,780
November.....	28	16.3	21.9	1,300
December.....	19.4	12.2	14.4	885
January.....	12.8	8.9	12.1	744
February.....	12.8	7.2	9.59	552
March.....	16.3	0	14.0	861
April.....	37	14.3	22.6	1,340
May.....	38	23	34.2	2,100
June.....	23	12.2	16.9	1,010
July.....	18.3	9.1	10.6	652
August.....	24	7.3	15.7	965
September.....	10.6	9.2	10.1	601
The year.....	38	0	17.6	12,800

MIDDLE FORK OF YUBA RIVER NEAR NORTH SAN JUAN, CALIF.

LOCATION.—In N. $\frac{1}{2}$ NW. $\frac{1}{4}$ sec. 23, T. 18 N., R. 8 E., below highway bridge at Freemans Crossing, in Tahoe National Forest, $1\frac{1}{2}$ miles northeast of North San Juan, Nevada County. Moonshine Creek enters one-fourth of a mile below station, Oregon Creek three-fourths of a mile above, and North Fork of Yuba River 4 miles below.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 1 to October 20, 1900; October 27, 1910, to September 30, 1924.

GAGE.—Vertical staff wedged between two large boulders on right bank one-fourth of a mile below bridge; read by Henry Zurhorst.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet above gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.45 feet at 9.30 a. m. February 8 (discharge, 2,570 second-feet); minimum stage, 4.10 feet August 12 and 14 (discharge, 21 second-feet).

1910-1924: Maximum stage recorded, 11.7 feet at 10 a. m. May 12, 1915 (discharge, 14,300 second-feet); minimum stage, that of August 12 and 14, 1924.

DIVERSIONS.—No information.

REGULATION.—No information.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined. Staff gage read to quarter-tenths once daily to July 12 and to hundredths after July 12. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of Middle Fork of Yuba River near North San Juan, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 15.....	4.67	100	May 9.....	5.08	260
Mar. 18.....	4.66	92	July 13.....	4.17	25

Daily discharge, in second-feet, of Middle Fork of Yuba River near North San Juan, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	63	53	70	58	140	118	140	311	66	28	22	22
2.....	58	53	70	53	192	118	147	344	66	28	23	24
3.....	53	53	66	76	140	140	173	355	63	28	24	23
4.....	66	53	63	70	134	126	210	290	53	28	24	24
5.....	76	53	58	70	126	118	173	250	53	28	23	23
6.....	92	50	53	66	173	112	192	218	53	28	28	22
7.....	126	50	230	76	1,350	112	355	230	50	28	22	22
8.....	92	63	112	87	2,570	112	420	210	50	27	22	23
9.....	83	63	100	66	880	112	472	250	58	27	22	24
10.....	70	53	76	76	485	112	485	250	53	27	22	23
11.....	70	53	70	70	355	112	485	260	50	27	22	22
12.....	66	53	70	76	290	112	452	242	50	27	21	24
13.....	66	53	66	76	218	107	472	210	50	26	22	22
14.....	63	53	112	70	230	107	485	173	47	26	21	24
15.....	63	53	87	76	210	107	328	173	47	26	22	29
16.....	63	53	83	66	203	107	260	173	44	26	24	28
17.....	63	53	76	66	173	107	260	173	44	26	22	31
18.....	63	53	76	58	173	100	250	166	40	25	25	30
19.....	58	53	70	58	166	92	300	140	40	25	26	30
20.....	58	53	66	58	156	92	328	140	40	25	27	27
21.....	58	53	66	66	156	107	328	126	37	25	26	27
22.....	66	53	63	66	156	100	420	118	37	25	25	27
23.....	63	53	63	66	173	112	472	112	37	24	26	25
24.....	63	53	63	66	156	112	290	107	35	24	26	27
25.....	58	53	53	66	140	118	300	100	35	25	25	24
26.....	53	53	87	112	140	140	260	92	35	24	25	24
27.....	53	53	70	140	134	134	250	66	35	23	24	24
28.....	53	53	63	355	134	126	210	70	32	22	22	24
29.....	53	53	66	173	126	147	250	76	30	22	23	24
30.....	53	83	87	147	-----	126	290	76	30	24	22	24
31.....	53	-----	76	126	-----	140	-----	70	-----	22	22	-----

Monthly discharge of Middle Fork of Yuba River near North San Juan, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	126	53	65.7	4,040
November.....	83	50	54.5	3,240
December.....	230	53	78.4	4,820
January.....	355	53	88.9	5,470
February.....	2,570	126	334	19,200
March.....	147	92	116	7,130
April.....	485	140	315	18,700
May.....	355	66	180	11,100
June.....	66	30	45.3	2,700
July.....	28	22	25.7	1,580
August.....	28	21	23.5	1,440
September.....	31	22	24.9	1,480
The year.....	2,570	21	111	80,900

YUBA RIVER AT SMARTSVILLE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 22, T. 16 N., R. 6 E., at Narrows, 1 mile north of Smartsville, Yuba County, 1 mile below mouth of Deer Creek, $6\frac{1}{2}$ miles below mouth of South Fork, 7 miles above mouth of Dry Creek and 18 miles above junction with Feather River.

DRAINAGE AREA.—1,220 square miles.

RECORDS AVAILABLE.—June 2, 1903, to September 30, 1924.

GAGE.—Staff in three sections, bolted to solid rock on left bank; read by Joseph French.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Gravel and small boulders; shift during high water. As the result of extensive hydraulic mining in the early days the channel has been filled with an enormous quantity of tailings. At the station the depth of mining debris is estimated to be more than 80 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.1 feet at 9.15 a. m. February 8 (discharge, 9,960 second-feet); minimum stage 0.58 foot at 4.55 p. m. July 30 (discharge, 71 second-feet; regulated by power plant at Colgate).

1903-1924: Maximum stage recorded, 28.3 feet January 15, 1909 (discharge, 111,000 second-feet); minimum stage that of July 30, 1924.

DIVERSIONS.—Water is diverted for power and irrigation above station.

REGULATION.—Several small glacial lakes near the headwaters of the South Fork of Yuba River are utilized as storage reservoirs. A part of this water is diverted into the Bear River basin. Reservoir at Bullards Bar completed in March, 1924, has a capacity of 15,000 acre-feet.

ACCURACY.—Stage-discharge relation changed slightly at low water April 8. Rating curves well defined. Staff gage read to quarter-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records during summer are poor as regulation from released water at Bullards Bar Dam caused considerable diurnal fluctuation. The capacity of the reservoir at Bullards Bar is 15,000 acre-feet, and the water was used to supplement the natural flow during the abnormally low flow of this season. Normally only 4,000 or 5,000 acre-feet would be used. Rest of record good.

Discharge measurements of Yuba River at Smartsville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 7.....	2.50	886	Mar. 14.....	2.10	627	July 24.....	0.85	138
Do.....	2.50	906	May 10.....	2.61	970	Do.....	1.25	270
Jan. 19.....	1.60	362	July 2.....	1.30	281			

Daily discharge, in second-feet, of Yuba River at Smartsville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	508	375	535	590	960	825	675	1,100	232	103	93	232
2	400	375	452	590	960	1,100	645	1,240	222	183	86	158
3	375	375	375	618	765	960	795	1,320	215	111	80	124
4	400	375	325	675	675	890	1,240	1,240	215	124	75	103
5	480	350	325	705	705	858	1,170	1,170	209	158	111	98
6	590	350	350	618	2,190	825	1,400	1,100	209	152	98	93
7	890	325	795	562	5,950	825	1,870	1,100	199	124	93	243
8	618	325	705	535	9,960	825	2,190	1,030	209	138	86	268
9	590	350	618	535	2,420	765	2,080	960	199	168	86	232
10	535	375	562	535	2,680	765	2,080	960	189	232	80	222
11	508	375	535	535	2,420	765	2,080	960	209	325	75	215
12	480	375	535	508	2,300	735	1,970	960	199	130	177	199
13	480	350	590	480	2,080	735	1,970	890	199	124	111	189
14	452	350	735	480	1,770	675	1,970	890	183	111	138	183
15	425	325	645	480	1,580	705	1,670	890	183	183	98	75
16	452	325	590	452	1,400	735	1,580	830	177	365	86	357
17	480	316	508	425	1,240	825	1,580	740	168	177	75	325
18	425	325	535	425	1,100	765	1,580	655	168	152	75	317
19	425	325	535	425	1,100	765	1,580	628	158	138	111	305
20	425	325	508	400	1,030	765	1,400	550	177	124	98	285
21	425	316	452	375	1,030	765	1,320	525	189	232	93	250
22	425	316	425	375	1,030	765	1,490	450	189	152	86	305
23	425	302	425	375	1,030	645	1,580	450	183	138	80	285
24	400	302	425	375	960	535	1,400	405	177	199	80	215
25	375	289	425	400	890	675	1,400	365	158	86	75	268
26	375	289	508	645	858	960	1,490	333	152	80	158	285
27	375	280	535	960	825	858	1,240	305	138	80	138	293
28	400	280	535	1,580	825	825	1,100	285	124	75	124	285
29	375	272	535	1,320	825	735	1,100	268	119	75	103	268
30	375	508	562	1,100	960	705	1,030	257	103	71	86	278
31	375	-----	562	960	-----	705	-----	243	-----	124	86	-----

Monthly discharge of Yuba River at Smartsville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	890	375	460	28,300
November	508	272	337	20,100
December	795	325	521	32,000
January	1,580	375	614	37,800
February	9,960	675	1,780	102,000
March	1,100	535	783	48,100
April	2,190	645	1,490	88,700
May	1,320	243	745	45,800
June	232	103	182	10,800
July	365	71	149	9,160
August	177	75	98.1	6,030
September	357	75	232	13,800
The year	9,960	71	610	443,000

OREGON CREEK NEAR NORTH SAN JUAN, CALIF.

LOCATION.—In N. $\frac{1}{2}$ SE. $\frac{1}{4}$ sec. 28, T. 18 N., R. 8 E., below highway bridge in Tahoe National Forest, 500 feet above junction with Middle Fork of Yuba River, half a mile above Freemans Crossing, Yuba County, and 2 miles northeast of North San Juan, Nevada County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 28, 1910, to September 30, 1924.

GAGE.—Vertical staff fastened to an alder tree on right bank 150 feet below bridge; read by H. Zurhorst.

DISCHARGE MEASUREMENTS.—Made from cable 30 feet below gage or by wading.

CHANNEL AND CONTROL.—Small boulders and gravel; shifts during high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.8 feet at 10 a. m. February 8 (discharge, 590 second-feet); minimum stage recorded, 3.50 feet July 24, 27, August 29, 31, and September 1 (discharge, 1.5 second-feet).

1910-1924: Maximum stage recorded, 8.5 feet at 5 p. m. December 31, 1913 (discharge, from extension of rating curve, about 4,080 second-feet); minimum discharge recorded, 1 second-foot August 7-10, 1921.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly February 8 and April 10.

Rating curves fairly well defined. Staff gage read once a day to quarter-tenths prior to July 12 and to hundredths after July 12. Daily discharge ascertained by applying gage height to rating table. Records fair.

Discharge measurements of Oregon Creek near North San Juan, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 15.....	4.00	10	May 9.....	3.88	8.2
Mar. 18.....	3.99	10	July 13.....	3.53	1.6

Daily discharge, in second-feet, of Oregon Creek near North San Juan, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	8.5	12	19	16	32	11	22	14	3.4	2.0	1.6	1.5
2.....	8.5	12	19	17	45	11	26	15	3.4	1.9	1.8	1.6
3.....	8.5	14	19	21	34	17	36	14	3.0	1.9	1.7	1.6
4.....	10	12	19	25	27	9	49	14	2.8	1.9	1.8	1.6
5.....	11	12	17	25	25	14	45	14	2.8	1.9	1.7	1.6
6.....	17	12	17	17	40	11	52	14	2.2	1.9	1.6	1.6
7.....	21	14	115	19	360	10	66	14	2.2	1.8	1.6	1.6
8.....	16	19	27	23	590	11	60	14	2.0	1.8	1.6	1.6
9.....	16	16	25	21	206	11	66	9	2.5	1.8	1.6	1.6
10.....	12	16	21	19	127	10	69	9	2.2	1.8	1.6	1.6
11.....	11	17	19	17	90	10	59	9	2.5	1.8	1.6	1.6
12.....	10	17	19	17	69	10	52	8	2.8	1.9	1.6	1.6
13.....	8.5	17	17	17	52	10	44	10	2.5	1.6	1.6	1.6
14.....	10	17	32	17	45	10	38	10	2.2	1.8	1.6	1.6
15.....	10	17	25	17	38	10	35	8	2.0	1.8	1.6	1.6
16.....	10	17	21	17	32	9	33	8	2.0	1.8	1.6	1.6
17.....	11	17	19	16	28	9	33	8	2.2	1.7	1.6	1.7
18.....	11	17	19	16	26	9	28	7	2.0	1.6	1.8	1.6
19.....	11	17	19	21	24	9	25	6	2.0	1.6	1.8	1.6
20.....	11	17	17	17	22	8	23	6	2.0	1.6	1.9	1.6
21.....	11	17	17	17	19	10	23	6	1.9	1.6	1.7	1.6
22.....	14	17	17	17	19	9	23	6	2.0	1.6	1.6	1.7
23.....	16	17	17	16	17	11	23	5	2.0	1.6	1.7	1.7
24.....	16	17	17	14	17	14	25	5	2.0	1.5	1.6	1.8
25.....	14	17	17	14	16	11	23	4.6	2.0	1.6	1.6	1.8
26.....	12	17	25	25	16	17	19	4.6	1.9	1.6	1.6	1.8
27.....	11	17	19	45	16	16	17	4.0	1.9	1.5	1.6	1.8
28.....	11	17	17	96	14	16	15	4.0	1.9	1.6	1.6	1.8
29.....	12	17	17	45	14	22	17	3.4	1.8	1.7	1.5	1.8
30.....	12	25	21	34	-----	11	15	3.4	1.9	1.8	1.6	1.8
31.....	12	-----	21	32	-----	24	-----	3.4	-----	1.6	1.5	-----

Monthly discharge of Oregon Creek near North San Juan, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	21	8.5	12.0	738
November.....	25	12	16.2	964
December.....	115	17	22.9	1,410
January.....	96	14	23.5	1,440
February.....	590	14	71.0	4,080
March.....	24	8	11.9	732
April.....	69	15	35.4	2,110
May.....	15	3.4	8.40	516
June.....	3.4	1.8	2.27	135
July.....	2.0	1.5	1.73	106
August.....	1.9	1.5	1.64	101
September.....	1.8	1.5	1.65	98.2
The year.....	590	1.5	17.1	12,400

NORTH FORK OF YUBA RIVER NEAR SIERRA CITY, CALIF.

LOCATION.—In S. $\frac{1}{2}$ sec. 29, T. 20 N., R. 12 E., $2\frac{1}{2}$ miles below mouth of South Fork of North Fork of Yuba River and $1\frac{1}{2}$ miles west of Sierra City, Sierra County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—1911–1913 (fragmentary) and December 21, 1923, to September 30, 1924.

GAGE.—Water-stage recorder on right bank in concrete well and house. Staff used in 1911–1913 was in same pool, on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet below gage or by wading.
CHANNEL AND CONTROL.—Rocky and rough; control is drop over boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during period, from water-stage recorder, 2.95 feet at 9 p. m. April 13 (discharge, 442 second-feet); minimum stage, 1.11 feet September 4 and 5 (discharge, 30 second-feet).

DIVERSIONS.—There are a few small diversions above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve very well defined. Water-stage recorder record good except February 19–25. Daily discharge ascertained by applying mean daily gage height to rating table, except February 19–25, for which it was interpolated. Records excellent.

Discharge measurements of North Fork of Yuba River near Sierra City, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 16.....	1.58	65	May 6.....	2.24	188	July 16.....	1.28	40
Do.....	1.57	59	May 7.....	2.23	195			

Daily discharge, in second-feet, of North Fork of Yuba River near Sierra City, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		48	60	67	72	312	70	41	35	31
2.....		48	61	70	74	330	68	43	36	30
3.....		51	57	67	86	308	65	43	36	30
4.....		49	55	65	80	268	63	43	36	30
5.....		47	58	61	82	234	60	42	36	30
6.....		47	74	62	108	220	60	42	35	30
7.....		46	227	62	163	211	59	43	34	30
8.....		48	283	61	220	230	59	43	35	31
9.....		48	153	60	254	237	60	43	34	31
10.....		48	117	60	272	240	59	42	34	31
11.....		48	95	61	297	230	57	42	34	31
12.....		48	89	62	312	207	56	42	34	32
13.....		48	90	65	341	184	53	41	34	33
14.....		47	89	69	330	175	52	41	34	34
15.....		46	89	75	237	170	51	41	34	36
16.....		45	86	72	201	165	49	40	35	37
17.....		45	83	74	198	156	49	38	34	36
18.....		48	83	71	237	145	48	37	35	35
19.....		50	81	72	265	133	48	37	37	35
20.....		51	79	75	286	124	47	38	36	35
21.....	48	51	77	71	304	115	46	37	34	35
22.....	49	51	75	71	312	110	45	37	34	35
23.....	49	51	73	70	334	106	45	37	34	35
24.....	49	51	71	70	251	98	44	37	34	35
25.....	49	51	69	69	230	95	42	37	33	36
26.....	47	56	67	70	230	92	41	36	33	35
27.....	46	68	66	68	237	89	41	36	32	35
28.....	48	69	69	70	234	83	41	36	32	34
29.....	51	60	67	70	262	80	41	35	32	34
30.....	49	57		70	286	76	41	34	31	34
31.....	49	57		72		72		34	31	

Monthly discharge of North Fork of Yuba River near Sierra City, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December 21-31.....	51	46	48.5	1,060
January.....	69	45	50.9	3,130
February.....	283	55	91.1	5,240
March.....	75	60	67.8	4,170
April.....	341	72	226	13,400
May.....	330	72	171	10,500
June.....	70	41	52.0	3,090
July.....	43	34	39.3	2,420
August.....	37	31	34.1	2,100
September.....	37	30	33.2	1,980
The period.....				47,100

NORTH FORK OF YUBA RIVER AT GOODYEAR BAR, CALIF.

LOCATION.—In E. $\frac{1}{2}$ SW. $\frac{1}{4}$ sec. 5, T. 19 N., R. 10 E., in Tahoe National Forest, at highway bridge at Goodyear Bar, Sierra County. Rock Creek enters one-eighth mile and Goodyear Creek one-fourth mile below station.

DRAINAGE AREA.—214 square miles.

RECORDS AVAILABLE.—October 31, 1910, to September 30, 1924.

GAGE.—Vertical staff in two sections on left bank; low-water section fastened to old piling under bridge; upper section bolted to left abutment of bridge; read by G. E. King.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Solid rock, small boulders, and gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.7 feet February 7 (discharge, 1,870 second-feet); minimum stage, 2.9 feet August 10 to September 30 (discharge, 80 second-feet).

1910-1924: Maximum stage recorded, 11.5 feet at 5.40 p. m. May 11, 1915 (discharge, 12,600 second-feet); minimum stage, that of August 10 to September 30, 1924.

DIVERSIONS.—No important diversions.

REGULATION.—No information.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table, except December 8, March 3-6, and May 13-15 for which it was estimated. Records good.

COOPERATION.—Gage-height record furnished by United States Forest Service.

Discharge measurements of North Fork of Yuba River at Goodyear Bar, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Mar. 17.....	<i>Feet</i> 3.40	<i>Sec.-ft.</i> 186	May 8.....	<i>Feet</i> 3.89	<i>Sec.-ft.</i> 379	July 14.....	<i>Feet</i> 3.00	<i>Sec.-ft.</i> 90
Do.....	3.40	177	May 9.....	3.99	440	Do.....	3.02	98

Daily discharge, in second-feet, of North Fork of Yuba River at Goodyear Bar, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	184	142	130	142	200	228	207	453	150	119	83	80
2.....	178	142	130	155	217	255	204	465	150	117	83	80
3.....	184	142	130	155	184	236	278	465	150	115	83	80
4.....	184	142	130	150	184	236	236	435	148	112	82	80
5.....	181	142	130	142	184	217	225	423	148	108	82	80
6.....	350	142	130	142	264	217	310	435	148	105	82	80
7.....	278	142	255	142	1,870	217	435	423	145	103	82	80
8.....	255	155	170	155	1,210	217	595	405	145	101	81	80
9.....	217	150	142	145	700	217	595	400	145	101	81	80
10.....	214	148	138	142	495	217	595	400	145	100	80	80
11.....	210	142	138	142	405	217	595	394	145	98	80	80
12.....	204	142	138	142	378	217	595	394	145	96	80	80
13.....	197	142	140	142	350	210	665	365	142	96	80	80
14.....	191	142	155	142	350	200	700	336	142	94	80	80
15.....	184	142	145	142	340	197	560	307	142	94	80	80
16.....	184	142	142	142	300	194	465	278	140	94	80	80
17.....	181	140	142	140	296	191	417	300	140	93	80	80
18.....	181	140	155	140	291	191	434	378	138	93	80	80
19.....	181	140	142	140	278	191	465	350	138	91	80	80
20.....	178	138	142	138	278	210	495	300	135	90	80	80
21.....	178	138	140	138	264	200	495	278	135	90	80	80
22.....	175	138	140	138	255	184	465	217	132	89	80	80
23.....	175	138	138	138	236	184	595	207	132	89	80	80
24.....	175	138	138	138	236	184	465	200	132	88	80	80
25.....	175	135	140	138	232	184	465	194	130	88	80	80
26.....	175	135	142	217	228	197	453	194	130	87	80	80
27.....	175	130	130	435	225	191	435	191	128	87	80	80
28.....	172	130	130	278	225	210	435	187	128	86	80	80
29.....	161	150	155	217	225	200	435	187	126	86	80	80
30.....	155	150	152	200	.....	191	435	152	123	84	80	80
31.....	148	.....	150	184	.....	200	.....	152	.....	83	80	.....

Monthly discharge of North Fork of Yuba River at Goodyear Bar, Calif., for the year ending September 30, 1924

[Drainage area, 214 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acres-feet
October.....	350	148	193	0.902	1.04	11,900
November.....	155	130	141	.659	.74	8,390
December.....	255	130	144	.673	.78	8,850
January.....	435	138	165	.771	.89	10,100
February.....	1,870	184	376	1.76	1.90	21,600
March.....	255	184	206	.963	1.11	12,700
April.....	700	204	458	2.14	2.39	27,300
May.....	465	152	318	1.49	1.72	19,600
June.....	150	123	139	.650	.73	8,270
July.....	119	83	96.0	.449	.52	5,900
August.....	83	80	80.6	.377	.43	4,960
September.....	80	80	80.0	.374	.42	4,760
The year.....	1,870	80	199	.930	12.67	144,000

NORTH FORK OF NORTH FORK OF YUBA RIVER AT DOWNIEVILLE, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 35, T. 20 N., R. 10 E., at upper highway bridge in Downieville, Sierra County, 500 feet above dam and one-fourth mile above junction with North Fork of Yuba River. East Fork of North Fork enters one-eighth mile above station and Middle Fork of North Fork $1\frac{1}{4}$ miles above.

DRAINAGE AREA.—71.2 square miles.

RECORDS AVAILABLE.—November 1, 1910, to September 30, 1924.

GAGE.—Vertical staff fastened to right abutment of bridge; read by J. T. Mason.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Bed consists of gravel and small boulders. Control is dam. An artificial control is formed by adding flashboards of variable height to dam.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.30 feet (flashboards on dam) at 9 a. m. February 8 (discharge, 700 second-feet); minimum discharge, about 16 second-feet August 10 to September 13.

1910-1924: Maximum stage recorded, 8 feet at 5 p. m. May 11, 1915 (discharge, from extension of rating curve, about 6,760 second-feet); minimum stage, 2.70 feet (flashboards on dam) November 28, 1919 (discharge, 10 second-feet).

ICE.—Stage-discharge relation slightly affected by ice for short periods in severe winters.

DIVERSIONS.—The intake of the municipal water system of Downieville is above station.

REGULATIONS.—None.

ACCURACY.—Stage-discharge relation changed November 1, when flashboards on dam were rebuilt, and April 12, when gate to headrace was left open during the day. Rating curves fairly well defined. Staff gage read to half-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table, except August 10-31, which was estimated at 16 second-feet, and September 15-19, which was interpolated. Records fair.

COOPERATION.—Gage-height record furnished by John T. Mason.

Discharge measurements of North Fork of North Fork of Yuba River at Downieville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Mar. 16.....	3.00	65	May 8.....	3.15	132
Mar. 17.....	3.00	71	July 16.....	2.68	34

Daily discharge, in second-feet, of North Fork of North Fork of Yuba River at Downieville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	55	39	39	39	70	95	70	125	66	30	27	16
2.....	55	39	39	39	70	95	70	140	60	30	27	16
3.....	55	39	39	39	70	110	90	155	60	30	27	16
4.....	55	39	39	39	70	95	70	155	50	30	27	16
5.....	55	39	39	39	70	95	70	125	50	30	27	16
6.....	88	39	39	39	82	82	70	125	50	25	27	16
7.....	55	39	110	39	352	70	149	125	50	25	27	16
8.....	55	30	48	39	595	70	190	137	50	25	25	16
9.....	55	30	39	39	252	70	162	140	50	25	25	16
10.....	55	39	39	39	172	70	190	149	50	25		16
11.....	55	39	39	39	155	70	194	125	50	25		16
12.....	55	39	39	39	140	70	208	125	50	25		16
13.....	55	39	39	39	140	70	208	125	50	25		16
14.....	55	39	52	39	140	70	208	125	50	25		17
15.....	55	39	39	39	140	70	183	125	50	30		18
16.....	55	39	39	39	134	70	172	125	50	30		19
17.....	55	39	39	39	125	70	158	110	42	30		20
18.....	55	39	39	39	125	70	158	95	50	28		22
19.....	55	39	39	39	125	70	162	95	42	27		23
20.....	55	39	39	39	119	70	155	95	42	27	16	24
21.....	55	39	39	39	110	70	155	95	42	27		24
22.....	55	39	39	39	110	70	183	95	35	27		24
23.....	55	39	39	39	95	70	225	95	35	25		24
24.....	55	39	39	39	95	70	183	82	35	25		20
25.....	55	39	39	39	95	70	158	82	35	25		20
26.....	55	39	39	39	95	70	155	70	35	25		18
27.....	55	39	39	172	95	70	140	70	30	25		18
28.....	55	39	39	140	95	82	125	70	30	27		30
29.....	55	39	110	59	95	70	125	70	30	27		30
30.....	55	44	48	95	-----	70	125	66	30	27		30
31.....	55	-----	39	95	-----	70	-----	66	-----	27	-----	-----

NOTE.—Braced figures show estimated mean discharge for the period indicated.

Monthly discharge of North Fork of North Fork of Yuba River at Downieville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	88	55	56.1	3,450
November.....	44	30	38.6	2,300
December.....	110	39	44.6	2,740
January.....	172	39	50.8	3,120
February.....	595	70	139	8,000
March.....	110	70	75.3	4,630
April.....	225	70	150	8,930
May.....	155	66	109	6,700
June.....	66	30	45.0	2,680
July.....	30	25	26.9	1,650
August.....	27	-----	19.1	1,170
September.....	30	16	19.6	1,170
The year.....	595	-----	64.1	46,500

ROCK CREEK AT GOODYEAR BAR, CALIF.

LOCATION.—In W. $\frac{1}{2}$ SW. $\frac{1}{4}$ sec. 5, T. 19 N., R. 10 E., 600 feet above mouth at footbridge, at Goodyear Bar, Sierra County, in Tahoe National Forest. Woodruff Creek enters 350 feet above station.

DRAINAGE AREA.—10.8 square miles.

RECORDS AVAILABLE.—October 30, 1910, to September 30, 1924.

GAGE.—Vertical staff fastened to an alder tree on right bank 40 feet below bridge; read by G. E. King.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Boulders and gravel; rough; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.3 feet February 7 (discharge, 134 second-feet); minimum stage, 1.12 feet August 10-14 (discharge, 0.2 second-foot).

1910-1924: Maximum stage recorded, 7 feet at 3.30 p. m. December 31, 1913 (discharge, from extension of rating curve, about 820 second-feet); minimum stage, that of August 10-14, 1924.

DIVERSIONS.—Three small ditches, having a total capacity of about 10 second-feet, head above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve fairly well defined. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table, except December 8, March 3-6, May 13-15, and August 2-9, for which it was interpolated. Records good.

COOPERATION.—Gage-height record furnished by United States Forest Service.

Discharge measurements of Rock Creek at Goodyear Bar, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.
Mar. 17.....	1.54	5.2	May 8.....	1.37	1.3
Do.....	1.54	4.1	July 15.....	1.16	.31

Daily discharge, in second-feet, of Rock Creek at Goodyear Bar, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.7	2.9	1.7	3.7	10	7	7	3.7	1.1	0.3	0.2	0.3
2.....	2.9	2.7	1.7	2.7	10	9	7	3.7	1.1	.3	.2	.3
3.....	3.3	2.7	1.7	2.7	9.5	9	12	3.7	1.1	.3	.2	.3
4.....	2.9	2.7	1.7	1.7	9.5	8	11	3.5	1.1	.3	.2	.3
5.....	2.7	2.7	1.7	1.7	7	7	10	3.3	1.1	.3	.2	.2
6.....	6.5	2.7	1.7	1.7	17	7	20	2.7	1.0	.3	.2	.2
7.....	5	2.7	6.5	1.7	134	6.5	17	2.3	1.0	.3	.2	.2
8.....	4.5	3.7	4.1	1.9	124	6.5	23	1.7	1.0	.3	.2	.2
9.....	4.0	3.3	1.7	1.7	59	6.5	22	1.7	1.0	.3	.2	.2
10.....	3.3	3.1	1.7	1.7	35	6.5	21	1.7	1.0	.3	.2	.2
11.....	2.9	2.7	1.7	1.7	29	6.5	17	2.3	1.0	.2	.2	.2
12.....	2.3	2.1	1.7	1.7	23	6.5	17	2.5	1.0	.2	.2	.2
13.....	1.7	1.7	2.1	1.7	20	6	15	2.1	.9	.2	.2	.3
14.....	1.7	1.7	3.7	1.7	18	6	14	1.6	.9	.2	.2	.3
15.....	1.7	1.7	2.7	1.7	16	6	14	1.1	.9	.2	.2	.3
16.....	1.7	1.7	2.1	1.7	14	6	14	.7	.9	.2	.2	.3
17.....	1.7	1.5	1.9	1.7	14	5.5	12	.7	.8	.2	.2	.3
18.....	1.7	1.5	2.7	1.7	14	6	10	.7	.8	.2	.2	.3
19.....	1.9	1.5	2.7	1.7	14	6	10	.7	.8	.2	.2	.3
20.....	1.9	1.5	2.5	1.7	12	6.5	8	1.5	.7	.2	.2	.3
21.....	1.9	1.5	2.3	1.7	12	6.5	8	1.4	.7	.2	.3	.3
22.....	1.9	1.5	2.3	1.7	11	6.5	7.5	1.3	.7	.2	.3	.3
23.....	2.1	1.5	2.1	1.7	10	6.5	14	1.3	.7	.2	.3	.3
24.....	2.1	1.5	1.7	1.7	10	6.5	10	1.3	.7	.2	.3	.3
25.....	2.3	1.5	1.9	1.7	10	6.5	10	1.2	.7	.2	.3	.3
26.....	2.3	1.5	2.7	10	10	6.5	8	1.2	.7	.2	.3	.3
27.....	2.5	1.5	1.7	59	9.5	6.5	7	1.2	.7	.2	.3	.3
28.....	2.5	1.5	1.7	20	9	8	6.5	1.1	.6	.2	.3	.3
29.....	2.5	1.5	3.7	12	8	7	6.5	1.1	.6	.2	.3	.3
30.....	2.7	3.3	3.3	10	-----	7	6.5	1.1	.6	.2	.3	.3
31.....	2.7	-----	2.7	7	-----	7	-----	1.1	-----	.2	.3	-----

Monthly discharge of Rock Creek at Goodyear Bar, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	6.5	1.7	2.69	165
November.....	3.7	1.5	2.12	126
December.....	6.5	1.7	2.39	147
January.....	59	1.7	5.31	328
February.....	134	7	23.4	1,350
March.....	10	5.5	6.76	416
April.....	23	6.5	12.2	726
May.....	3.7	.7	1.78	109
June.....	1.1	.6	.86	51.2
July.....	.3	.2	.23	14.1
August.....	.3	.2	.24	14.8
September.....	.3	.2	.28	16.7
The year.....	134	.2	4.76	3,460

GOODYEAR CREEK AT GOODYEAR BAR, CALIF.

LOCATION.—In W. $\frac{1}{2}$ SW. $\frac{1}{4}$ sec. 5, T. 19 N., R. 10 E., at trail bridge in Tahoe National Forest, 300 feet above junction with North Fork of Yuba River and half a mile north of Goodyear Bar, Sierra County.

DRAINAGE AREA.—12.2 square miles.

RECORDS AVAILABLE.—October 30, 1910, to September 30, 1924.

GAGE.—Vertical staff fastened to an alder tree on left bank 200 feet above bridge; read by G. E. King.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Solid rock and gravel; fairly permanent. A temporary road built on control in June, 1921, is scoured at high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.9 feet February 7 (discharge, 245 second-feet); minimum stage, 1.88 feet August 8 to September 2 and September 16–20 (discharge, 1.8 second-feet).

1910–1924: Maximum stage recorded, 7.0 feet at 3 p. m. December 31, 1913 (discharge, from extension of rating curve, about 1,460 second-feet); minimum stage, 1.30 feet August 24–31, 1918 (discharge, 1.2 second-feet).

DIVERSIONS.—Three small irrigation ditches, having a total capacity of about $7\frac{1}{2}$ second-feet, head above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table except December 8, March 3–6, May 13–15, and August 2–9, for which it was interpolated. Records good.

COOPERATION.—Gage-height record furnished by United States Forest Service.

Discharge measurements of Goodyear Creek at Goodyear Bar, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Mar. 15.....	2.12	6.4	May 7.....	2.09	5.9	July 14.....	1.90	2.2
Mar. 18.....	2.12	6.3	July 14.....	1.90	1.9			

Daily discharge, in second-feet, of Goodyear Creek at Goodyear Bar, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	5.5	7	8	19	11	13	8	3.5	3.5	2.0	1.8
2	6	5	6	8	19	15	13	7	3.5	3.5	2.0	1.8
3	8	6	6	7	15	13	19	6	3.5	3.5	2.0	3.5
4	7	6	6	7	14	12	18	6	3.5	3.5	2.0	3.5
5	7	6	6	7	13	11	18	6	3.5	3.2	1.9	3.5
6	11	6	6	7	36	10	58	5.5	3.5	3.2	1.9	3.5
7	6	6	15	7	245	8	52	5.5	3.5	2.9	1.9	3.5
8	3.5	8	11	10	160	8	62	5.5	3.5	2.9	1.8	3.5
9	2.8	7	7	8	76	8	48	5.5	3.4	2.8	1.8	3.5
10	2.0	7.5	7	7.5	52	8	46	5.5	3.4	2.8	1.8	3.5
11	1.8	7.5	7	7.5	36	8	36	5	3.4	2.6	1.8	3.5
12	1.6	7	7	7.5	29	8	36	5	3.4	2.6	1.8	3.5
13	1.0	6	8	7.5	25	8	34	5	3.4	2.4	1.8	3.5
14	1.2	6	11	7.5	25	7.5	32	4.5	3.2	2.3	1.8	1.9
15	1.2	6	8	7.5	21	7	27	4.0	3.2	2.3	1.8	1.9
16	1.2	6	7	7.5	19	7	19	3.5	3.2	2.2	1.8	1.8
17	1.3	6	6	7.5	19	7	17	3.5	3.2	2.0	1.8	1.8
18	1.3	6	8	7.5	19	7	17	3.5	3.2	2.0	1.8	1.8
19	1.3	6	7	7.5	17	7	17	3.5	3.2	2.0	1.8	1.8
20	1.3	6	7	7	15	8	15	3.5	3.2	2.0	1.8	1.8
21	1.4	6	7	7	15	8	13	3.5	3.2	2.0	1.8	1.9
22	1.4	6	7	7	15	8	13	3.5	3.2	2.0	1.8	1.9
23	1.6	6	6	7	13	8	19	3.5	2.9	2.0	1.8	3.5
24	2.0	6	6	7	13	8	11	3.5	2.9	2.0	1.8	3.5
25	2.3	6	6.5	7	13	8	11	3.5	2.8	2.0	1.8	4.8
26	3.5	6	8	19	11	10	11	3.5	2.8	2.0	1.8	5
27	3.5	6	6	64	11	9	10	3.5	2.4	2.0	1.8	5
28	8	6	6	32	11	15	10	3.5	2.4	2.0	1.8	5.5
29	8	6	11	21	11	11	10	3.5	2.2	2.0	1.8	5.5
30	8	7.5	10	17	-----	10	10	3.5	2.0	2.0	1.8	5.5
31	6	-----	8	17	-----	11	-----	3.5	-----	2.0	1.8	-----

Monthly discharge of Goodyear Creek at Goodyear Bar, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	11	1.0	3.81	234
November	8	5	6.23	371
December	15	6	7.56	465
January	64	7	11.5	707
February	245	11	34.0	1,980
March	15	7	9.18	564
April	62	10	23.8	1,420
May	8	3.5	4.52	278
June	3.5	2.0	3.14	187
July	3.5	2.0	2.46	151
August	2.0	1.8	1.84	113
September	5.5	1.8	3.23	192
The year	245	1.0	9.14	6,640

BEAR RIVER AT VAN TRENT, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 21, T. 14 N., R. 6 E., below highway bridge at McCourtney Crossing, 1 mile below Van Trent, Placer County, and 8 miles above Wheatland.

DRAINAGE AREA.—263 square miles.

RECORDS AVAILABLE.—October 9, 1904, to September 30, 1924.

GAGE.—Staff in five sections on left bank 500 feet below bridge, read by Hughie Renolds.

DISCHARGE MEASUREMENTS.—Made from cable half a mile below gage or by wading.

CHANNEL AND CONTROL.—Solid rock, boulders, and gravel; shifts during high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.48 feet at 8 a. m. February 9 (discharge, 760 second-feet); minimum stage, -0.13 foot during numerous periods in July, August, and September (discharge, 2.7 second-feet.)

1904-1924: Maximum stage recorded, 18.9 feet at 8 a. m. January 14, 1909 (discharge, from extension of rating curve, about 29,600 second-feet); minimum discharge, 2 second-feet, July 4, 1918.

DIVERSIONS.—Water is diverted above station for power and irrigation. Stored water from South Fork of Yuba River is diverted into the drainage basin above Colfax.

REGULATION.—A small amount of storage is developed on the headwaters of this stream.

ACCURACY.—Stage-discharge relation changed during high water of February 9. Rating curves fairly well defined. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table, except for several weeks during May to July, for which it was estimated. Records good.

Discharge measurements of Bear River at Van Trent, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 8.....	0.66	67	Mar. 15.....	0.35	35	May 11.....	-0.14	2.8
Do.....	.64	67	Mar. 19.....	.34	29	July 19.....	-.12	2.6
Jan. 28.....	1.75	353	Apr. 17.....	.21	22	Aug. 16.....	-.12	2.7
Mar. 15.....	.37	36	May 11.....	-.13	2.4			

Daily discharge, in second-feet, of Bear River at Van Trent, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	43	32	32	36	32	36	60	12	3		2.7	2.7
2.....	43	32	32	27	97	48	60	12	3		2.7	2.7
3.....	23	27	27	36	71	79	48	12	3		2.9	2.7
4.....	32	27	32	48	56	60	73	3	31		2.7	2.7
5.....	32	32	27	48	56	48	60	3	42		2.7	2.7
6.....	32	27	27	48	87	48	52	3	19		2.7	2.7
7.....	132	19	56	38	30	48	132	3	19		2.7	2.7
8.....	77	32	56	43	37	40	124	19			2.7	2.7
9.....	36	32	43	56	760	48	112	3			2.7	2.9
10.....	36	32	36	48	268	43	105	3		3	2.9	2.9
11.....	48	23	43	43	146	36	88	2.7			2.9	2.7
12.....	36	23	43	36	105	36	88	3		3	2.7	2.7
13.....	36	32	32	38	88	40	73	16			2.7	2.7
14.....	2	23	62	32	73	36	73	12			2.7	2.9
15.....	27	23	48	32	94	36	60	3			2.7	2.9
16.....	23	23	36	36	65	36	48	12			2.9	2.7
17.....	32	23	32	32	60	32	26				2.9	2.7
18.....	32	23	36	36	65	36	26				2.9	2.7
19.....	32	23	43	36	94	34	36		12	2.9	2.9	2.7
20.....	32	23	43	32	60	36	26		12	2.9	2.9	2.7
21.....	32	23	43	32	73	36	12			2.7	2.9	2.9
22.....	32	23	43	38	60	36	12			2.7	2.9	2.9
23.....	27	27	32	32	60	43	19			2.7	2.9	2.9
24.....	32	23	32	32	60	48	19	3		2.7	2.9	2.9
25.....	32	32	32	32	48	88	26		3	2.9	2.7	2.7
26.....	32	27	43	43	48	233	19			2.7	2.9	2.9
27.....	32	27	36	37	48	105	19			2.7	2.9	2.7
28.....	65	32	36	36	48	88	19			2.9	2.7	2.7
29.....	32	32	32	128	48	73	12			2.7	2.7	2.9
30.....	23	32	36	77		65	12			2.7	2.9	2.9
31.....	23		32	93		52				2.7	2.9	

NOTE.—Bracketed figures show estimated mean discharge for period indicated.

Monthly discharge of Bear River at Van Trent, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	132	23	38.0	2,340
November.....	32	19	27.0	1,610
December.....	62	27	38.2	2,350
January.....	395	27	56.9	3,500
February.....	760	30	97.8	5,630
March.....	253	32	55.6	3,420
April.....	132	12	51.3	3,050
May.....	19	-----	5.38	331
June.....	42	-----	6.90	411
July.....	-----	-----	2.90	178
August.....	2.9	2.7	2.80	172
September.....	2.9	2.7	2.77	165
The year.....	760	-----	31.9	23,200

BEAR RIVER CANAL NEAR COLFAX, CALIF.

LOCATION.—Just below lower spillway gates 1 mile below diversion dam on Bear River and 2 miles northwest of Colfax, Placer County.

RECORDS AVAILABLE.—January 1, 1912, to September 30, 1924.

GAGE.—Float gage in stilling box on left bank 800 feet below spillway gates; read twice daily.

DISCHARGE MEASUREMENTS.—Made from foot plank across flume at gage.

CHANNEL AND CONTROL.—Rectangular wooden flume. Control is slope and cross section of flume below gage.

EXTREMES OF DISCHARGE.—1912-1924: Maximum mean daily discharge recorded, 302 second-feet September 16 and October 31, 1923.

COOPERATION.—Discharge record furnished by Pacific Gas & Electric Co.

The water is used for development of power near Auburn.

Daily discharge, in second-feet, of Bear River Canal near Colfax, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	207	291	129	46	113	89	123	92	102	225	260	41
2.....	254	254	142	37	178	106	121	84	246	237	273	121
3.....	252	263	150	51	119	127	139	70	203	241	144	223
4.....	250	256	109	38	95	111	164	77	195	136	211	92
5.....	241	221	113	44	118	99	101	85	239	197	268	197
6.....	265	241	89	44	211	91	0	276	282	208	277	250
7.....	276	246	210	46	217	88	0	240	302	227	266	100
8.....	224	260	142	62	221	86	0	199	219	242	198	159
9.....	264	262	69	79	226	82	0	220	191	215	211	158
10.....	262	262	56	59	233	75	0	245	182	245	80	81
11.....	271	256	105	108	223	64	0	92	170	248	145	58
12.....	258	211	121	91	170	55	0	91	229	250	192	72
13.....	255	215	134	101	146	60	0	209	220	170	233	120
14.....	160	248	183	87	206	67	37	222	136	221	215	92
15.....	221	230	160	79	220	57	116	230	92	250	265	21
16.....	280	262	228	71	215	54	88	203	203	264	288	18
17.....	262	217	164	54	148	54	76	138	242	248	125	27
18.....	261	180	237	94	206	53	68	107	213	269	174	43
19.....	272	144	156	62	182	113	84	207	221	248	250	42
20.....	293	140	180	71	237	100	154	241	232	74	263	68
21.....	242	152	127	63	230	71	83	207	229	143	252	21
22.....	229	158	159	109	227	67	164	237	104	287	256	17
23.....	278	153	169	63	219	152	84	237	204	273	221	91
24.....	279	203	147	49	141	95	81	272	230	267	130	130
25.....	271	172	146	44	92	135	67	288	218	271	189	109
26.....	280	174	58	140	90	213	57	264	226	280	261	40
27.....	250	139	43	190	91	145	53	212	240	274	235	122
28.....	260	154	39	227	85	137	166	204	239	188	250	137
29.....	252	96	43	169	89	176	113	192	112	265	237	35
30.....	236	115	47	144	-----	141	94	179	170	258	140	125
31.....	302	-----	50	118	-----	194	-----	264	-----	252	61	-----

Monthly discharge of Bear River Canal near Colfax, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	302	160	255	15, 700
November.....	291	96	206	12, 300
December.....	237	39	126	7, 750
January.....	227	37	85. 2	5, 240
February.....	237	85	171	9, 840
March.....	213	53	102	6, 270
April.....	166	0	74. 4	4, 430
May.....	288	70	190	11, 700
June.....	302	92	203	12, 100
July.....	287	74	231	14, 200
August.....	288	61	212	13, 000
September.....	250	17	93. 7	5, 580
The year.....	302	0	163	118, 000

AMERICAN RIVER BASIN

NORTH FORK OF AMERICAN RIVER NEAR COLFAX, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 30, T. 14 N., R. 10 E., at bridge on Colfax-Forest Hill road, 150 feet below mouth of Shirttail Canyon Creek, 5 miles southeast of Colfax, Placer County, and 11 miles above junction with Middle Fork.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 16, 1911, to September 30, 1924.

GAGE.—Vertical staff in two sections; section 1 bolted to ledge on left bank 30 feet below bridge; section 2 on right bank 35 feet below bridge; read by W. D. Finch.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders (tailings from placer mining) shifts during high water. Banks high, rocky, wooded, and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.1 feet at 7 a. m. February 8 (discharge, 3,750 second-feet); minimum stage, 2.0 feet July 22 to August 7 and August 12–15 (discharge, 15 second-feet).

1911–1924: Maximum stage recorded, 16.0 during morning of January 1, 1914, determined by high-water mark on gage in recorder well (discharge, from extension of rating curve, about 23,000 second-feet); minimum discharge that of July 22 to August 7 and August 12–15, 1924.

DIVERSIONS.—A small ditch diverts water from Lake Valley Reservoir, which is on a small tributary of North Fork of American River. This water, after passing through Alta power plant, is wasted into Bear River Basin. The capacity of Lake Valley Reservoir is 8,000 acre-feet.

ACCURACY.—Stage-discharge relation changed February 8. Rating curves well defined below 3,000 second-feet. Staff gage read to tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of North Fork of American River near Colfax, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Jan. 24.....	Feet 2.44	Sec.-ft. 76	Mar. 20.....	Feet 2.76	Sec.-ft. 143	July 13.....	Feet 2.20	Sec.-ft. 33
Do.....	2.45	78	May 11.....	3.46	369			

Daily discharge, in second feet, of North Fork of American River near Colfax, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	72	60	65	80	160	210	225	550	48	20	15	20
2.....	65	65	65	80	235	225	225	602	48	20	15	20
3.....	80	65	65	95	175	240	288	575	33	26	15	20
4.....	80	55	65	80	135	210	325	452	33	33	15	20
5.....	95	55	65	80	135	210	240	345	33	33	15	20
6.....	115	55	65	80	270	180	408	345	33	33	15	20
7.....	220	55	95	80	2,230	180	690	345	20	20	15	20
8.....	125	55	105	95	2,980	180	810	408	20	20	18	20
9.....	105	65	80	95	1,140	155	840	430	33	20	20	20
10.....	88	65	65	80	660	155	750	430	29	20	20	20
11.....	95	55	65	80	475	155	690	408	29	20	18	20
12.....	105	65	65	80	430	155	720	345	33	33	15	20
13.....	80	65	65	80	385	155	720	288	33	33	15	20
14.....	80	65	80	80	385	155	720	270	33	33	15	20
15.....	80	65	80	80	385	155	525	270	33	33	15	20
16.....	65	65	80	80	325	155	408	270	33	33	20	20
17.....	80	65	65	80	270	155	385	270	33	26	20	20
18.....	80	65	65	65	270	130	452	240	33	20	20	20
19.....	65	65	80	65	240	130	525	210	33	20	20	20
20.....	65	65	80	65	270	130	575	180	33	20	55	33
21.....	65	65	65	65	240	130	575	155	33	18	55	33
22.....	65	65	65	65	225	168	630	130	33	15	40	33
23.....	65	65	65	65	210	180	630	118	33	15	33	33
24.....	65	65	65	65	210	180	475	105	33	15	33	33
25.....	65	65	72	65	210	195	430	105	33	15	20	33
26.....	65	65	88	88	210	240	408	85	33	15	20	33
27.....	65	65	72	235	210	225	408	85	33	15	20	33
28.....	65	65	65	370	210	210	345	85	33	15	20	33
29.....	55	65	72	235	210	210	345	65	20	15	20	33
30.....	55	65	80	175	-----	225	475	65	20	15	20	20
31.....	65	-----	88	135	-----	225	-----	65	-----	15	20	-----

Monthly discharge of North Fork of American River near Colfax, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	220	55	81.8	5,030
November.....	65	55	62.8	3,740
December.....	105	65	72.8	4,480
January.....	370	65	102	6,270
February.....	2,980	135	465	26,700
March.....	240	130	181	11,100
April.....	840	225	508	30,200
May.....	602	65	268	16,500
June.....	48	20	32.0	1,900
July.....	33	15	22.1	1,360
August.....	56	15	21.9	1,350
September.....	33	20	24.3	1,450
The year.....	2,980	15	152	110,000

AMERICAN RIVER AT FAIROAKS, CALIF.

LOCATION.—At highway bridge 1,500 feet northwest of Southern Pacific Co.'s railroad station at Fair Oaks Bridge, half a mile southeast of Fair Oaks, Sacramento County, and 10 miles below mouth of South Fork.

DRAINAGE AREA.—1,910 square miles.

RECORDS AVAILABLE.—November 3, 1904, to September 30, 1924.

GAGE.—Vertical staff in two sections on right bank at the highway bridge. A water-stage recorder in same pool as staff gage was used from October 1 to February 7 and May 24 to September 30.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shifting.

EXTREMES OF DISCHARGE.—Maximum stage during year from floodmarks, 7.75 feet on February 8 (discharge, 14,000 second-feet); minimum stage from water-stage recorder, -0.97 foot at 5 p. m. August 16 (discharge, 3.6 second-feet).

1907-1924: Maximum stage recorded, 30.4 feet March 19, 1907 (discharge, from extension of rating curve, about 119,000 second-feet); minimum stage that of August 16, 1924.

DIVERSIONS.—Water is diverted for irrigation above station.

REGULATION.—See descriptions of Middle, North, and South Forks. Low-water flow partly regulated by power plant at Folsom.

ACCURACY.—Stage-discharge relation changed October 25, January 26, and April 14. Rating curves well defined. Water-stage recorder operated satisfactorily while in use. Staff gage read to half-tenths twice daily February 8 to May 3. Daily discharge ascertained by applying mean daily gage height to rating table or by use of discharge integrator; interpolated May 4 and 18. Records excellent.

Discharge measurements of American River at Fair Oaks, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 2	1.20	552	Mar. 14	1.37	662	July 21	-0.91	5.2
Oct. 10	1.34	637	Mar. 17	1.25	548	Do	-.91	4.6
Oct. 18	1.27	592	Mar. 20	1.36	670	July 28	-.94	4.1
Oct. 26	1.16	477	May 21	1.80	1,120	Do	-.94	3.6
Nov. 3	.97	393	May 24	1.48	794	Aug. 3	-.88	4.9
Nov. 11	1.02	417	June 1	.81	353	Aug. 11	-.88	5.0
Nov. 19	.90	350	June 8	.47	228	Aug. 18	-.66	15
Nov. 27	1.13	482	June 15	.11	129	Aug. 25	-.44	39
Dec. 19	.97	393	June 16	.09	124	Sept. 1	-.68	15
Jan. 3	1.04	417	June 23	.10	134	Sept. 8	-.68	16
Jan. 16	1.14	500	June 30	-.15	82	Sept. 15	-.78	10
Jan. 27	1.56	858	July 6	-.22	73	Sept. 22	-.54	26
Feb. 9	4.95	6,200	July 14	-.80	9.7	Sept. 29	-.39	42
Mar. 5	1.66	987	Do	-.79	11			

Daily discharge, in second-feet, of American River at Fair Oaks, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	662	556	360	496	878	1,050	905	2,220	410	99	4.8	16
2	585	544	370	484	932	1,050	905	2,360	368	114	4.8	18
3	578	544	390	430	1,070	1,160	950	2,640	408	68	5.5	21
4	578	532	380	580	878	1,100	1,380	2,360	397	68	4.8	21
5	606	460	375	556	860	1,050	1,160	2,080	289	63	4.8	21
6	722	520	370	532	1,010	950	1,000	1,950	281	62	4.8	21
7	806	508	370	520	4,700	860	1,700	1,820	271	47	4.8	18
8	1,200	508	622	484	10,600	950	2,630	1,880	256	57	4.8	18
9	896	484	615	608	6,770	770	2,930	2,080	237	34	4.8	19
10	754	532	460	556	3,420	690	2,630	2,220	235	27	5.5	18
11	754	472	370	532	2,330	815	2,780	1,820	231	18	5	66
12	762	390	390	556	1,840	770	2,630	1,880	219	14	4.8	41
13	754	544	424	544	1,770	860	2,630	1,950	212	14	4.6	22
14	634	556	594	544	1,700	770	3,090	1,570	203	11	4.6	15
15	592	508	608	520	1,770	770	2,500	1,450	196	13	4.6	11
16	634	484	580	508	1,700	730	2,080	1,510	179	14	4.8	12
17	648	520	532	520	1,580	770	1,760	1,510	166	15	6	14
18	690	460	556	496	1,380	730	1,880	1,480	163	9.5	18	15
19	714	360	520	472	1,380	730	1,690	1,450	152	7.5	19	18
20	655	436	632	424	1,320	690	2,080	1,330	146	7	19	21
21	578	330	556	448	1,440	730	2,220	1,280	155	5.5	18	30
22	450	380	496	472	1,380	770	2,360	1,160	141	6.5	18	29
23	538	448	436	472	1,270	690	2,500	900	113	7	36	27
24	557	448	472	460	1,100	730	2,500	802	133	8	38	25
25	554	424	496	442	1,050	905	2,080	770	131	7.5	40	31
26	526	424	520	544	1,100	1,320	1,820	754	116	8	40	28
27	508	395	550	806	1,000	1,160	1,820	714	104	7	47	24
28	496	448	448	1,690	950	1,000	1,820	658	93	5	39	26
29	496	350	340	1,510	950	880	1,760	580	106	4.6	29	50
30	544	460	340	1,090	-----	950	1,760	524	84	4.6	25	36
31	532	-----	484	896	-----	860	-----	430	-----	4.8	21	-----

Monthly discharge of American River at Fair Oaks, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1,200	450	646	39,700
November.....	556	330	468	27,800
December.....	622	340	470	28,900
January.....	1,690	424	619	38,100
February.....	10,600	860	2,000	115,000
March.....	1,320	690	879	54,000
April.....	3,090	905	2,000	119,000
May.....	2,640	430	1,490	91,600
June.....	410	84	206	12,300
July.....	114	4.6	26.8	1,650
August.....	47	4.6	15.8	972
September.....	66	11	24.4	1,450
The year.....	10,600	4.6	731	530,000

MIDDLE FORK OF AMERICAN RIVER NEAR EAST AUBURN, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ sec. 6, T. 12 N., R. 9 E., at Mountain Quarry Co.'s plant, $1\frac{1}{2}$ miles above junction with North Fork of American River and $3\frac{1}{2}$ miles northeast of East Auburn, Placer County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 22, 1911, to September 30, 1924.

GAGE.—Staff in four sections on left bank at pump house; read by J. A. Collins.

DISCHARGE MEASUREMENTS.—Made from cable 700 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shift during high water.

Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.3 feet at 7.15 a. m. February 8 (discharge, 5,100 second-feet); minimum stage, 1.84 feet September 26–30 (discharge, 23 second-feet).

1911–1924: Maximum stage recorded, 18 feet at 7 a. m. January 1, 1914 (discharge, from extension of rating curve, about 26,400 second-feet); minimum discharge, that of September 26–30, 1924.

DIVERSIONS.—Pilot Creek ditch diverts from Pilot Creek for irrigation on Georgetown divide. Little South Fork ditch diverts from Gerle Creek and discharges into Pilot Creek basin, where it is used when necessary to supplement the flow in Pilot Creek ditch; maximum discharge is probably less than 20 second-feet.

REGULATION.—Storage is developed in Loon Lake at the head of Gerle Creek to serve the ditches mentioned in the preceding paragraph.

ACCURACY.—Stage-discharge relation changed February 8. Rating curves well defined. Staff gage read to half-tenths twice daily except December 24–26, January 27, April 20, July 3–6, August 31, and September 21. Daily discharge ascertained by applying mean daily gage height to rating table, except for days when gage was not read, for which discharge was estimated by comparison with records for North Fork of American River. Records good.

Discharge measurements of Middle Fork of American River near East Auburn, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 24.....	2.81	132	Mar. 20.....	3.35	279	June 14.....	2.59	107
Do.....	2.80	137	May 12.....	4.63	874	July 12.....	2.10	45

Daily discharge, in second-feet, of Middle Fork of American River near East Auburn, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	190	115	115	175	320	440	365	1,140	185	62	33	26
2	190	115	113	135	382	440	400	1,300	175	65	33	26
3	155	115	111	160	428	480	400	1,470	169	61	33	26
4	160	115	99	190	340	440	605	1,300	169	57	33	26
5	160	115	99	175	320	382	460	860	165	54	33	26
6	220	115	95	175	428	330	460	710	161	51	31	26
7	525	115	125	190	2,730	348	1,140	990	145	48	31	26
8	550	115	220	190	4,960	365	1,470	990	141	48	31	26
9	428	115	175	220	2,260	330	1,470	1,140	125	45	31	26
10	285	115	135	190	1,380	330	1,470	1,140	121	43	30	26
11	268	115	119	190	990	348	1,470	1,140	115	43	30	26
12	268	115	115	199	800	330	1,470	990	115	43	30	26
13	205	115	115	166	740	330	1,470	860	105	43	30	26
14	196	115	160	160	710	330	1,650	710	105	41	29	26
15	190	119	175	160	680	330	1,140	740	98	41	28	26
16	190	115	155	160	680	382	860	655	98	41	28	26
17	160	105	135	160	580	330	770	740	93	39	28	26
18	166	105	135	148	530	330	860	740	90	39	28	26
19	175	105	155	148	530	295	770	710	90	38	30	26
20	175	115	135	135	530	295	1,140	630	87	38	31	26
21	148	111	135	135	530	312	1,140	555	78	39	31	26
22	135	105	115	135	530	265	1,300	530	75	39	31	26
23	131	99	115	135	480	330	1,300	450	72	38	31	26
24	131	99	135	135	440	330	1,300	382	68	38	30	25
25	131	95	145	140	400	365	920	348	68	38	30	25
26	119	95	175	190	400	440	860	330	65	38	29	23
27	119	95	148	500	400	400	860	330	62	36	28	23
28	119	91	119	800	400	330	800	280	62	35	28	23
29	119	81	115	580	460	330	860	265	62	33	28	23
30	115	99	140	382	-----	330	990	222	62	33	27	23
31	115	-----	184	320	-----	330	-----	210	-----	33	27	-----

Monthly discharge of Middle Fork of American River near East Auburn, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	550	115	201	12,400
November	119	91	108	6,430
December	220	95	136	8,360
January	800	135	222	13,600
February	4,960	320	840	48,300
March	480	265	353	21,700
April	1,650	365	1,010	60,100
May	1,470	210	738	45,400
June	185	62	108	6,430
July	65	33	43.2	2,660
August	33	27	30.0	1,840
September	26	23	25.4	1,510
The year	4,960	23	315	229,000

SOUTH FORK OF AMERICAN RIVER AT KYBURZ, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 28, T. 11 N., R. 15 E., at Kyburz, Eldorado County and 1 mile above mouth of Silver Fork.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 11 to September 1, 1906; September 1 to December 14, 1907; and April 19, 1923, to September 30, 1924, when station was discontinued.

GAGE.—Staff gage in two sections spiked to an alder tree on right bank, just below ice house at Kyburz; read by Ralph Kyburz.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed of stream smooth and water surface fairly smooth.

Left bank high and steep; right bank sloping; banks are slightly wooded.

Control consists of large boulders and gravel; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.9 feet May 10 (discharge, 560 second-feet); minimum stage recorded, 1.1 feet September 2-7 (discharge, 0.5 second-foot).

1923-1924: Maximum stage recorded, 5.1 feet May 13, 1923 (discharge, 1,020 second-feet); minimum stage, that of September 2-7, 1924.

DIVERSIONS.—Mr. Kyburz diverted about 5 second-feet about half a mile above gage for power and returned it to the river 700 feet below gage. This diversion was operated October 1 to November 11 and March 8 to September 30 and has not been included in the records for this station.

REGULATION.—Western States Gas & Electric Co. has two storage reservoirs in the mountains above gage.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Staff gage read to half-tenths once a day prior to May 17; twice daily thereafter. Daily discharge ascertained by applying daily gage height to rating table, except for the periods December 18 to March 8 and April 7 to May 17, for which it was estimated from records for station near Kyburz, as one daily gage height did not represent mean for day. Records fair.

Discharge measurements of South Fork of American River at Kyburz, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 10.....	2.00	44	Apr. 1.....	1.90	32	July 13.....	1.95	39
Jan. 22.....	2.05	30	May 23.....	2.54	122	Aug. 22.....	1.28	1.3
Feb. 14.....	2.15	58	June 20.....	2.18	65			

Daily discharge, in second-feet, of South Fork of American River at Kyburz, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	68	15	28	43	42	55	33	335	45	45	21	0.8
2.....	54	18	24	42	43	55	43	375	47	43	23	.5
3.....	76	15	28	42	44	50	43	385	44	43	21	.5
4.....	84	15	33	40	45	45	38	340	71	39	20	.5
5.....	68	15	33	40	46	40	43	265	71	38	18	.5
6.....	61	15	33	38	49	40	48	240	68	38	14	.5
7.....	48	15	28	34	90	40	59	310	65	39	11	.5
8.....	43	15	24	30	171	43	99	380	62	39	8	.6
9.....	38	18	33	27	100	43	144	400	61	38	8	.6
10.....	43	18	33	24	70	33	166	405	65	38	7.5	.6
11.....	38	18	33	23	68	38	238	430	57	38	6.5	.6
12.....	33	24	33	22	66	33	215	340	52	38	4.5	.6
13.....	33	24	38	22	64	38	242	260	52	38	4.5	.6
14.....	24	24	43	22	61	33	255	255	52	38	4.2	.9
15.....	21	24	43	22	58	33	174	255	68	38	3.3	1.5
16.....	33	24	43	22	54	38	162	272	65	38	3.0	4.5
17.....	38	24	43	22	53	33	151	233	74	38	2.1	3.9
18.....	24	24	43	20	50	33	178	215	67	35	1.5	2.1
19.....	23	33	43	20	55	24	205	162	65	33	1.5	1.5
20.....	18	33	43	23	55	21	203	158	65	33	1.5	1.2
21.....	18	33	43	26	55	18	242	151	65	33	1.5	1.2
22.....	18	33	43	30	50	18	261	130	61	33	1.5	1.2
23.....	18	28	43	30	50	24	226	120	54	33	1.5	1.0
24.....	18	28	43	31	45	24	185	110	61	33	1.5	1.0
25.....	18	28	43	31	45	28	174	112	55	33	1.2	1.1
26.....	18	24	43	32	45	28	174	92	55	33	1.2	1.0
27.....	18	24	43	34	50	33	161	92	52	33	1.0	1.1
28.....	18	24	43	47	60	33	156	76	54	31	1.0	1.0
29.....	18	24	43	45	55	33	162	54	60	28	1.0	.9
30.....	18	24	43	45	43	260	57	52	26	.9	1.4	
31.....	18	-----	43	44	-----	43	-----	44	-----	15	.8	-----

Monthly discharge of South Fork of American River at Kyburz, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	94	18	34.4	2,120
November.....	33	15	22.7	1,350
December.....	43	24	37.9	2,330
January.....	47	20	31.4	1,930
February.....	171	42	60.0	3,450
March.....	55	18	35.3	2,170
April.....	261	33	158	9,400
May.....	430	44	228	14,000
June.....	74	44	59.5	3,540
July.....	45	15	35.4	2,180
August.....	23	.8	6.36	391
September.....	4.5	.5	1.13	67.2
The year.....	430	.5	59.1	42,900

SOUTH FORK OF AMERICAN RIVER NEAR KYBURZ, CALIF.

LOCATION.—In S. $\frac{1}{2}$ sec. 29, T. 11 N., R. 15 E., on Lincoln Highway, half a mile below intake of El Dorado Canal and 2 miles west of Kyburz, Eldorado County. Perrin Creek enters just above gage.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 31 to December 14, 1907, and October 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank; inspected by ditch walker for Western States Gas & Electric Co.

DISCHARGE MEASUREMENTS.—Made from cable 80 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed of stream smooth, well-packed gravel; practically permanent. Channel straight for 300 feet above and 150 feet below cable. Right bank low and will be overflowed at medium stages; left bank high. Banks are wooded. Gage is in a large pool. Control is rapids; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.20 feet at 2 a. m. May 3 (discharge, 755 second-feet); minimum stage, 0.90 foot September 10, 11, and 21–24 (discharge, 0.5 second-foot).

1922–1924: Maximum stage, 6.08 feet at 9 p. m. May 16, 1923 (discharge, 2,630 second-feet); minimum stage, September 10, 11, and 21–24, 1924.

DIVERSIONS.—El Dorado Canal diverts water half a mile above station and returns it to river at the power house below gage.

REGULATION.—Western States Gas & Electric Co. has four storage reservoirs above station.

ACCURACY.—Stage-discharge relation permanent, except January 3–27 when it was affected by ice. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table, except April 7 to May 13, for which discharge integrator was used, and January 3–27, when ice was on control. October 2–9 discharge estimated from records at Kyburz. Records good.

Discharge measurements of South Fork of American River near Kyburz, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 10.....	1.72	19	Feb. 14.....	1.34	3.7	Apr. 11.....	2.90	190
Jan. 21.....	1.93	29	Mar. 15.....	.99	.7	May 23.....	2.41	93

Daily discharge, in second-feet, of South Fork of American River near Kyburz, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	61	106	50	1.4	2.0	1.1	0.8	383	0.8	0.6	0.6	0.6
2.....	65	140	47	1.3	1.9	1.1	.8	476	.7	.6	.6	.6
3.....	70	124	52	2.0	15	1.1	1.2	584	.7	.6	.6	.6
4.....	75	76	50	2.0	1.8	1.0	1.2	506	.7	.6	.7	.6
5.....	59	57	48	2.0	2.0	1.0	1.0	351	.9	.6	.7	.6
6.....	47	50	51	9	15	.9	1.2	320	.9	.6	.7	.6
7.....	36	41	63	17	104	1.0	64	398	.8	.6	.7	.6
8.....	19	39	50	13	170	1.0	148	468	.8	.6	.7	.6
9.....	16	40	38	6	98	51	180	510	.8	.6	.7	.5
10.....	20	41	12	8	32	.9	190	505	.8	.6	.7	.5
11.....	34	48	1.5	12	8	.8	244	447	.8	.6	.7	.5
12.....	62	47	7	11	2.8	.8	246	432	.8	.6	.7	.5
13.....	59	50	5	10	3.5	.8	412	317	.8	.6	.6	.5
14.....	52	48	13	9	12	.8	352	358	.8	.7	.6	.5
15.....	51	50	1.4	9	3.5	.9	140	294	.8	.6	.7	.5
16.....	55	45	12	9	1.4	.9	93	332	.8	.6	.7	.6
17.....	79	43	4.5	7	38	.8	143	315	.7	.6	.8	.6
18.....	59	46	3.8	6	1.3	.8	158	280	.7	.7	.7	.5
19.....	51	53	2.6	9	1.2	.7	233	247	.7	.7	.8	.5
20.....	48	53	1.8	19	1.3	.3	273	154	.8	.7	.8	.5
21.....	44	52	1.5	29	1.4	.8	302	136	.8	.7	.7	.5
22.....	44	52	1.5	19	1.2	.8	343	106	.7	.6	.7	.5
23.....	50	52	1.5	21	1.1	.8	351	90	.7	.6	.8	.5
24.....	23	52	19	6	1.1	.8	191	80	.7	.6	.8	.5
25.....	2.0	51	50	2.0	1.0	.8	161	67	.7	.6	.8	.5
26.....	38	50	20	10	1.0	.9	155	41	.7	.6	.7	.5
27.....	62	47	1.8	15	1.0	.8	173	7	.7	.6	.7	.5
28.....	59	47	21	7	1.2	.8	150	1.2	.7	.6	.7	.6
29.....	95	48	13	2.4	1.2	.7	152	1.0	.7	.7	.7	.6
30.....	98	53	1.8	1.8	-----	.7	292	.9	.7	.7	.6	.6
31.....	95	-----	1.5	1.7	-----	.8	-----	.8	-----	.6	-----	-----

Monthly discharge of South Fork of American River near Kyburz, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	98	2.0	52.5	3,230
November.....	140	39	56.7	8,370
December.....	63	1.4	20.8	1,280
January.....	29	1.3	9.28	571
February.....	170	1.0	18.1	1,040
March.....	51	.7	2.48	152
April.....	412	.8	172	10,200
May.....	584	.8	265	16,300
June.....	.9	.7	.76	45.2
July.....	.7	.6	.62	38.1
August.....	.8	.6	.70	43.0
September.....	.6	.5	.54	32.1
The year.....	584	.5	50.0	36,300

Combined daily discharge, in second-feet, of South Fork of American River and El Dorado Canal near Kyburz, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	144	50	55	104	109	71	513	95	83	63	69
2	115	140	47	55	104	109	91	606	92	78	63	78
3	120	124	52	51	101	97	109	627	86	78	71	77
4	125	76	50	52	104	85	91	576	83	78	70	75
5	109	57	48	52	104	79	85	481	107	78	69	74
6	98	50	51	52	117	73	115	450	101	75	73	59
7	78	41	63	54	206	79	190	528	98	75	70	46
8	63	39	50	56	272	79	274	598	98	75	80	35
9	58	40	50	59	188	86	304	640	95	81	84	40
10	70	41	50	62	146	75	316	635	95	84	81	44
11	69	48	56	65	122	76	370	577	113	83	75	54
12	62	47	59	67	123	75	372	562	104	83	71	48
13	59	50	57	69	126	73	438	447	98	92	67	52
14	52	48	56	71	125	73	455	491	92	95	81	52
15	51	50	56	73	130	85	270	427	107	77	84	58
16	55	45	62	75	109	82	223	465	95	76	85	61
17	79	43	66	77	106	77	213	446	89	88	85	57
18	59	46	66	79	103	70	288	413	99	88	83	54
19	51	53	65	81	115	70	363	380	110	89	87	52
20	48	53	64	81	109	73	403	287	109	85	83	54
21	44	52	62	85	109	64	432	269	110	80	82	44
22	44	52	62	86	103	76	478	239	104	79	87	54
23	50	52	60	81	97	70	481	221	101	77	85	52
24	52	52	76	83	91	68	321	213	101	76	85	54
25	52	51	91	84	91	64	291	200	98	74	87	54
26	91	50	75	100	91	70	285	177	101	73	83	54
27	118	47	57	124	97	67	303	143	101	71	81	52
28	115	47	57	129	121	67	280	128	107	82	81	52
29	149	48	57	113	115	66	282	119	107	91	79	53
30	152	53	57	104	-----	67	422	107	95	77	70	56
31	149	-----	56	104	-----	75	-----	98	-----	71	70	-----

Combined monthly discharge of South Fork of American River and El Dorado Canal near Kyburz, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	152	44	82.0	5,040
November	144	39	58.0	3,450
December	91	47	59.0	3,680
January	129	51	76.7	4,720
February	272	91	122	7,020
March	109	64	76.7	4,720
April	481	71	287	17,100
May	640	98	389	23,900
June	113	83	99.7	5,930
July	95	71	80.4	4,940
August	87	63	77.9	4,790
September	78	35	55.5	3,300
The year	640	35	122	88,500

NOTE.—See page 379 for discharge of El Dorado Canal.

SOUTH FORK OF AMERICAN RIVER NEAR CAMINO, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 25, T. 11 N., R. 11 E., 1 mile below intake of Western States Gas & Electric Co.'s flume, 300 feet above mouth of Iowa Canyon Creek, and 3 miles northwest of Camino, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 30, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 40 feet below gage or by wading.

CHANNEL AND CONTROL.—Channel is solid rock and boulders, straight for 600 feet above gage and 200 feet below. Gage is in a pool 250 feet long. Banks

are high, rough, and slightly wooded. Control is solid rock and boulders; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.12 feet at 8.30 a. m. February 8 (discharge, 1,970 second-feet); minimum stage, 0.69 foot at noon July 14 (discharge, 4.1 second-feet).

1922-1924: Maximum stage, 12.52 feet at 6 a. m. April 6, 1923 (discharge, 7,350 second-feet); minimum stage, that of July 14, 1924.

DIVERSIONS.—El Dorado Canal diverts water for power and irrigation from the river above station. Water used for power is returned to river above station but about 40 second-feet is diverted for irrigation from about May to October. Summerfield ditch diverts about 10 second-feet from Slab Creek, which is used for power below station. Western States Gas & Electric Co.'s flume diverts about 1 mile above gage.

REGULATION.—Flow partly regulated by storage reservoirs above and by operation of Western States Gas & Electric Co.'s power plant about 3 miles above.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder record good except October 9-18. Daily discharge ascertained by applying mean daily gage height to rating table, except March 13 to May 27, for which discharge integrator was used. Discharge estimated October 9-18 from flow over diversion dam 1 mile above. Records good.

Discharge measurements of South Fork of American River near Camino, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 19.....	1.64	52	Mar. 13.....	2.58	157	June 26.....	0.83	6.8
Jan. 24.....	1.84	70	Apr. 6.....	3.21	274	Aug. 18.....	.93	7.8

Daily discharge, in second-feet, of South Fork of American River near Camino, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	112	110	22	20	156	208	150	923	30	6.5	10	7.5
2.....	103	109	13	18	196	205	151	1,090	30	6.5	9.5	7.5
3.....	83	108	8	140	163	211	199	1,230	25	6.5	8	13
4.....	83	73	9	85	148	190	258	1,070	20	5.5	8	16
5.....	99	29	8	90	133	169	224	779	25	5.5	11	14
6.....	113	17	8.5	57	225	148	246	677	25	5.5	13	17
7.....	168	14	58	37	1,070	148	480	792	22	6	12	15
8.....	156	12	86	109	1,490	148	736	912	16	10	12	9.5
9.....	140	11	18	101	920	140	830	1,050	14	14	13	13
10.....	124	12	7	99	515	178	813	1,000	13	12	13	13
11.....	108	12	9	91	392	156	922	858	15	10	8	16
12.....	92	17	19	90	330	146	867	856	14	11	13	13
13.....	76	18	53	71	318	130	983	674	13	8.5	12	13
14.....	60	19	75	85	342	132	1,050	551	12	4.6	11	16
15.....	45	19	72	85	305	156	641	620	10	7	8.5	10
16.....	30	17	44	96	275	160	441	662	11	9.5	10	18
17.....	38	13	36	83	245	136	438	622	10	10	8	16
18.....	46	12	36	76	265	123	611	566	10	12	7	14
19.....	54	12	42	77	235	110	746	496	10	10	10	12
20.....	36	13	25	70	255	112	821	416	10	6.5	12	10
21.....	23	13	5.5	76	245	115	922	334	11	5.5	13	9.5
22.....	19	13	5.5	78	225	126	980	287	10	13	14	9
23.....	18	13	7.5	78	204	116	982	230	8.5	12	14	12
24.....	20	12	16	80	168	130	751	197	8	8	13	11
25.....	20	11	70	84	166	120	575	172	7.5	8.5	7.5	11
26.....	16	10	49	74	178	140	507	178	7.5	8	14	11
27.....	30	10	8.5	180	181	132	545	155	7	8	16	10
28.....	36	9.5	4.6	265	206	134	525	103	7	7.5	16	11
29.....	40	9	27	196	215	150	496	94	6.5	9	17	10
30.....	84	12	47	178	-----	121	706	70	7	14	16	12
31.....	84	-----	14	157	-----	132	-----	56	-----	10	14	-----

Monthly discharge of South Fork of American River near Camino, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	168	16	69.5	4,270
November.....	110	9	25.3	1,510
December.....	86	4.6	29.1	1,790
January.....	285	18	98.3	6,040
February.....	1,490	133	337	19,400
March.....	211	110	146	8,980
April.....	1,050	150	620	36,900
May.....	1,230	56	572	35,200
June.....	30	6.5	13.8	821
July.....	14	4.6	8.73	537
August.....	17	7	11.7	719
September.....	18	7.5	12.3	732
The year.....	1,490	4.6	161	117,000

Combined daily discharge, in second-feet, of South Fork of American River and Western States Gas & Electric Co.'s flume near Camino, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	218	217	129	129	263	315	257	1,030	138	64	46	24
2.....	209	216	120	105	303	312	258	1,200	138	60	44	30
3.....	189	215	114	140	270	318	306	1,340	133	58	37	46
4.....	190	180	116	179	255	297	365	1,180	128	40	36	53
5.....	206	136	115	174	240	276	331	887	133	34	52	49
6.....	220	124	116	161	332	255	353	785	133	34	61	57
7.....	275	121	165	143	1,180	255	587	900	125	46	53	49
8.....	263	114	193	216	1,600	255	843	1,020	121	52	50	38
9.....	247	116	125	208	1,030	247	937	1,160	110	64	54	46
10.....	230	117	101	206	622	285	920	1,110	107	61	56	47
11.....	214	118	116	198	499	263	1,030	966	115	67	37	54
12.....	198	124	126	197	437	253	974	964	119	66	56	46
13.....	183	125	160	178	425	237	1,090	782	96	60	54	45
14.....	167	126	182	192	449	239	1,160	659	93	42	52	50
15.....	152	126	179	192	412	263	748	728	89	60	36	39
16.....	137	124	151	203	382	267	548	770	90	58	52	67
17.....	145	120	143	190	352	243	545	730	88	50	36	68
18.....	153	117	143	183	372	230	718	674	83	60	35	66
19.....	160	118	149	184	342	217	853	604	82	58	50	63
20.....	143	120	132	177	362	219	928	524	81	30	58	55
21.....	130	120	88	183	352	222	1,030	442	82	32	58	48
22.....	126	120	102	185	332	233	1,090	395	78	61	63	54
23.....	125	120	112	185	311	223	1,090	338	70	58	62	64
24.....	127	117	123	187	275	237	858	305	68	43	54	65
25.....	127	116	177	191	273	227	682	280	66	48	40	64
26.....	120	115	156	181	285	247	614	286	74	43	55	64
27.....	137	115	114	287	288	239	652	263	75	39	60	58
28.....	143	114	91	392	313	241	632	211	70	38	59	72
29.....	147	111	134	303	322	244	603	202	70	45	58	60
30.....	191	119	154	285	-----	228	813	178	67	60	56	65
31.....	191	-----	121	264	-----	239	-----	164	-----	46	-----	-----

Combined monthly discharge of South Fork of American River and Western States Gas & Electric Co.'s flume near Camino, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	275	120	176	10,800
November.....	217	111	131	7,800
December.....	193	88	134	8,240
January.....	392	105	200	12,300
February.....	1,600	240	444	25,500
March.....	318	217	252	15,500
April.....	1,160	257	727	43,300
May.....	1,340	164	680	41,800
June.....	138	66	97.4	5,800
July.....	67	30	50.8	3,120
August.....	63	35	50.5	3,110
September.....	72	24	53.5	3,180
The year.....	1,600	24	249	180,000

NOTE.—See page 387 for discharge of Western States Gas & Electric Co.'s flume.

ECHO LAKE FLUME NEAR VADE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 6, T. 11 N., R. 18 E., 400 feet below outlet gate of Echo Lake, 5 miles northeast of Phillips, Vade post office, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August, 1923, to September 30, 1924.

GAGE.—Vertical staff gage nailed to right side of flume.

DISCHARGE MEASUREMENTS.—Made from a plank across flume at gage.

CHANNEL AND CONTROL.—Control is cross section and slope of flume.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 14 second-feet July 27 to August 7.

ICE.—No record during winter.

REGULATION.—Completely regulated by outlet gate in Echo Lake Dam. Lake is usually emptied during summer and fall. There was 1,100 acre-feet of water in Echo Lake on September 30, 1923, and no storage on September 30, 1924.

ACCURACY.—Stage-discharge relation fairly permanent. Rating curve well defined. Staff gage read once a day when there was a caretaker at Echo Lake. Daily discharge ascertained by applying daily gage height to rating table. Records for period June 1 to September 30 good.

Canal diverts water from Echo Lake in Truckee River basin into South Fork of American River basin.

Discharge measurements of Echo Lake flume near Vade, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
June 20.....	0.87	10.7	June 21.....	0.65	6.4
June 21.....	.54	4.5	Aug. 21.....	.28	1.0

Daily discharge, in second-feet, of Echo Lake flume near Vade, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	June	July	Aug.	Sept.
1	9.5					14	0.1
2	.3					14	.1
3	.3					14	
4	.3					14	
5	.3					14	
6	.3					14	
7						14	
8						13	
9						11	
10						8	
11		7.5	7.5			7	
12						6	
13						4.5	
14				6.5		3.8	
15				11		3.8	
16				11		3.2	
17		7.5		11		2.7	
18				11		1.6	
19				11		1.1	
20				11		1.1	
21				11		1.1	
22				11		1.1	
23				11		1.0	
24				11		.8	
25				11		.8	
26				11	0.7	.7	
27				11	14	.7	
28				11	14	.7	
29				11	14	.5	
30				5.5	14	.2	
31					14	.2	

NOTE.—No record obtained Oct. 7 to June 14. Gate in dam open Nov. 11, 17, and Dec. 11. Lake probably drained during winter. Waste gate in flume open Apr. 11 and 14. Gate in dam closed some time in May. No flow until June 14. Gate in dam open June 14-30; closed July 1-25, no flow in flume. Lake drained Sept. 3; no flow Sept. 3-30.

Monthly discharge of Echo Lake flume near Vade, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	11	0	5.90	351
July	14	0	2.28	140
August	14	.2	5.57	342
September	.1	0	.01	.4
The period				833

MEDLEY LAKES OUTLET NEAR VADE, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 29, T. 12 N., R. 17 E., half a mile below the auxiliary dams, 1 mile below main dam of Western States Gas & Electric Co. at Medley Lakes, and 5 miles northwest of Phillips, Vade post office, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 11, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in masonry well and shelter on left bank just below third small lake from main dam.

DISCHARGE MEASUREMENTS.—Made from a foot log across stream just below gage.

CHANNEL AND CONTROL.—Bed of stream is smooth. Banks are solid granite, steep, and not subject to overflow. Control is solid rock; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.74 feet from 7 p. m. June 28 to 7 p. m. June 30 (discharge, 52 second-feet); no flow latter part of September.

1922-1924: Maximum stage, 2.10 feet at 4 p. m. May 24, 1923 (discharge, 82 second-feet); no flow latter part of September, 1924.

ICE.—Snow collects to a depth of 12 feet, forming a bridge across stream. At times this settles or breaks causing backwater.

DIVERSIONS.—None.

REGULATION.—Partly regulated by gates in dam at Medley Lakes. There was 760 acre-feet of water in Medley Lakes on September 30, 1923, and none on September 30, 1924.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder record good, except from November 26 to April 12, when no observer was available. Daily discharge ascertained by applying mean daily gage height to rating table except as indicated in footnotes to tables of daily and monthly discharge. Records good.

Discharge measurements of Medley Lakes outlet near Vade, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
Apr. 12.....	Feet 0.50	Sec.-ft. 2.6	June 21.....	Feet 1.63	Sec.-ft. 44
May 22.....	.60	3.4	Aug. 21.....	.22	.4

Daily discharge, in second-feet, of Medley Lakes outlet near Vade, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Apr.	May	June	July	Aug.	
1.....	47	0.8	0.8	2.0	8.5	1.5	44	6	
2.....	46	.8			10	1.5	44	4.0	
3.....	45	.7			9.5	5.5	43	3.4	
4.....	46	.7			6	36	43	2.8	
5.....	32	.7			4.0	36	42	2.3	
6.....	5	.7	1.2	4.0	4.8	36	42	2.0	
7.....	3.4	.7			7	36	42	1.7	
8.....	2.4	.7			9	36	42	1.4	
9.....	2.3	.7			10	36	42	1.3	
10.....	2.4	.9			10	36	41	1.2	
11.....	2.1	1.0	1.2	4.0	9	36	41	1.1	
12.....	1.9	1.0	2.1		7	36	40	1.0	
13.....	1.5	1.0	10		4.4	4.2	36	.9	
14.....	1.3	.9	11		3.6	6	38	.9	
15.....	1.2	.8	11		2.3	9	47	.8	
16.....	1.9	.8	11	2.0	9	47	38	.7	
17.....	1.9	.8	11	2.0	8.5	46	37	.6	
18.....	1.4	.7	10	2.3	8.5	46	36	.6	
19.....	1.2	.7	10	3.6	7.5	45	36	.6	
20.....	1.0	.7		4.6	6.5	45	35	.5	
21.....	.9	.7		5.5	6	45	34	.5	
22.....	.9	.7		6	5	45	34	.5	
23.....	.9	.7		5.5	4.4	45	34	.5	
24.....	.8	.6	.6	3.0	4.4	45	32	.5	
25.....	.8	.6		2.2	3.7	45	30	.5	
26.....	.8	.6		2.2	3.1	44	28	.4	
27.....	.8			2.5	2.5	44	27	.4	
28.....	.8			2.5	2.1	47	25	.4	
29.....	.7			4.4	1.9	52	22	.4	
30.....	.7			7	1.6	51	18	.4	
31.....	.7			7	1.5	10	10	.4	

NOTE.—Braced figures show estimated discharge for the period indicated. Water below intake to recorder Sept. 1-30.

Monthly discharge of Medley Lakes outlet near Vade, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	47	0.7	8.25	507
November.....	1.0	.6	.74	44.0
December.....	11		6.62	407
January.....			4.0	246
February.....			.5	28.8
March.....			1.0	61.5
April.....	7		3.05	181
May.....	10	1.5	6.14	378
June.....	52	1.5	38.2	2,270
July.....	44	10	35.4	2,180
August.....	6	.4	1.25	76.9
September.....		0	.1	6.0
The year.....	52	0	8.80	6,390

NOTE.—Mean monthly discharge for January, February, and March estimated on basis of storage in Medley Lakes Reservoir and flow of Silver Lake outlet. Mean monthly discharge for September estimated.

SILVER LAKE OUTLET NEAR KIRKWOOD, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 32, T. 10 N., R. 17 E., in Eldorado County, 1,000 feet below Silver Lake Dam, and 4 miles southwest of Kirkwood, Amador County. Elevation about 7,200 feet.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 19, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 70 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed of stream is solid granite, smooth, straight for 100 feet above and below gage. Control is solid granite, permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.65 feet at noon May 19 (discharge, 156 second-feet); minimum discharge, 0.1 second-foot October 5 and March 1 to April 5.

1922-1924: Maximum stage, 3.82 feet at midnight May 16, 1923 (discharge, 273 second-feet); minimum discharge of 0.1 second-foot occurred each year.

ICE.—Snow and ice collect on control. Effect very slight this year.

DIVERSIONS.—None.

REGULATION.—Silver Lake is used as a storage reservoir. There was 4,200 acre-feet of water in Silver Lake on September 30, 1923, and no storage on September 30, 1924.

ACCURACY.—Stage-discharge relation permanent except during winter. Rating curve well defined. Water-stage recorder record good. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Silver Lake outlet near Kirkwood, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Feb. 27.....	0.82	5.5	May 19.....	2.63	155	June 23.....	0.53	0.3
May 19.....	1.83	78	Do.....	.89	9.1	Aug. 19.....	1.19	25

Daily discharge, in second-feet, of Silver Lake outlet near Kirkwood, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.2	0.2	17	20	0.1	0.1	0.8	8	16	33	9
2	.2	.2	.2	17	19	.1	.1	18	8	16	40	9
3	.2	.2	.2	17	19	.1	.1	42	7.5	16	45	4.2
4	.2	.2	.2	17	18	.1	.1	86	7	16	44	.7
5	.1	.2	.2	17	18	.1	.1	95	6.5	16	47	.8
6	.2	.2	.2	26	17	.1	.2	89	6.5	16	49	.4
7	.2	.2	.2	40	17	.1	.2	94	6	16	48	.4
8	.2	.2	.2	39	16	.1	.2	102	5.5	22	47	.8
9	.2	.2	.2	38	16	.1	.2	113	5.5	26	46	.7
10	.2	.2	.2	38	15	.1	.3	116	5	26	42	.5
11	.2	.2	.2	37	14	.1	.2	117	4.8	26	34	.5
12	.2	.2	.2	36	12	.1	.3	111	4.2	35	28	.5
13	.2	.2	.2	35	11	.1	.4	95	3.6	42	24	.5
14	.2	.2	.2	34	10	.1	.2	83	3.3	35	24	.6
15	.2	.2	.2	34	9.5	.1	.2	84	2.8	24	24	.6
16	.2	.2	.2	33	8.5	.1	.2	88	2.4	29	24	.6
17	.2	.2	.2	32	8	.1	.2	86	2.0	38	24	.6
18	.2	.2	.2	32	7.5	.1	.2	83	1.6	39	24	.6
19	.2	.2	.2	30	7	.1	.2	55	1.2	39	19	.5
20	.2	.2	.2	30	7	.1	.2	16	.9	34	6.5	.5
21	.2	.2	3.0	28	7	.1	.2	21	.8	31	9.5	.5
22	.2	.2	6.5	28	7	.1	.2	24	.6	31	9.5	.4
23	.2	.2	10	26	5	.1	.2	25	.4	31	9	.4
24	.2	.2	17	26	4.8	.1	.2	25	.4	31	9.5	.2
25	.2	.2	17	25	6	.1	.2	24	.2	31	10	.4
26	.2	.2	17	24	6	.1	.2	16	.2	31	9.5	.4
27	.2	.2	17	24	2.5	.1	.2	9.5	9.5	36	9.5	.4
28	.2	.2	17	24	.2	.1	.2	9.5	17	42	9.5	.4
29	.2	.2	17	23	.2	.1	.2	9	16	38	9.5	.2
30	.2	.2	17	21		.1	.2	9	16	31	9.5	.2
31	.2		17	20		.1		8.5		31	9.5	

Monthly discharge of Silver Lake outlet near Kirkwood, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	0.2	0.1	0.20	12.3
November	.2	.2	.20	11.9
December	17	.2	5.15	317
January	40	17	28.0	1,720
February	20	.2	10.6	610
March	.1	.1	.10	6.1
April	.4	.1	.20	11.9
May	117	.8	56.6	3,480
June	17	.2	5.11	304
July	42	16	28.7	1,760
August	49	6.5	25.1	1,540
September	9	.2	1.18	70.2
The year	117	.1	13.6	9,840

TWIN LAKES OUTLET NEAR KIRKWOOD, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ sec. 18, T. 10 N., R. 18 E., Alpine County, 500 feet below main dam and outlet gate of Twin Lakes, and 1 mile east of Kirkwood, Amador County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 19, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from a foot log across stream 400 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed of stream smooth; permanent. Banks are high, clear, and not subject to overflow. Control is a concrete dam about 12 feet long, 2½ feet high, with a 12-inch crest. Water surface smooth at all stages. Zero flow, gage height 0.0 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.57 feet at 3.30 p. m. October 28 (discharge, 115 second-feet); minimum discharge about 0.2 second-foot during part of winter.

1922-1924: Maximum stage, from water-stage recorder, 1.79 feet May 25 and 26, 1923 (discharge, 148 second-feet); minimum discharge about 0.2 second-foot during part of each winter.

ICE.—Control usually does not freeze although snow several feet deep collects on banks.

DIVERSIONS.—None.

REGULATION.—Regulated by gate in dam at Twin Lakes. There was 1,200 acre-feet of water in Twin Lakes on September 30, 1923, and 2,768 acre-feet on September 30, 1924.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder record good; not operated during the period January 22 to May 31. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

October 25, 1923: Gage height, 0.41 foot; discharge, 7 second-feet.

June 23, 1924: Gage height, 0.68 foot; discharge, 22 second-feet.

August 20, 1924: Gage height, 1.19 feet; discharge, 66 second-feet.

Daily discharge, in second-feet, of Twin Lakes outlet near Kirkwood, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	June	July	Aug.	Sept.
1.....	1.2	102	0.2	0.2	0.2	0.2	0.2	62
2.....	1.2	95	.2	.2	.2	.2	.2	66
3.....	1.3	54	.2	.2	.2	.2	.2	68
4.....	1.3	18	.2	.2	.2	.2	.2	69
5.....	1.3	7.5	.2	.2	.2	.2	.2	60
6.....	1.4	1.1	.2	.2	.2	.2	3.8	45
7.....	1.4	.2	.2	.2	.2	.2	13	30
8.....	1.6	.2	.2	.2	.2	.2	19	35
9.....	1.8	.2	.2	.2	3.4	.2	20	41
10.....	2.0	.2	.2	.2	12	.2	19	40
11.....	2.3	.2	.2	.2	13	.2	19	44
12.....	2.6	.2	.2	.2	13	.2	26	46
13.....	2.9	.2	.2	.2	13	.2	39	47
14.....	2.4	.2	.2	.2	6.5	.2	50	47
15.....	1.1	.2	.2	.2	.2	.2	51	47
16.....	1.1	.2	.2	.2	.2	.2	51	47
17.....	1.0	.2	.2	.2	11	.2	49	48
18.....	1.0	.2	.2	.2	23	.2	51	47
19.....	1.0	.2	.2	.2	23	.2	60	47
20.....	1.0	.2	.2	.2	22	.2	67	47
21.....	4.6	.2	.2	.2	22	.2	69	48
22.....	6.5	.2	.2	.2	23	.2	69	47
23.....	6.5	.2	25	.2	22	.2	69	47
24.....	7	.2	17	.2	22	.2	69	48
25.....	31	.2	.2	.2	24	.2	69	48
26.....	79	.2	.2	.2	25	.2	66	48
27.....	77	.2	.2	.2	16	.2	65	48
28.....	89	.2	.2	.2	6	.2	63	48
29.....	113	.2	.2	.2	.2	.2	59	50
30.....	111	.2	.2	.2	.2	.2	55	52
31.....	108	.2	.2	.2	.2	.2	55	-----

*Monthly discharge of Twin Lakes outlet near Kirkwood, Calif., for the year ending
September 30, 1924*

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	113	1.0	21.4	1,320
November.....	102	.2	9.41	560
December.....	25	.2	1.64	94.7
January.....	.2	.2	.20	12.3
February.....			.2	11.5
March.....			.6	36.9
April.....			1.0	59.5
May.....			1.0	61.5
June.....	25	.2	10.1	601
July.....	.2	.2	.20	12.3
August.....	69	.2	40.2	2,470
September.....	69	30	48.9	2,910
The year.....	113	.2	11.2	8,150

NOTE.—Monthly discharge estimated for February, March, April, and May. No water was released from reservoir during this period, the discharge being inflow between the reservoir and gaging station.

EL DORADO CANAL NEAR KYBURZ, CALIF.

LOCATION.—In sec. 29, T. 11 N., R. 15 E., 400 feet below intake and 2 miles west of Kyburz, Eldorado County. Prior to July 15, 1924, station was located at Perrin Creek flume, half a mile below intake.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924,

GAGE.—Water-stage recorder on left bank. Prior to July 15, a staff gage nailed to left side of Perrin Creek flume, about 30 feet below waste gates, was used.

DISCHARGE MEASUREMENTS.—Made from a plank across flume just below gage.

CHANNEL AND CONTROL.—Control at old site is at junction of the trapezoidal flume and the concrete-lined canal below. At new site control is cross section and slope of canal, which is granite on bottom and one side and lined with boards on other side. Conditions fairly permanent.

EXTREMES OF DISCHARGE.—1922-1924: Maximum mean daily discharge recorded, 136 second-feet May 26, 1924; canal dry at times.

ACCURACY.—Stage-discharge relation changed slightly. Rating curves well defined. Staff gage read once a day to quarter-tenths prior to July 18. Water-stage recorder record July 19 to September 30 good. Daily discharge ascertained by applying daily gage height to rating table, October 1 to November 1 and April 1 to September 30. Discharge estimated from one daily reading and discharge of canal near fore bay, January 26 to March 31; from one daily reading and flow of river, December 9 to January 2; from measurement made January 21 and flow of river, January 3-25. Records poor October 1 to March 31; fair April 1 to July 17; and good July 18 to September 30.

El Dorado Canal diverts from the left bank of South Fork of American River about 2 miles below Kyburz. The water is divided at the fore bay, 20 miles below the intake. Not more than 40 second-feet is sold to the El Dorado Water Co. from May 24 to September 24 and not more than 7 second-feet during the rest of the year. This water is used for irrigation and public use at Placerville. The remainder of the water is used for power by the Western States Gas & Electric Co., in sec. 22, T. 11 N., R. 12 E., where the water is returned to the river.

Discharge measurements of El Dorado Canal near Kyburz, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 10.....	2.14	50	Mar. 21.....	2.17	49	May 24.....	3.41	134
Jan. 21.....	2.20	56	Apr. 1.....	2.65	70	June 20.....	3.02	106
Feb. 14.....	3.50	121	Apr. 9.....	3.52	121	Do.....	3.00	107
Do.....	2.48	60	May 17.....	3.38	128	June 28.....	2.97	106
Mar. 15.....	2.90	85	May 23.....	3.40	131	July 10.....	2.52	83

Daily discharge, in second-feet, of El Dorado Canal near Kyburz, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	50	38		54	102	108	70	130	94	82	62	68
2.....	50			54	102	108	90	130	91	77	62	77
3.....	50			49	86	96	108	43	85	77	70	76
4.....	50			50	102	84	90	70	82	77	69	74
5.....	50			50	102	78	84	130	106	77	68	73
6.....	46			43	102	72	114	130	100	74	72	58
7.....	42			37	102	78	126	130	97	74	69	45
8.....	44			43	102	78	126	130	97	74	79	34
9.....	42		12	53	90	35	124	130	94	80	83	39
10.....	50		38	54	114	74	126	130	94	83	80	43
11.....	35		54	53	114	75	126	130	112	82	74	43
12.....			52	56	120	74	126	130	103	82	70	48
13.....			52	59	123	72	26	130	97	91	66	51
14.....			43	62	113	72	103	133	91	94	80	62
15.....			55	64	126	84	130	133	106	76	83	58
16.....			50	66	108	81	130	133	94	75	84	60
17.....			62	70	68	76	65	131	88	87	84	56
18.....			62	73	102	69	130	133	98	87	82	53
19.....			62	72	114	69	130	133	109	88	86	52
20.....			62	62	108	72	130	133	108	84	82	53
21.....			61	56	108	63	130	133	109	79	81	53
22.....			60	57	102	75	130	133	103	78	86	53
23.....			59	60	96	69	130	131	100	76	84	52
24.....	29		57	77	90	67	130	133	100	75	84	53
25.....	50		41	82	90	63	130	133	97	73	86	53
26.....	53		55	90	90	69	130	136	100	72	82	53
27.....	56		55	109	96	66	130	136	100	70	80	52
28.....	56		36	122	120	66	130	127	106	82	80	52
29.....	54		44	111	114	65	130	118	106	90	78	52
30.....	54		55	102		66	130	106	94	76	69	55
31.....	54		55	102		74		97		70	69	

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of El Dorado Canal near Kyburz, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	56	0	29.5	1,810
November.....	38	0	1.3	77.4
December.....	62	0	38.1	2,340
January.....	122	37	67.5	4,150
February.....	126	68	104	5,980
March.....	108	35	74.1	4,580
April.....	130	26	115	6,840
May.....	136	43	124	7,620
June.....	112	82	98.7	5,870
July.....	94	70	79.4	4,880
August.....	86	62	76.9	4,730
September.....	77	34	54.7	3,250
The year.....	136	0	71.8	52,100

ALDER CREEK NEAR WHITEHALL, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 36, T. 11 N., R. 14 E., three-fourths mile above mouth and 2 miles southeast of Whitehall, Eldorado County.

DRAINAGE AREA.—22.8 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in a corrugated iron pipe well and wooden shelter on right bank. Prior to July 23, 1924, a vertical staff gage attached to a pier of the trestle work of the El Dorado Canal flume was used; read by ditch walker.

DISCHARGE MEASUREMENTS.—Made from a log across creek at gage.

CHANNEL AND CONTROL.—Bed of stream is smooth solid granite. Banks are steep and not subject to overflow. Control, solid granite; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.30 feet February 8 (discharge, 92 second-feet); minimum discharge, 0.1 second-foot July 22–28 and August 4 to September 22.

1922–1924: Maximum stage recorded, 3.45 feet April 6, 1923 (discharge, 312 second-feet); minimum discharge, that of July 22–28 and August 4 to September 22, 1924.

DIVERSIONS.—Western States Gas & Electric Co. diverts water about 600 feet above gage through a feeder flume to El Dorado Canal. Water was diverted by this flume from November 25 to December 1 and has been included in the daily-discharge record of the creek.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve very well defined. Staff gage read to half-tenths once a day prior to July 22. Water-stage recorder record good July 23 to September 30. Daily discharge ascertained by applying daily gage height to rating table, except November 25 to December 1, when the flow in the feeder flume was added, and January 5–24, for which discharge was estimated on basis of measurement of January 21 because of ice on control. Records good.

Discharge measurements of Alder Creek near Whitehall, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 21.....	1.16	0.9	Apr. 9.....	1.59	21	Aug. 3.....	0.83	0.2
Feb. 15.....	1.47	14	May 23.....	1.12	2.0			

Daily discharge, in second-feet, of Alder Creek near Whitehall, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.0	1.0	1.0	1.3	10	7	5.5	10	1.1	0.3	0.2	0.1
2.....	.9	1.0	1.3	4.7	10	7	6.5	10	1.1	.3	.2	.1
3.....	.9	1.0	1.3	6.5	10	7	10	10	.9	.3	.2	.1
4.....	1.0	1.0	1.3	6.5	8.5	7	9	9.5	.9	.2	.1	.1
5.....	.9	1.0	1.0	3.0	8.5	6.5	10	9.5	.7	.2	.1	.1
6.....	2.2	1.0	1.0	2.0	18	6.5	10	9	.7	.2	.1	.1
7.....	1.3	1.0	1.0	1.5	57	6.5	19	9	.6	.2	.1	.1
8.....	1.3	1.0	1.0	1.5	92	5.5	21	9	.6	.2	.1	.1
9.....	1.3	1.0	1.0	1.0	41	5.5	21	8	.6	.2	.1	.1
10.....	1.3	1.0	1.0	.7	35	5.5	21	8	.6	.2	.1	.1
11.....	1.3	1.0	1.0	.8	21	5.5	21	6.5	.5	.2	.1	.1
12.....	1.0	1.0	1.0	.9	17	5.5	20	5.5	.5	.2	.1	.1
13.....	1.0	1.0	1.0	1.0	15	5	20	5	.5	.2	.1	.1
14.....	1.0	1.0	1.0	1.0	14	5	19	4.4	.5	.2	.1	.1
15.....	1.0	1.0	1.0	.9	14	5	17	4.4	.5	.2	.1	.1
16.....	1.0	1.0	1.0	.8	12	4.4	17	4.4	.5	.2	.1	.1
17.....	1.0	1.0	1.0	.8	10	4.4	15	4.4	.5	.2	.1	.1
18.....	.7	1.0	1.0	.8	10	3.1	14	4.4	.5	.2	.1	.1
19.....	.7	1.0	1.0	.8	10	3.1	14	4.4	.5	.2	.1	.1
20.....	1.0	1.0	1.0	.8	10	4.4	14	4.4	.5	.2	.1	.1
21.....	1.0	1.0	1.0	.9	10	6.5	14	3.1	.5	.2	.1	.1
22.....	1.0	1.0	1.0	.9	9.5	4.4	14	2.7	.5	.1	.1	.1
23.....	1.0	1.0	1.0	.9	9	4.4	16	1.7	.5	.1	.1	.2
24.....	1.0	1.0	1.0	1.0	8	5.5	16	1.3	.4	.1	.1	.2
25.....	1.0	1.0	1.0	2.7	8	5.5	15	1.3	.4	.1	.1	.2
26.....	1.0	1.0	1.0	3.1	7	5.5	14	1.3	.3	.1	.1	.2
27.....	1.0	1.0	1.0	6.5	7	4.4	13	1.2	.3	.1	.1	.2
28.....	1.0	1.0	1.3	13	7	3.1	12	1.2	.3	.1	.1	.2
29.....	.7	1.0	1.3	13	7	3.1	11	1.2	.3	.2	.1	.2
30.....	.7	1.0	1.3	12		4.4	11	1.1	.3	.2	.1	.2
31.....	1.1		2.2	11		5.5		1.1		.2	.1	

Monthly discharge of Alder Creek near Whitehall, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2.2	0.7	1.04	64.0
November.....	1.0	1.0	1.00	59.5
December.....	2.2	1.0	1.10	67.6
January.....	13	.7	3.30	203
February.....	92	7	17.1	984
March.....	7	3.1	5.22	321
April.....	21	5.5	14.7	875
May.....	10	1.1	5.06	311
June.....	1.1	.3	.55	32.7
July.....	.3	.1	.19	11.7
August.....	.2	.1	.11	6.8
September.....	.2	.1	.13	7.7
The year.....	92	.1	4.05	2,940

PLUM CREEK NEAR RIVERTON, CALIF.

LOCATION.—In SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 33, T. 11 N., R. 14 E., one-fourth mile above crossing of El Dorado Canal, 500 feet above road to Western States Gas & Electric Co.'s camp and 4 miles southeast of Riverton, Eldorado County. Elevation 4,100 feet.

DRAINAGE AREA.—7 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder on right bank. Prior to August 1 a vertical staff spiked to an alder tree on left bank, 200 feet below water-stage recorder was used.

DISCHARGE MEASUREMENTS.—Made by wading below gage.

CHANNEL AND CONTROL.—Bed of stream is solid rock. Banks high. Control in solid rock, practically permanent. Control at location used prior to August 1, subject to shift.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.70 feet at 5 p. m. February 8 (discharge, 34 second-feet); minimum discharge, 0.1 second-foot July 3 to August 14.

1922-1924: Maximum stage recorded, 3 feet at 5 p. m. December 13, 1922, and at 4 p. m. April 5, 1923 (discharge, 301 second-feet); minimum discharge that of July 3 to August 14, 1924.

DIVERSIONS.—None above station. Water is diverted into El Dorado Canal through a feeder flume about 600 feet below gage.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent at low stages; shifts at medium and high stages. Rating curve fairly well defined. Staff gage read to hundredths once a week, October 1 to January 25, and once a day, January 26 to July 31. Water-stage recorder record good, August 1 to September 30. Discharge ascertained by applying daily gage height to rating table and by interpolating or estimating for days when gage was not read and during period of ice effect January 1-26. Records fair.

Discharge measurements of Plum Creek near Riverton, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 20.....	0.62	0.4	Mar. 17.....	0.66	0.9	May 25.....	0.59	0.4
Jan. 22.....	.76	.9	Apr. 9.....	.92	3.2	Aug. 1.....	.10	.1
Feb. 15.....	.89	2.4						

Daily discharge, in second-feet, of Plum Creek near Riverton, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	0.5	0.4	0.7	2.2	2.8	1.1	2.5	0.9	0.3	0.2	0.1	0.2
2.....	.5	.4	.7	2.2	3.7	1.0	2.1	.8	.3	.2	.1	.2
3.....	.4	.4	.7	2.1	2.8	1.0	2.3	.7	.3	.1	.1	.2
4.....	.4	.4	.7	2.1	2.8	1.0	2.3	.7	.2	.1	.1	.2
5.....	.4	.4	.7	2.0	2.8	.9	2.3	.6	.2	.1	.1	.2
6.....	.8	.4	2.1	2.0	5.5	.9	3.1	.6	.2	.1	.1	.2
7.....	.6	.4	2.1	2.0	21	.9	3.1	.5	.2	.1	.1	.2
8.....	.6	.4	2.1	2.0	34	.9	3.4	.5	.2	.1	.1	.2
9.....	.6	.4	2.1	2.0	27	.9	3.0	.5	.2	.1	.1	.2
10.....	.5	.4	2.1	2.0	25	.9	2.8	.5	.2	.1	.1	.2
11.....	.5	.4	2.1	2.0	21	.9	2.8	.5	.4	.1	.1	.2
12.....	.4	.4	2.1	2.0	12	.9	2.5	.6	.3	.1	.1	.2
13.....	.4	.4	2.1	1.5	3.4	.8	2.5	.6	.2	.1	.1	.2
14.....	.4	.4	3.4	1.0	3.0	.8	2.5	.5	.2	.1	.1	.2
15.....	.4	.4	3.1	1.0	2.5	.8	2.5	.5	.2	.1	.2	.2
16.....	.4	.4	2.8	1.0	2.5	.8	2.4	.4	.2	.1	.2	.2
17.....	.4	.4	2.5	1.0	2.1	.7	2.3	.4	.2	.1	.2	.2
18.....	.4	.4	2.2	1.0	1.9	.7	2.2	.4	.3	.1	.2	.2
19.....	.4	.5	1.9	.9	1.9	.6	2.1	.4	.2	.1	.2	.2
20.....	.4	.5	1.6	.9	1.7	.6	2.0	.4	.2	.1	.2	.2
21.....	.4	.6	1.3	.9	1.7	.6	1.9	.4	.2	.1	.2	.2
22.....	.4	.6	1.3	.9	1.5	.5	1.8	.4	.2	.1	.2	.2
23.....	.4	.7	1.3	.9	1.3	.5	1.7	.4	.2	.1	.2	.3
24.....	.4	.7	1.3	.9	1.1	1.0	1.6	.3	.2	.1	.2	.3
25.....	.4	.7	1.3	1.5	1.1	1.0	1.5	.4	.2	.1	.2	.3
26.....	.4	.7	1.3	2.0	1.1	1.0	1.4	.3	.2	.1	.2	.3
27.....	.4	.7	1.3	6	1.1	1.0	1.3	.3	.2	.1	.2	.3
28.....	.4	.7	1.3	6	1.1	1.1	1.2	.3	.2	.1	.2	.3
29.....	.4	.7	1.4	3.7	1.1	1.3	1.1	.3	.2	.1	.2	.3
30.....	.4	.7	2.1	3.1	-----	1.4	1.0	.3	.2	.1	.2	.3
31.....	.4	-----	3.4	3.1	-----	2.1	-----	.3	-----	.1	.2	-----

Monthly discharge of Plum Creek near Riverton, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	0.8	0.4	0.45	27.7
November.....	.7	.4	.50	29.8
December.....	3.4	.7	1.78	109
January.....	6	.9	2.00	123
February.....	34	1.1	6.57	378
March.....	2.1	.5	.92	56.6
April.....	3.4	1.0	2.17	129
May.....	.9	.3	.47	28.9
June.....	.4	.2	.22	13.1
July.....	.2	.1	.11	6.8
August.....	.2	.1	.15	9.2
September.....	.3	.2	.23	13.7
The year.....	34	.1	1.27	925

SILVER CREEK NEAR PLACERVILLE, CALIF.

LOCATION.—In SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 13, T. 11 N., R. 12 E., one-fourth mile above mouth and 12 miles northeast of Placerville, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 23, 1921, to September 30, 1924.

GAGE.—Water-stage recorder in 14-inch pipe well and wooden shelter on right bank.

DISCHARGE MEASUREMENTS.—Made from cable 500 feet above gage or by wading.

CHANNEL AND CONTROL.—Solid rock and boulders; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.70 feet at 10 a. m. February 8 (discharge, 915 second-feet); minimum stage, -0.76 foot at 6 a. m. September 9 (discharge, 10 second-feet).

1921-1924: Maximum stage, from water-stage recorder, 8.58 feet at 11.30 p. m. May 30, 1922 (discharge, 3,860 second-feet); minimum stage that of September 9, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder record good, except June 22 to July 23, when float was resting on bottom of well. Daily discharge ascertained by applying mean daily gage height to rating table except for the period June 22 to July 23 for which it was interpolated. Records good.

COOPERATION.—Gage-height record furnished by city of Sacramento.

Discharge measurements of Silver Creek near Placerville, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 30.....	0.50	78	June 27.....	-0.19	28	July 24.....	-0.56	14
Mar. 16.....	1.73	170	.....Do.....	-.19	25	Sept. 11.....	-.71	12

Daily discharge, in second-feet, of Silver Creek near Placerville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	55	53	56	108	204	134	476	74	24	13	11
2	72	55	49	53	140	201	128	554	72	24	13	11
3	66	56	46	66	118	195	165	568	71	23	13	11
4	70	55	44	63	106	173	176	476	70	23	14	11
5	81	55	45	63	102	156	160	360	68	22	14	11
6	108	53	46	63	177	147	208	311	65	22	13	11
7	166	52	76	63	568	156	330	404	62	21	13	11
8	138	53	76	66	825	160	440	464	61	21	13	11
9	106	55	50	62	513	156	464	500	60	20	13	11
10	104	55	45	61	340	153	452	476	60	20	12	11
11	108	57	48	61	268	155	513	404	59	19	12	11
12	94	59	53	60	236	146	476	360	59	19	12	11
13	83	59	60	62	229	139	526	302	58	18	12	11
14	77	60	72	73	229	140	540	252	55	18	12	11
15	73	60	68	71	236	166	360	260	53	17	11	11
16	70	59	60	70	229	166	284	276	50	17	11	11
17	79	58	57	67	208	140	284	268	48	17	11	12
18	93	56	57	66	201	126	360	244	46	16	11	12
19	79	55	59	65	201	116	440	215	43	16	12	13
20	70	54	57	65	205	122	488	197	41	16	13	14
21	65	53	53	64	201	118	500	180	39	15	14	14
22	65	53	53	63	187	129	526	163	36	15	14	14
23	64	52	53	64	183	112	526	142	34	15	13	15
24	63	52	57	65	166	124	404	130	32	14	13	15
25	62	51	58	65	169	115	340	126	29	14	13	16
26	61	49	63	75	170	123	311	119	27	14	12	17
27	60	48	53	118	170	117	330	110	25	14	12	17
28	59	48	51	170	194	115	311	97	25	13	12	17
29	58	46	65	138	208	113	284	86	25	13	11	16
30	57	49	70	111	110	110	393	79	25	13	11	16
31	55	60	106	106	126	126	77	77	13	11	11	16

Monthly discharge of Silver Creek near Placerville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	166	55	80.0	4,920
November	60	46	54.1	3,220
December	76	44	50.7	3,480
January	170	53	74.7	4,580
February	825	102	237	13,600
March	204	110	143	8,790
April	540	128	362	21,500
May	568	77	280	17,200
June	74	25	49.1	2,920
July	24	13	17.6	1,080
August	14	11	12.4	762
September	17	11	12.8	762
The year	825	11	114	82,800

FINNON RESERVOIR OUTLET NEAR PLACERVILLE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 16, T. 11 N., R. 11 E., at weir 400 feet below Finnon Reservoir, 10 miles northeast of Placerville, Eldorado County.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924.

GAGE.—Vertical staff gage on left bank just above weir; read by reservoir caretaker.

DISCHARGE MEASUREMENTS.—Made by wading 80 feet below weir.

CHANNEL AND CONTROL.—Control is rectangular concrete weir with a sharp steel crest, end contracted. A deep pool above weir reduces velocity of approach

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.46 feet at 1 to 4 p. m. March 29 (discharge, 99 second-feet); water is usually turned out of canal for 12 hours each day.

1922-1924: Maximum stage recorded, that of March 29, 1924; water is usually turned out of canal for 12 hours of each day.

DIVERSIONS.—Water is diverted into Finnon Reservoir from One Eye Creek through One Eye ditch and from Slab Creek through Summerfield ditch.

REGULATION.—Flow completely regulated by gates in dam at Finnon Reservoir.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurement was made:

October 15, 1923: Gage height, 0.41 foot; discharge, 9.5 second-feet.

Daily discharge, in second-feet, of Finnon Reservoir outlet near Placerville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	4.2	4.6	1.9	6	-----	5	4.6	4.6	2.8	-----	-----	50
2.....	4.2	4.6	4.6	27	-----	5	4.6	4.6	2.8	-----	-----	-----
3.....	4.2	4.6	6	91	-----	5	4.6	4.6	2.8	-----	-----	-----
4.....	4.2	4.6	4.6	23	-----	5	4.6	4.6	2.8	-----	-----	-----
5.....	4.2	4.6	4.6	25	-----	5	4.6	4.6	2.8	-----	-----	-----
6.....	4.2	4.6	4.6	-----	-----	5	4.6	4.6	2.8	-----	-----	-----
7.....	6	4.6	4.6	-----	-----	5	4.6	4.6	2.1	-----	-----	-----
8.....	4.2	6	4.6	-----	-----	5	4.6	4.6	2.1	-----	-----	-----
9.....	4.2	5.5	.8	-----	5	5	4.6	4.6	2.1	-----	-----	-----
10.....	4.2	4.6	4.6	-----	6	5	4.6	4.6	2.1	-----	-----	-----
11.....	4.2	1.4	4.6	-----	6	5	4.6	4.6	2.1	-----	-----	-----
12.....	4.2	5.5	4.6	-----	5	5	6	4.6	2.1	-----	-----	-----
13.....	4.2	5.5	9	-----	5	5	5	4.6	2.1	-----	-----	-----
14.....	4.2	4.6	4.6	-----	5	5	5	4.6	2.1	-----	-----	-----
15.....	4.2	4.6	4.6	-----	5	5	5	4.6	2.1	-----	-----	-----
16.....	4.2	4.6	1.5	-----	5	5	5	4.6	2.1	-----	-----	-----
17.....	4.2	4.6	6	-----	5	5	5	4.6	2.1	-----	-----	-----
18.....	4.2	4.6	6	-----	5	5	5	4.6	2.1	-----	-----	-----
19.....	4.2	6	6	-----	5	5	5	4.6	2.1	-----	7.5	-----
20.....	4.2	6	6	-----	5	5	5	3.6	2.1	-----	-----	-----
21.....	4.6	6	6	-----	5	5	5	3.6	2.1	2.1	-----	-----
22.....	4.6	6	6	-----	5	5	5	3.6	2.1	-----	-----	-----
23.....	4.6	4.6	6	-----	5	6	5	3.6	2.1	-----	-----	-----
24.....	4.6	4.6	6	-----	5	6	5	3.6	1.4	-----	-----	-----
25.....	4.6	4.6	2.0	-----	5	6.5	5	3.6	1.4	-----	-----	-----
26.....	4.6	4.6	7.5	-----	5	6.5	5	3.6	1.4	-----	-----	-----
27.....	4.6	4.6	6	-----	5	6	5	3.6	1.4	-----	-----	-----
28.....	4.6	4.6	6	-----	5	6	5	3.6	-----	-----	-----	-----
29.....	4.6	4.6	6	-----	5	20	5	3.6	-----	-----	-----	-----
30.....	4.6	.8	6	-----	-----	4.2	5	3.6	-----	-----	-----	-----
31.....	4.6	-----	6	-----	-----	4.2	-----	2.8	-----	-----	-----	-----

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Finnon Reservoir outlet near Placerville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	6	4.2	4.40	271
November.....	6	.8	4.69	279
December.....	9	1.5	5.07	312
January.....	91	0	5.55	341
February.....	6	0	3.53	203
March.....	20	4.2	5.66	348
April.....	6	4.6	4.89	291
May.....	4.6	2.8	4.19	258
June.....	2.8	0	1.94	115
July.....	2.1	0	.07	4.3
August.....	34	0	1.34	82.4
September.....	50	0	1.67	99.4
The year.....	91	0	3.59	2,600

WESTERN STATES GAS & ELECTRIC CO.'S FLUME NEAR CAMINO, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 25, T. 11 N., R. 11 E., a mile below diversion dam on South Fork of American River and 3 miles northwest of Camino, Eldorado County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 1, 1922, to September 30, 1924.

GAGE.—Float gage in a stilling well on right bank of flume; read by flume walker.

A temporary gage 400 feet below intake was used July 15 to September 24.

DISCHARGE MEASUREMENTS.—Made from plank across flume at gage.

CHANNEL AND CONTROL.—Control is slope and cross section of flume below gage.

Shifts slightly, depending on condition of flume and repairs thereto.

EXTREMES OF DISCHARGE.—1922-1924: Maximum mean daily discharge recorded, 108 second-feet May 1 to June 6, 1924.

ACCURACY.—Stage-discharge relation changed March 29, when a break occurred in flume; July 5, when baffle boards were put in canal to raise water; August 13, when the first baffle board below gage was removed; and September 1, when all the baffle boards were removed. Rating curves fairly well defined. Staff gage read to half-tenths once daily at regular station. From July 15 to August 18 readings were made once a day, on a gage 400 feet below intake, and hourly July 10-14 and August 19 to September 24. Daily discharge ascertained by applying daily gage height to rating table October 1 to June 12; estimated from gage heights and flow of river June 13 to July 9; by integrator, using a plotted hydrograph of all readings at upper gage, July 10-14 and August 19 to September 24; estimated from gage height read at noon July 17 to August 18; and by hourly discharge, from a plotted hydrograph, September 25-30. Records fair.

Discharge measurements of Western States Gas & Electric Co.'s flume near Camino, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 19.....	4.50	103	Apr. 6.....	4.65	107	July 9.....	3.67	59
Jan. 24.....	4.60	109	May 28.....	4.70	107	Aug. 17.....	2.00	24
Mar. 13.....	4.64	109	June 26.....	4.08	87	Aug. 18.....	2.70	41

Daily discharge, in second-feet, of Western States Gas & Electric Co.'s flume near Camino, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	106	107	107	107	107	107	107	108	108	57	36	17
2.....	106	107	107	87	107	107	107	108	108	53	35	22
3.....	106	107	106	0	107	107	107	108	108	51	29	33
4.....	107	107	107	94	107	107	107	108	108	34	28	37
5.....	107	107	107	84	107	107	107	108	108	29	41	35
6.....	107	107	107	104	107	107	107	108	108	28	48	40
7.....	107	107	107	106	107	107	107	108	103	40	41	34
8.....	107	102	107	107	107	107	107	108	105	42	38	28
9.....	107	105	107	107	107	107	107	108	96	50	41	33
10.....	106	105	94	107	107	107	107	108	94	49	43	34
11.....	106	106	107	107	107	107	107	108	100	57	29	38
12.....	106	107	107	107	107	107	107	108	105	55	42	33
13.....	107	107	107	107	107	107	107	108	83	51	42	32
14.....	107	107	107	107	107	107	107	108	81	37	41	34
15.....	107	107	107	107	107	107	107	108	79	53	28	29
16.....	107	107	107	107	107	107	107	108	79	49	42	49
17.....	107	107	107	107	107	107	107	108	78	40	28	52
18.....	107	105	107	107	107	107	107	108	73	48	28	52
19.....	106	106	107	107	107	107	107	108	72	48	40	51
20.....	107	107	107	107	107	107	107	108	71	24	46	45
21.....	107	107	82	107	107	107	107	108	71	26	45	38
22.....	107	107	96	107	107	107	107	108	68	48	49	45
23.....	107	107	104	107	107	107	107	108	62	46	48	52
24.....	107	105	107	107	107	107	107	108	60	35	41	54
25.....	107	105	107	107	107	107	107	108	58	39	33	53
26.....	104	105	107	107	107	107	107	108	66	35	41	53
27.....	107	105	106	107	107	107	107	108	68	31	44	48
28.....	107	104	86	107	107	107	107	108	63	31	43	61
29.....	107	102	107	107	107	94	107	108	64	36	41	50
30.....	107	107	107	107	-----	107	107	108	60	46	40	53
31.....	107	-----	107	107	-----	107	-----	108	-----	35	32	-----

Monthly discharge of Western States Gas & Electric Co.'s flume near Camino, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	107	104	107	6,580
November.....	107	102	106	6,310
December.....	107	82	105	6,460
January.....	107	0	102	6,270
February.....	107	107	107	6,160
March.....	107	94	107	6,580
April.....	107	107	107	6,370
May.....	108	108	108	6,640
June.....	108	58	83.6	4,970
July.....	57	24	42.0	2,580
August.....	49	28	38.8	2,390
September.....	61	17	41.2	2,450
The year.....	108	0	87.7	63,800

CACHE CREEK BASIN

CLEAR LAKE AT LAKEPORT, CALIF.

LOCATION.—At municipal wharf on north side of Third Street at Lakeport, Lake County.

RECORDS AVAILABLE.—February 25, 1913, to September 30, 1924.

GAGE.—Vertical staff fastened to piling at municipal wharf; read once a day by W. E. Smith.

EXTREMES OF STAGE.—Maximum stage recorded during year, 1.80 feet February 21; minimum stage recorded, —1.40 feet September 28–30.

1913–1924: Maximum stage recorded, 11.12 feet January 28, 1914; minimum stage recorded, —3.50 feet September 24–27, 1920.

COOPERATION.—Gage-height record furnished by Yolo Water & Power Co.

Daily gage height, in feet, of Clear Lake at Lakeport, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.25	0.92	0.92	0.85	1.10	1.72	1.60	1.35	0.92	0.28	—0.40	—1.00
2.....	1.22	.92	.92	.88	1.10	1.75	1.50	1.32	.90	.25	— .42	—1.00
3.....	1.25	.92	.90	.90	1.10	1.72	1.50	1.32	.90	.25	— .45	—1.00
4.....	1.25	.92	.88	.90	1.10	1.75	1.50	1.20	.88	.22	— .45	—1.00
5.....	1.25	.90	.85	.90	1.10	1.72	1.49	1.20	.85	.22	— .48	—1.00
6.....	1.25	.90	.80	.90	1.20	1.72	1.49	1.20	.82	.20	— .50	—1.00
7.....	1.22	.90	.70	.90	1.35	1.72	1.49	1.18	.80	.19	— .50	—1.02
8.....	1.22	.90	.80	.90	1.48	1.72	1.49	1.18	.80	.15	— .52	—1.05
9.....	1.22	.90	.85	.90	1.60	1.72	1.49	1.15	.78	.12	— .52	—1.05
10.....	1.20	.90	.85	.92	1.65	1.72	1.49	1.12	.75	.12	— .55	—1.05
11.....	1.19	.90	.85	.95	1.70	1.70	1.49	1.12	.70	.08	— .60	—1.10
12.....	1.19	.92	.85	.95	1.62	1.72	1.49	1.10	.68	.05	— .60	—1.10
13.....	1.19	.92	.85	.95	1.65	1.70	1.49	1.10	.65	.02	— .62	—1.10
14.....	1.15	.92	.85	.95	1.65	1.65	1.49	1.15	.62	.00	— .62	—1.12
15.....	1.15	.92	.85	.95	1.65	1.65	1.49	1.19	.60	— .02	— .65	—1.15
16.....	1.12	.92	.85	.95	1.65	1.60	1.45	1.19	.60	— .02	— .70	—1.18
17.....	1.12	.92	.85	.95	1.70	1.60	1.45	1.19	.58	— .05	— .75	—1.20
18.....	1.10	.90	.85	.95	1.70	1.60	1.45	1.15	.55	— .10	— .80	—1.35
19.....	1.10	.90	.88	.95	1.71	1.58	1.45	1.15	.50	— .12	— .80	—1.35
20.....	1.10	.90	.85	.95	1.70	1.60	1.45	1.12	.50	— .15	— .80	—1.25
21.....	1.08	.90	.85	.95	1.80	1.50	1.45	1.10	.48	— .15	— .82	—1.28
22.....	1.05	.90	.85	.95	1.70	1.50	1.45	1.10	.45	— .20	— .85	—1.30
23.....	1.05	.90	.88	.95	1.70	1.55	1.45	1.10	.42	— .20	— .88	—1.25
24.....	1.02	.90	.85	.95	1.70	1.55	1.42	1.05	.40	— .22	— .90	—1.28
25.....	1.00	.90	.85	.95	1.72	1.60	1.42	1.02	.40	— .22	— .92	—1.30
26.....	1.00	.90	.82	1.08	1.72	1.60	1.40	1.00	.40	— .25	— .92	—1.35
27.....	1.00	.90	.82	1.10	1.72	1.60	1.38	1.00	.38	— .25	— .95	—1.38
28.....	1.00	.90	.80	1.10	1.72	1.59	1.38	.98	.35	— .30	— .95	—1.40
29.....	.98	.90	.80	1.20	1.72	1.59	1.38	.98	.32	— .35	— .98	—1.40
30.....	.95	.92	.80	1.10	-----	1.59	1.35	.95	.30	— .35	— .98	—1.40
31.....	.92	-----	.85	1.10	-----	1.59	-----	.92	-----	— .40	—1.00	-----

CACHE CREEK AT YOLO, CALIF.

LOCATION.—At highway bridge half a mile south of Yolo, Yolo County, in Rio

Jesus Maria grant, 1,000 feet above Southern Pacific Co.'s railroad bridge.

DRAINAGE AREA.—1,230 square miles.

RECORDS AVAILABLE.—January 1, 1903, to September 30, 1924.

GAGE.—Staff in four sections; lower section, vertical, fastened to pile under bridge near left bank; second section, inclined, left bank, under bridge; third section, vertical, fastened to cottonwood tree on right bank 70 feet above bridge; upper section, vertical, fastened to upper end of right abutment. Changes have been made in the sections and locations, but original datum has been maintained. Gage read by Dorothy E. Bigelow.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Sand and gravel; somewhat shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year 3.3 feet at 5 p. m. February 8 (discharge, 1,190 second-feet); no flow October 1–29, November 7 to December 10, December 16–25, January 20–28, and February 27 to September 30.

1903–1924: Maximum stage recorded, 27.8 feet at 5 p. m. February 2, 1915 (discharge, 21,100 second-feet); no flow for periods in nearly every year.

DIVERSIONS.—Numerous ditches divert water for irrigation above station.

REGULATION.—Clear Lake regulates the flow to some extent at high stages.

ACCURACY.—Stage-discharge relation not permanent. Rating curve poorly defined. Staff gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except for the period October 30 to January 19 which was estimated. Records poor.

The following discharge measurements were made:

December 26, 1923: Gage height, 0.45 foot; discharge, 0.2 second-foot.

January 17, 1924: Gage height, 0.40 foot; discharge, 0.5 second-foot.

February 10, 1924: Gage height, 1.54 feet; discharge, 310 second-feet.

Daily discharge, in second-feet, of Cache Creek at Yolo, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Day	Oct.	Nov.	Dec.	Jan.	Feb.
1		2		1	55	16				0.6	60
2		2		.8	50	17				.5	50
3		2		2	43	18				.2	43
4		.1		1	31	19				.1	36
5		.1		.8	22	20					31
6		.1		1	22	21					31
7				1	22	22					31
8				1	510	23					31
9				.6	700	24					31
10				.6	340	25					17
11			0.1	.5	206	26			0.2		3
12			.1	.5	140	27			1		
13			.1	.6	82	28			.8		
14			1.5	.6	55	29			.1	125	
15			.1	1	55	30				88	
						31	2		.8	68	

NOTE.—No flow on days for which discharge is not given.

Monthly discharge of Cache Creek at Yolo, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2	0	0.13	8.0
November	2	0	.21	12.5
December	1.5	0	.15	9.2
January	125	0	9.53	586
February	700	0	93.0	5,350
The year	700	0	8.22	5,970

NOTE.—No flow during months for which no record is given.

PUTAH CREEK BASIN

PUTAH CREEK AT WINTERS, CALIF.

LOCATION.—Just below Southern Pacific Co.'s railroad bridge at Winters, Yolo County, in Rio de los Putos grant.

DRAINAGE AREA.—654 square miles.

RECORDS AVAILABLE.—September 26, 1905, to September 30, 1924.

GAGE.—Staff in four sections, lower on right bank and upper three on left bank, 600 feet below bridge; read by Miss Frieda Sparks.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Sand and gravel; somewhat shifting. Two channels at low water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 18.2 feet at 9 a. m. February 8 (discharge, about 13,100 second-feet); no flow October 1 to December 11 and May 18 to September 30.

1905-1924: Maximum stage recorded, 39 feet, from floodmarks at gage, December 31, 1913 (discharge, from extension of rating curve, about 60,000 second-feet); no flow during part of years ending September 30, 1913, 1914, 1918 to 1924.

DIVERSIONS.—There are several small diversions for irrigation above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed February 8. Rating curves well defined below 1,500 second-feet and extended above. Staff gage read to half-tenths once daily, except February 8, when it was read twice. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of Putah Creek at Winters, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 2.....	4.04	2.6	Mar. 4.....	4.62	55	Apr. 16.....	4.08	9.7
Jan. 20.....	4.04	2.9	Do.....	4.62	54	Do.....	4.08	11
Feb. 1.....	4.95	87	Mar. 18.....	4.36	30	May 13.....	3.82	1.8
Feb. 10.....	6.86	760	Mar. 21.....	4.34	25			

Daily discharge, in second-feet, of Putah Creek at Winters, Calif., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1.....		3	78	58	28	4	16.....	5	1.7	150	32	11	0.2
2.....		3	63	58	23	4	17.....	3	1.7	150	32	9	.1
3.....		5	50	58	23	4	18.....	3	3	117	28	9	
4.....		5	50	58	23	4	19.....	3	3	107	28	9	
5.....		5	56	62	23	2.8	20.....	3	3	97	28	9	
6.....		5	50	52	20	2.8	21.....	3	3	97	23	7	
7.....		5	500	47	20	2.8	22.....	3	3	79	23	7	
8.....		3	10,100	47	20	1.5	23.....	3	3	79	23	7	
9.....		3	1,530	42	16	1.5	24.....	3	3	72	23	7	
10.....		3	790	42	16	1.5	25.....	3	1	72	37	4	
11.....		3	600	42	14	1.5	26.....	3	12	65	37	4	
12.....	12	3	330	37	14	1.5	27.....	5	153	65	37	4	
13.....	9	3	270	37	14	1.5	28.....	5	850	65	32	4	
14.....	5	1.7	212	32	11	.4	29.....	9	279	58	32	4	
15.....	3	1.7	187	32	11	.4	30.....	5	165		32	4	
							31.....	3	119		28		

NOTE.—No flow Oct. 1 to Dec. 11 and May 18 to Sept. 30.

Monthly discharge of Putah Creek at Winters, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December.....	12	0	2.9	178
January.....	850	1	53.4	3,280
February.....	10,100	50	557	32,000
March.....	58	23	37.7	2,320
April.....	28	4	12.5	744
May.....	4	0	1.11	68.2
The year.....	10,100	0	53.2	38,600

NOTE.—No flow during months for which no discharge is given.

EEL RIVER BASIN

LAKE PILLSBURY AT HULLVILLE, CALIF.

LOCATION.—At Scott Dam on South Eel River on line between secs. 14 and 23, T. 18 N., R. 10 W., at Hullville, Lake County. Rice Fork enters the reservoir just above dam.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924.

GAGE.—Staff gage bolted to face of dam near right end; read by C. L. Porter.

REGULATION.—Lake Pillsbury is a storage reservoir of Snow Mountain Water & Power Co. Water is released to operate power plant at Potter Valley, and then wasted into a tributary of Russian River. Flashboards are placed on dam to increase storage. Crest of dam, elevation 1,900 feet above sea level and 100 feet above gage datum; needle valve at elevation, 1,815 feet.

EXTREMES OF STAGE.—Maximum stage recorded during year, 1,871.6 feet October 1; minimum stage recorded, 1,829 feet December 28 to January 7.

ACCURACY.—Gage read to tenths twice daily.

Daily elevation, in feet, of Lake Pillsbury at Hullville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71.6	57.8	43.8	29.0	44.6	69.35	68.85	68.3	66.7	63.45	57.65	50.8
2	71.1	57.4	43.2	29.0	45.7	69.3	68.9	68.3	66.6	63.25	57.4	50.8
3	70.7	57.0	42.5	29.0	46.35	69.25	68.9	68.2	66.45	63.05	57.15	50.7
4	70.3	56.5	41.8	29.0	46.6	69.2	68.9	68.2	66.4	62.95	56.95	50.7
5	69.9	56.0	41.2	29.0	47.1	69.2	68.9	68.2	66.3	62.85	56.75	50.6
6	69.5	55.4	41.0	29.0	47.5	69.1	68.85	68.1	66.2	62.8	56.55	50.55
7	69.1	55.0	40.6	29.0	51.3	69.05	68.8	68.05	66.1	62.7	56.35	50.5
8	68.7	54.4	40.0	29.3	60.75	69.0	68.8	68.0	66.0	62.6	56.15	50.45
9	68.3	53.9	39.4	29.65	62.9	69.0	68.8	68.0	65.9	62.45	55.85	50.4
10	67.9	53.5	38.8	29.85	64.6	69.0	68.8	67.95	65.8	62.25	55.65	50.35
11	67.4	53.1	38.3	30.05	65.4	68.9	68.75	67.9	65.7	62.05	55.3	50.3
12	67.0	52.7	37.8	30.25	66.2	68.9	68.7	67.85	65.6	61.85	55.05	50.25
13	66.4	52.3	37.4	30.45	67.0	68.9	68.7	67.8	65.5	61.65	54.8	50.2
14	65.8	51.9	37.2	30.65	67.3	68.9	68.7	67.8	65.4	61.45	54.5	50.0
15	65.4	51.5	37.0	30.8	67.65	68.8	68.65	67.7	65.3	61.25	54.25	49.75
16	64.9	51.1	36.4	30.9	67.95	68.8	68.6	67.7	65.2	61.05	54.05	49.25
17	64.5	50.7	35.6	31.0	68.15	68.8	68.6	67.65	65.1	60.85	53.8	48.8
18	64.0	50.3	35.0	31.1	68.3	68.8	68.6	67.6	65.0	60.65	53.65	48.3
19	63.6	49.9	34.4	31.2	68.4	68.7	68.6	67.55	64.9	60.45	53.45	47.9
20	63.3	49.5	33.6	31.2	68.5	68.7	68.6	67.5	64.8	60.25	53.25	47.5
21	62.8	49.1	32.8	31.1	68.6	68.7	68.5	67.45	64.7	60.05	53.05	47.1
22	62.2	48.6	32.1	31.1	68.7	68.7	68.5	67.4	64.6	59.85	52.85	46.7
23	61.8	48.1	31.4	31.0	68.8	68.7	68.5	67.4	64.5	59.65	52.65	46.3
24	61.4	47.6	30.6	30.95	68.9	68.7	68.5	67.3	64.4	59.45	52.45	45.9
25	61.0	47.0	30.0	30.9	69.0	68.75	68.45	67.25	64.3	59.25	52.25	45.5
26	60.6	46.4	29.5	31.7	69.1	68.8	68.4	67.2	64.2	59.05	52.05	45.1
27	60.2	45.8	29.2	35.0	69.2	68.8	68.4	67.1	64.1	58.85	51.85	44.7
28	59.8	45.4	29.0	40.0	69.3	68.8	68.4	67.05	64.0	58.6	51.55	44.4
29	59.4	44.8	29.0	42.15	69.4	68.8	68.35	66.95	63.85	58.3	51.35	44.1
30	58.8	44.4	29.0	44.0	-----	68.8	68.3	66.9	63.65	58.05	51.05	43.8
31	58.2	-----	29.0	44.1	-----	68.8	-----	66.8	-----	57.85	50.9	-----

NOTE.—Add 1,800 feet to obtain sea-level elevation.

SOUTH EEL RIVER AT HULLVILLE, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 22, T. 18 N., R. 10 W., half a mile below Scott Dam and Lake Pillsbury, half a mile west of Hullville, Lake County. Soda Creek enters half a mile below gage.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 14, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in concrete well and shelter on left bank.

DISCHARGE MEASUREMENTS.—Made from cable just below gage or by wading above gage.

CHANNEL AND CONTROL.—Bed of stream is composed of sand and gravel, smooth, shifting. Straight above and below gage. Two channels at gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.77 feet at 2 p. m. November 8 to 8 a. m. November 9 (discharge, 316 second-feet); minimum stage, 0.35 foot at 5 a. m. September 9 (discharge, 0.1 second-foot, regulated by valve in Scott Dam).

ICE.—Stage-discharge relation not affected by ice during the year.

DIVERSIONS.—None.

REGULATION.—Completely regulated by gates in Scott Dam. There was 28,000 acre-feet of water in Lake Pillsbury on September 30, 1923, and 6,400 acre-feet on September 30, 1924.

ACCURACY.—Stage-discharge relation practically permanent during year. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table, except December 5-7, 13, 14, January 27, 29, 30, February 1, 3, 6, 10, 11, 13, and 14, for which hourly discharge was averaged. Records excellent.

No discharge measurements were made during the year.

Daily discharge, in second-feet, of South Eel River at Hullville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	249	207	161	54	52	86	41	55	61	66	69	1.6
2.....	249	198	161	52	3.0	76	41	55	61	66	69	1.3
3.....	249	202	190	48	32	76	41	55	60	66	69	1.0
4.....	249	222	200	52	79	76	41	55	62	66	69	.9
5.....	249	222	156	56	95	76	46	55	64	66	69	.7
6.....	249	220	44	58	68	76	55	55	64	66	69	.4
7.....	246	238	90	58	16	76	67	55	64	71	69	.2
8.....	246	283	243	59	7	93	67	55	64	71	69	.1
9.....	246	280	238	60	3.0	102	67	54	64	71	69	.2
10.....	243	252	230	60	105	102	67	54	64	71	69	.8
11.....	260	235	210	60	133	102	67	54	66	71	69	.8
12.....	274	228	141	60	3.6	102	67	54	66	71	69	.5
13.....	274	210	89	60	13	102	67	55	65	71	69	1.3
14.....	271	210	20	60	70	102	61	58	65	71	69	27
15.....	271	207	110	60	96	78	58	58	65	71	69	95
16.....	271	205	108	60	96	44	58	58	65	71	69	159
17.....	268	202	105	60	96	44	58	58	65	71	69	157
18.....	265	202	102	60	96	48	58	62	65	71	69	149
19.....	249	200	100	60	96	58	58	64	65	71	69	103
20.....	233	198	76	60	87	58	58	64	64	71	67	83
21.....	233	215	61	60	65	58	58	67	66	71	66	83
22.....	225	225	61	60	65	58	58	78	67	70	65	83
23.....	186	222	60	60	65	58	56	78	67	70	65	82
24.....	183	220	60	60	65	58	56	78	67	70	65	82
25.....	183	217	60	59	65	58	56	78	67	70	64	82
26.....	202	215	59	64	65	58	55	78	67	70	64	78
27.....	222	212	58	61	65	56	55	78	66	70	64	56
28.....	222	210	56	3.4	67	48	55	78	66	70	64	45
29.....	222	205	56	8.5	108	41	55	78	66	69	64	45
30.....	222	168	55	62	-----	41	55	69	66	69	60	46
31.....	222	-----	54	86	-----	41	-----	61	-----	69	3.0	-----

Monthly discharge of South Eel River at Hullville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	274	183	240	14, 800
November.....	283	163	218	13, 000
December.....	243	20	110	6, 760
January.....	86	3. 4	56. 2	3, 460
February.....	133	3. 0	64. 7	3, 720
March.....	102	41	69. 4	4, 270
April.....	67	41	56. 1	3, 370
May.....	78	54	63. 0	3, 870
June.....	67	60	64. 8	3, 860
July.....	71	66	69. 6	4, 280
August.....	69	3. 0	65. 2	4, 010
September.....	159	. 1	48. 8	2, 900
The year.....	283	. 1	93. 9	68, 300

SOUTH EEL RIVER AT VAN ARSDALE DAM, NEAR POTTER VALLEY, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 30, T. 18 N., R. 11 W., at Van Arsdale Dam of Snow Mountain Water & Power Co., 5 miles north of Potter Valley, Mendocino County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 18, 1909, to September 30, 1924. (Monthly discharge only for 1909 to 1922.)

GAGE.—Water-stage recorder in pipe well and wooden shelter on left bank of equalizing reservoir about 800 feet above Van Arsdale Dam.

DISCHARGE MEASUREMENTS.—Measurements in 1919 were made from a suspension bridge below dam. Wading measurements made about $1\frac{1}{2}$ miles below dam.

CHANNEL AND CONTROL.—Control is Van Arsdale Dam. Average elevation of crest of dam is 0.07 foot gage datum. At low water, flashboards are placed on crest. Crest of flashboards is very uneven. Average elevation in 1924 was 4.22 feet. Length of crest about 280 feet. A sluice gate in bottom of dam is opened only when stage is rising rapidly or when reservoir is emptied. Reservoir is an enlargement of the natural stream; it is about 400 feet wide and a mile or more long and is fairly well filled with sand and aquatic plants.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.10 feet with flashboards on dam and sluice gate open at 2 p. m. February 7 (discharge, 1,330 second-feet). Maximum discharge, including flow through power house at Potter Valley, 1,590 second-feet. Minimum discharge, about 2 second-feet, which is wasted daily through the fishway.

DIVERSIONS.—Water diverted through a tunnel to the power house of Snow Mountain Water & Power Co. in Potter Valley and then wasted down a branch of Russian River.

REGULATION.—Entire flow regulated by Lake Pillsbury. Low-water flow diverted to the power house, except about 2 second-feet, which is wasted down South Eel River through the fishway and sluice gate.

ACCURACY.—Stage-discharge relation permanent when flashboards are not on dam. Rating curve well defined. Gage-height record good. Daily discharge ascertained by applying hourly gage height to rating table after subtracting average height of flashboards from the gage height. When sluice gate was open, 700 second-feet were added to give total daily discharge. Records fair.

No discharge measurements were made during the year.

During the year there was flow only on December 7, February 7 and 8. Discharge for these days was 12.5, 470, and 499 second-feet, respectively. At all other times all the water was diverted through the tunnel to the power house at Potter Valley except 2 second-feet which was allowed to waste down the river. The total flow of South Eel River for any day may be obtained by adding to the above discharge that of the Snow Mountain Water & Power Co.'s tailrace (see p. 396).

Combined monthly discharge of South Eel River and Snow Mountain Water & Power Co.'s tailrace near Potter Valley, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	283	198	244	15,000
November.....	235	201	222	13,200
December.....	222	61	118	7,260
January.....	105	63	78.0	4,800
February.....	783	86	159	9,150
March.....	90	55	72.5	4,460
April.....	64	44	60.1	3,580
May.....	93	44	63.9	3,930
June.....	95	16	61.9	3,680
July.....	72	16	59.8	3,680
August.....	73	16	59.7	3,670
September.....	100	3	30.8	1,830
The year.....	733	3	102	74,200

EEL RIVER AT SCOTIA, CALIF.

LOCATION.—In sec. 18, T. 1 N., R. 1 E., at Wildwood Bridge, half a mile north-east of Scotia, Humboldt County. Larabee Creek enters 14 miles above and Van Duzen River 7 miles below station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 15, 1910, to February 6, 1915; October 1, 1916, to September 30, 1924.

GAGE.—Staff gage in eight sections; read by Millard Barisdale.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Solid rock and gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 26.9 feet at 9.10 a. m. February 8 (discharge, 73,400 second-feet); minimum stage recorded, 8.30 feet at 6 p. m. August 12, 13, and 14 (discharge, 10 second-feet).

1911-1924: Maximum stage recorded, 55.5 feet February 2, 1915 (discharge, from extension of rating curve, about 290,000 second-feet); minimum discharge, that of August 12, 13, and 14, 1924.

DIVERSIONS.—Water is diverted from the South Eel River by Snow Mountain Water & Power Co. and wasted down a branch of Russian River. (See p. 396.)

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly February 8. Rating curves well defined. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

EEL RIVER BASIN

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Discharge measurements of Eel River at Scotia, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
June 2.....	Feet	Sec.-ft.	Sept. 20.....	Feet	Sec.-ft.
Do.....	8. 97	126	Do.....	8. 40	22
	8. 97	127		8. 40	23

Daily discharge, in second-feet, of Eel River at Scotia, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	160	131	405	1,270	4,810	1,330	1,040	380	130	39	17	22
2.....	150	130	550	1,210	11,000	1,330	960	380	126	39	16	21
3.....	150	128	490	1,210	8,790	1,330	980	380	118	38	21	20
4.....	180	128	380	3,510	6,030	1,330	980	380	112	36	17	20
5.....	218	126	295	4,810	4,810	1,210	980	380	106	33	15	17
6.....	295	126	295	3,280	3,750	1,090	960	380	98	33	15	18
7.....	490	125	1,040	2,750	15,300	980	930	380	90	33	15	22
8.....	430	125	3,750	3,750	62,000	980	880	380	90	33	17	17
9.....	380	125	2,550	5,100	22,600	880	960	358	84	32	17	18
10.....	335	125	1,400	4,260	13,100	880	980	358	82	26	20	20
11.....	278	124	1,040	3,170	9,510	880	880	358	78	25	15	18
12.....	230	132	700	2,550	7,020	790	790	335	80	23	12	18
13.....	205	150	835	1,910	6,030	790	745	335	74	29	12	18
14.....	192	160	4,260	1,750	4,810	745	700	315	74	25	12	17
15.....	180	218	3,170	1,600	4,000	700	700	295	72	21	14	17
16.....	180	205	2,080	1,460	3,280	700	620	295	66	22	15	18
17.....	205	192	1,460	1,330	3,280	660	620	278	68	20	20	17
18.....	180	192	1,460	1,090	3,060	620	620	260	66	20	28	16
19.....	170	180	2,550	980	2,750	620	620	245	66	20	28	15
20.....	170	180	2,450	835	2,450	660	585	230	65	25	30	20
21.....	180	160	1,680	790	2,170	660	520	218	61	18	28	20
22.....	170	160	1,460	790	2,170	660	490	205	61	21	25	18
23.....	160	150	1,270	745	1,910	790	490	205	57	18	46	21
24.....	150	150	930	620	1,910	880	460	192	56	20	44	22
25.....	150	150	880	620	1,680	980	460	180	56	20	33	20
26.....	140	150	790	1,750	1,460	980	430	168	52	20	30	22
27.....	138	150	700	4,260	1,460	980	430	168	49	22	28	22
28.....	137	150	620	8,070	1,460	1,210	405	155	46	17	25	23
29.....	134	170	620	6,680	1,330	1,330	405	155	47	17	25	22
30.....	131	315	835	4,530	-----	1,270	405	142	42	17	23	22
31.....	132	-----	1,040	3,280	-----	1,090	-----	142	-----	17	22	-----

Monthly discharge of Eel River at Scotia, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	490	131	206	12,700
November.....	315	124	157	9,340
December.....	4,260	295	1,350	83,000
January.....	8,070	620	2,580	159,000
February.....	62,000	1,330	7,380	424,000
March.....	1,330	620	946	58,200
April.....	1,040	405	703	41,800
May.....	380	142	278	17,100
June.....	130	42	75.7	4,500
July.....	39	17	25.1	1,540
August.....	46	12	22.1	1,360
September.....	23	15	19.4	1,150
The year.....	62,000	12	1,120	814,000

SNOW MOUNTAIN WATER & POWER CO.'S TAILRACE NEAR POTTER VALLEY, CALIF.

LOCATION.—In W. $\frac{1}{2}$ NW. $\frac{1}{4}$ sec. 6, T. 17 N., R. 11 W., at power house of Snow Mountain Water & Power Co., 3 miles northwest of Potter Valley, Mendocino County.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1924.

GAGE.—Water-stage recorder in stilling well on left bank of tailrace about 100 feet below power house, installed October 1, 1923. Previous gage was a float gage in same well. Datum not changed.

DISCHARGE MEASUREMENTS.—Made from a plank across tailrace just below gage.

CHANNEL AND CONTROL.—Three individual tailraces from units Nos. 1, 3, and 4 converge into one tailrace just above gage. Bottom and sides of tailrace are concrete. Tailrace is rectangular, 12 feet wide and 8 feet deep. Control is an 8 by 12 inch plank placed in weir guides to form a submerged weir.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge recorded during the year, 284 second-feet February 8.

1922-1924: Maximum mean daily discharge recorded, 317 second-feet October 10-13, 1922.

DIVERSIONS.—Water may be diverted from the tailrace above the gage through two small ditches for irrigation in Potter Valley. Water diverted at various times from April to September has been included in table of daily discharge.

REGULATION.—Completely regulated by operation at power plant.

ACCURACY.—Stage-discharge relation permanent. Rating curve very well defined. Water-stage recorder record excellent. Daily discharge ascertained by applying mean daily gage height to rating table, by use of discharge integrator, or by averaging hourly discharge. Records good.

No discharge measurements were made during the year.

Water for the power plant is diverted from South Eel River at Van Arsdale Dam. The tailrace discharges into a tributary of Russian River.

Daily discharge, in second-feet, of Snow Mountain Water & Power Co.'s tailrace near Potter Valley, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	257	218	186	61	104	78	57	61	61	66	66	70
2	257	229	206	67	105	82	52	61	86	68	59	1
3	257	221	220	93	105	84	51	61	93	70	22	1
4	273	218	204	69	105	84	42	61	53	63	66	1
5	276	220	153	72	105	86	57	61	53	66	66	1
6	273	225	176	73	105	88	56	55	54	15	66	1
7	207	233	55	76	264	86	58	62	53	66	66	1
8	273	230	126	72	284	84	54	62	15	66	66	1
9	273	225	166	76	281	84	57	62	68	66	66	3.2
10	273	229	168	78	208	85	59	62	68	66	14	1
11	281	212	169	76	156	86	54	62	68	66	63	1
12	273	221	111	72	105	86	62	62	68	66	66	1
13	272	229	199	73	104	86	61	62	80	15	63	1
14	201	223	168	73	102	87	60	62	70	62	63	1
15	276	222	157	71	101	87	60	62	15	29	63	1
16	276	219	103	71	101	57	55	63	68	66	63	1
17	276	220	96	62	101	59	59	62	68	66	15	59
18	254	199	83	71	101	54	61	62	68	66	64	98
19	222	220	83	72	101	59	61	61	65	66	63	98
20	222	223	84	72	101	53	61	42	66	14	66	58
21	196	219	84	72	101	59	61	91	66	54	57	13
22	216	218	76	67	101	57	61	60	14	66	65	57
23	219	219	61	67	102	57	61	59	66	66	66	57
24	214	217	61	73	102	59	61	59	66	66	15	55
25	203	220	61	69	93	58	59	59	66	66	62	57
26	226	219	61	72	84	55	61	62	66	66	64	54
27	222	221	59	94	84	55	61	76	66	15	65	54
28	200	220	61	103	84	57	60	61	66	66	64	13
29	215	201	61	85	84	56	61	61	15	66	64	54
30	219	207	61	100	-----	57	61	61	66	66	71	51
31	205	-----	61	103	-----	59	-----	61	-----	66	50	-----

Monthly discharge of Snow Mountain Water & Power Co.'s tailrace near Potter Valley, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet.
	Maximum	Minimum	Mean	
October.....	281	196	242	14,900
November.....	233	199	220	13,100
December.....	220	55	115	7,070
January.....	103	61	76.0	4,670
February.....	284	84	123	7,080
March.....	38	53	70.5	4,330
April.....	62	42	58.1	3,460
May.....	91	42	61.9	3,810
June.....	93	14	59.9	3,560
July.....	70	14	57.8	3,550
August.....	71	14	57.7	3,550
September.....	98	1	28.8	1,710
The year.....	284	1	97.5	70,800

KLAMATH RIVER BASIN

WILLIAMSON RIVER ABOVE SPRING CREEK NEAR KLAMATH AGENCY, OREG.

LOCATION.—In sec. 2, T. 34 S., R. 7 E., 8 miles north of Chiloquin, 2 miles above Spring Creek, and 6 miles northeast of Klamath Agency, Klamath County.

DRAINAGE AREA.—1,330 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—November 9, 1917, to September 30, 1919, and May 23, 1920, to September 30, 1924. Stations maintained at Rocky Ford in sec. 1, T. 33 S., R. 7 E., March 26, 1908, to June 30, 1910, and 5 miles above Spring Creek, May 1, 1912, to September 30, 1913, give practically the same record, except for inflow of a few second-feet from springs below Rocky Ford.

GAGE.—Stevens continuous recorder on left bank used since May 23, 1920; inspected by J. A. McKeever. Datum of gage lowered 1.13 feet October 12, 1923.

DISCHARGE MEASUREMENTS.—Made from cable 25 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel, practically permanent; one channel at all stages. Control is riffle 200 feet below gage; stage-discharge relation is probably affected by growth of aquatic plants.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.65 feet from 6 a. m. to noon February 14 and 15 (discharge, 369 second-feet); minimum stage, 0.98 foot June 19-21 (discharge, 14 second-feet).

1917-1924: Maximum stage from water-stage recorder, 3.84 feet April 13, 1919 (discharge, 1,220 second-feet). The flood of 1917, about April 27 or 28, reached a stage of 5.65 feet, as determined by leveling to high-water marks (discharge, estimated by extension of rating curve 2,500 second-feet); minimum discharge, that of June 19-21, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—A large area of Klamath Marsh and adjoining lands are irrigated by natural flooding and smaller areas by ditches.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined above 18 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good.

Discharge measurements of Williamson River above Spring Creek near Klamath Agency, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Oct. 12.....	<i>Feet</i> 1.12	<i>Sec.-ft.</i> 22.0	Apr. 2.....	<i>Feet</i> 1.94	<i>Sec.-ft.</i> 166	Aug. 11.....	<i>Feet</i> 1.10	<i>Sec.-ft.</i> 20.5
Feb. 19.....	2.58	342	May 20.....	1.18	26.2			

Daily discharge, in second-feet, of Williamson River above Spring Creek near Klamath Agency, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		21	48	34	47	277	171	51	20	19	28	22
2.....		21	41	34	85	274	161	48	19	20	27	22
3.....		23	39	31	104	266	156	42	18	20	27	23
4.....		21	37	30	104	260	161	42	17	20	28	24
5.....		19	36	29	114	257	158	41	16	21	28	23
6.....	22	19	37	29	123	249	156	41	16	21	27	23
7.....		18	45	29	164	249	154	40	15	22	27	23
8.....		17	56	28	187	238	149	40	15	23	27	23
9.....		18	58	27	215	232	141	39	15	23	24	24
10.....		18	58	27	232	232	132	37	16	23	23	23
11.....		18	52	28	282	232	149	39	16	24	22	23
12.....	23	18	48	29	300	232	149	39	15	24	22	23
13.....		18	44	29	328	224	112	37	15	24	22	23
14.....		18	44	29	362	218	106	35	14	23	22	23
15.....		20	40	29	365	218	106	34	15	21	20	23
16.....	22	21	37	27	351	204	106	31	14	22	20	21
17.....		21	41	27	341	210	96	29	14	21	19	20
18.....		22	42	27	344	201	96	29	14	20	20	19
19.....	23	23	44	27	341	179	93	28	14	20	20	19
20.....	24	23	45	26	338	179	85	27	14	20	20	17
21.....	23	27	44	24	325	182	82	27	14	20	20	17
22.....	23	29	41	24	318	176	80	26	14	21	20	16
23.....	24	29	39	23	315	176	78	26	14	21	20	16
24.....	23	30	36	23	309	179	75	26	14	21	21	18
25.....	23	39	33	22	297	182	68	26	15	21	20	19
26.....	23	41	29	21	294	182	66	25	15	21	20	19
27.....	23	41	29	21	291	168	62	25	15	23	20	19
28.....	23	41	28	21	280	166	56	24	16	23	20	20
29.....	20	41	30	19	280	151	54	23	17	25	21	21
30.....	20	45	39	19	-----	166	52	21	19	26	21	21
31.....	20	-----	41	19	-----	168	-----	20	-----	27	21	-----

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Williamson River above Spring Creek near Klamath Agency, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	24	20	22.2	1,360
November.....	45	17	25.3	1,510
December.....	58	28	41.3	2,540
January.....	34	19	26.2	1,610
February.....	365	47	256	14,700
March.....	277	151	211	13,000
April.....	171	52	110	6,550
May.....	51	20	32.8	2,020
June.....	20	14	15.5	922
July.....	27	19	21.9	1,340
August.....	28	19	22.5	1,380
September.....	24	17	20.9	1,240
The year.....	365	14	66.4	48,200

WILLIAMSON RIVER BELOW SPRAGUE RIVER, NEAR CHILOQUIN, OREG.

LOCATION.—In sec. 3, T. 35 S., R. 7 E., one-fourth mile below mouth of Sprague River and three-fourths mile southwest of Chiloquin, Klamath County.

DRAINAGE AREA.—3,000 square miles (revised; measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—June 25, 1917, to September 30, 1922, and August 31, 1923, to September 30, 1924.

GAGE.—Friez water-stage recorder on left bank; inspected by Mrs. Anna McKeever. Gage datum changed on August 21, 1923.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Rocky ledge and boulders; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 3.75 feet at 11 a. m. February 11 (discharge, 1,700 second-feet); minimum stage, 2.21 foot at 1 to 6 a. m. June 5 (discharge, 390 second-feet).

1911-1924: Maximum discharge, 7,300 second-feet April 27, 1917 (sum of discharges on that date at stations on Sprague River at Chiloquin, 4,490 second-feet and Williamson River at Chiloquin, estimated 2,500 second-feet to which has been added 300 second-feet for the estimated discharge of Spring Creek); minimum stage, 0.35 foot at 6 a. m. October 14, 1920 (discharge, 320 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Modoc Point Canal diverts from Sprague River above station.

Large areas of land are irrigated from the river and its tributaries.

REGULATION.—Manipulation of gates of dam used for logging on Sprague River causes considerable fluctuation at times.

ACCURACY.—Stage-discharge relation practically permanent during year. Rating curve fairly well defined. Operation of water-stage recorder satisfactory except for short periods. Daily discharge ascertained by applying to rating table the mean daily gage height obtained by inspection from recorder graph. Records good, except for December and January for which they are fair.

Discharge measurements of Williamson River below Sprague River, near Chiloquin, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 13.....	2.68	645	Feb. 19.....	3.25	1,100	Aug. 11.....	2.41	484
Oct. 18.....	2.53	557	Apr. 2.....	2.87	764			
Oct. 20.....	2.64	576	May 18.....	2.46	541			

Daily discharge, in second-feet, of Williamson River below Sprague River, near Chiloquin, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	596	632	678	568	1,050	955	755	626	408	475	524	614
2.....	602	632	685	582	1,100	955	755	644	416	491	524	574
3.....	608	632	755	596	1,100	912	755	614	412	491	518	557
4.....	614	632	720	611	1,150	870	755	508	416	491	518	552
5.....	620	632	720	626	1,100	870	755	508	416	475	513	546
6.....	626	638	706	626	1,000	870	755	535	403	465	513	535
7.....	626	638	720	626	1,100	870	755	602	460	455	513	526
8.....	626	638	720	620	1,150	870	755	562	445	557	508	513
9.....	596	638	720	620	1,200	870	755	590	486	518	513	502
10.....	596	638	706	620	1,260	870	720	562	480	480	530	480
11.....	602	638	644	620	1,430	870	720	574	486	475	486	496
12.....	608	638	706	614	1,370	870	720	574	470	475	470	496
13.....	614	638	755	590	1,260	870	720	574	638	475	475	535
14.....	602	632	699	590	1,200	870	713	562	546	486	475	530
15.....	590	632	664	584	1,150	830	755	584	546	486	480	518

Daily discharge, in second-feet, of Williamson River below Sprague River, near Chiloquin, Oreg., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	584	671	671	584	1,150	810	830	562	530	460	486	518
17.....	579	626	671	584	1,100		720	562	524	445	480	524
18.....	530	620	664	584	1,100		720	513	508	460	480	530
19.....	573	720	664	590	1,100		755	513	465	470	491	535
20.....	626	755	657	620	1,100		755	524	455	535	480	530
21.....	664	664	657	620	1,050	790	720	530	445	335	491	518
22.....	638	546	650	638	1,000		644	320	445	518	508	557
23.....	620	562	660	650	1,000		790	557	540	445	502	518
24.....	620	638		650	1,000		790	664	460	445	502	524
25.....	620	638		650	1,000		790	678	450	445	502	518
26.....	626	638		671	1,000	790	671	475	491	508	508	530
27.....	610	644		685	955		790	678	486	480	508	535
28.....		650		685	955		790	671	491	470	513	518
29.....		657	671	720	955		790	664	513	470	518	535
30.....		671	614	790	-----		790	650	620	470	518	508
31.....		-----	602	912	-----	755	-----	486	-----	524	513	-----

NOTE.—Braced figures show estimated mean discharge for periods indicated. No record, Oct. 19, 24, 25, Oct. 27 to Nov. 2, Dec. 23–28, Jan. 2–4, Mar. 16–21, and Sept. 26; discharge estimated or interpolated.

Monthly discharge of Williamson River below Sprague River, near Chiloquin, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	664	530	608	37,400
November.....	755	546	641	38,100
December.....	755	602	680	41,800
January.....	912	568	636	39,100
February.....	1,430	955	1,110	63,800
March.....	955	755	837	51,500
April.....	830	644	721	42,900
May.....	644	450	547	33,600
June.....	638	403	471	28,000
July.....	557	445	494	30,400
August.....	530	470	503	30,900
September.....	614	480	532	31,700
The year.....	1,430	403	646	469,000

UPPER KLAMATH LAKE NEAR KLAMATH FALLS, OREG.

LOCATION.—In SW. $\frac{1}{4}$ sec. 19, T. 38 S., R. 9 E., 1 mile above outlet of Upper Klamath Lake, 3 miles northwest of Klamath Falls, Klamath County.

RECORDS AVAILABLE.—May 28, 1904, to September 30, 1924.

GAGE.—Gurley water-stage recorder used since November 10, 1923. Zero on gage is 4,135.93 feet above sea level. Gage readings 1918 to 1924 reduced to a datum of 4,100 feet. All elevations refer to United States Bureau of Reclamation datum.

EXTREMES OF STAGE.—Maximum stage recorded during year, 4,141.98 feet at 4 p. m. March 8 (due to wind); minimum stage recorded, 4,137.46 feet at 6 p. m. September 22 and 11 a. m. September 24.

1904–1924: Maximum stage, 4,144.98 feet (United States Bureau of Reclamation datum) about April 20, 1904, determined from high-water marks May 28, 1904; minimum stage, that of September 22 and 24, 1924.

FLUCTUATION.—Gage heights are very much affected by the wind. The water is lowered near the outlet when the wind blows from the south and is raised as much above its normal level when the wind is in the opposite direction. There is a periodic oscillation when the wind blows for any length of time, with a period of about $2\frac{1}{2}$ hours.

REGULATION.—Water stored by dam at outlet of lake beginning April 15, 1919.

COOPERATION.—Gage-height record furnished by California Oregon Power Co.

Daily elevation, in feet, of Upper Klamath Lake near Klamath Falls, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	39.68	39.85	40.14	40.73	40.38	41.19	41.13	41.04	40.38	39.90	39.05	38.36
2.....	39.65	39.83	40.12	40.75	40.38	41.33	41.17	41.02	40.40	39.90	39.04	38.33
3.....	39.63	39.86	40.19	40.74	40.38	41.39	41.38	41.03	40.43	39.89	39.02	38.25
4.....	39.67	39.83	40.08	40.74	40.43	41.31	41.25	41.01	40.38	39.91	38.99	38.29
5.....	39.68	39.85	40.01	40.73	40.43	41.18	41.19	40.89	40.43	39.92	38.99	38.21
6.....	39.78	39.88	40.35	40.73	40.43	41.38	41.20	40.86	40.53	39.94	39.02	38.21
7.....	39.78	39.87	40.25	40.73	40.53	41.23	41.25	40.87	40.32	39.87	38.97	38.16
8.....	39.81	39.95	40.29	40.75	40.58	41.29	41.29	40.85	40.12	39.83	38.74	38.32
9.....	39.82	39.91	40.28	40.77	40.63	41.20	41.26	40.83	40.10	39.61	38.73	38.34
10.....	39.73	39.93	40.30	40.76	40.63	41.28	41.33	40.91	40.15	39.64	38.79	38.24
11.....	39.65	39.78	40.37	40.77	40.68	41.21	41.26	40.88	40.06	39.63	38.77	38.13
12.....	39.68	39.88	40.35	40.79	40.70	41.15	41.26	40.91	40.06	39.61	38.78	38.07
13.....	39.85	39.85	40.33	40.74	40.78	41.10	41.38	40.78	39.93	39.61	38.86	38.03
14.....	39.77	39.98	40.36	40.72	40.78	41.35	41.33	40.81	40.13	39.71	38.78	37.98
15.....	39.71	40.03	40.43	40.65	40.83	41.25	41.33	40.81	40.20	39.60	38.70	38.02
16.....	39.75	39.96	40.45	40.62	40.83	41.18	41.28	40.81	40.22	39.62	38.69	38.02
17.....	39.72	39.95	40.41	40.57	40.88	41.25	41.23	40.82	40.19	39.54	38.63	38.18
18.....	39.77	39.95	40.45	40.55	40.93	41.13	41.23	40.81	40.19	39.45	38.43	38.23
19.....	39.82	39.93	40.51	40.51	40.93	41.08	41.22	40.74	40.11	39.58	38.65	38.12
20.....	39.78	39.95	40.51	40.44	40.93	41.20	41.13	40.73	40.12	39.38	38.60	37.90
21.....	39.90	39.95	40.50	40.43	40.93	41.20	41.13	40.73	40.13	39.35	38.57	37.80
22.....	39.95	39.94	40.51	40.43	40.99	41.01	41.25	40.73	40.07	39.34	38.55	37.68
23.....	39.93	39.95	40.51	40.41	41.01	40.98	41.33	40.71	40.08	39.33	38.55	37.86
24.....	39.87	40.07	40.49	40.38	40.98	41.05	41.23	40.73	40.03	39.17	38.54	37.79
25.....	39.83	39.97	40.53	40.38	41.03	41.08	41.18	40.65	40.04	39.09	38.53	37.95
26.....	39.84	40.00	40.54	40.38	41.03	41.18	41.03	40.65	40.03	39.11	38.51	37.91
27.....	39.81	40.01	40.58	40.38	41.11	41.26	40.97	40.56	39.93	39.13	38.48	37.89
28.....	39.84	39.97	40.63	40.38	41.09	41.15	40.94	40.58	39.96	39.13	38.49	37.87
29.....	39.83	39.91	40.59	40.38	41.13	41.32	40.93	40.41	40.04	39.05	38.49	37.84
30.....	39.85	40.28	40.64	40.38	-----	41.10	40.98	40.43	39.91	38.73	38.48	37.77
31.....	39.88	-----	40.68	40.35	-----	41.03	-----	40.41	-----	39.04	38.40	-----

NOTE.—Add 4,100 feet to reduce elevations to sea level.

LINK RIVER AT KLAMATH FALLS, OREG.

LOCATION.—In NW $\frac{1}{4}$ sec. 32, T. 38 S., R. 9 E., 200 yards above outlet of Keno Canal, about three-eighths mile above county bridge over Link River, at Klamath Falls, Klamath County, and 1 mile below outlet of Upper Klamath Lake.

DRAINAGE AREA.—3,800 square miles (revised; measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—May 15, 1904, to September 30, 1924. The location of this station has been changed from time to time, but the records always represented the flow under the county bridge.

GAGE.—Friez or Stevens eight-day water-stage recorder on left bank above outlet of Keno Canal used November 24 to September 30; staff gage at old location opposite outlet of Keno Canal used October 1 to November 23; recorder inspected and staff gage read daily by employees of the California-Oregon Power Co.

DISCHARGE MEASUREMENTS.—Made from bridge, section deep, current sluggish at low water. To refer measurement made at bridge to gage above outlet of Keno Canal, the measured discharge at bridge is reduced by the measured or computed discharge of Keno Canal.

CHANNEL AND CONTROL.—Bed at bridge composed of mud and sand. Rock and boulder riffle, a short distance below gage and above outlet of Keno Canal, forms practically permanent control for present gage.

EXTREMES OF DISCHARGE.—Maximum discharge during year, 2,820 second-feet January 14, 15, and 16; minimum discharge, 329 second-feet June 14.

1904-1924: Maximum stage, 7.30 feet at gage at bridge May 12, 1904, determined May 15, 1904, from high-water marks (discharge, 9,400 second-feet); minimum stage, 4.07 feet, August 30, 1918, determined by leveling (discharge estimated at 22 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—The main or "A" canal of the Klamath project of the United States Bureau of Reclamation diverts water from Link River immediately below Upper Klamath Lake. Keno Canal of California-Oregon Power Co. diverts around the present gage, but the flow is included in the record for Link River. (See p. 422.) Some water is also diverted for irrigation from the tributaries of Upper Klamath Lake, but the total run-off is as yet only slightly affected.

REGULATION.—Water stored in Upper Klamath Lake by dam beginning April 15, 1919.

ACCURACY.—Stage-discharge relation practically permanent at upper gage; somewhat unstable at lower gage. Rating curve for upper gage well defined and based on discharge measurements made at the county bridge and reduced by flow of Keno Canal. Operation of recorder satisfactory most of the time, beginning November 24. Daily discharge for October 1 to November 23, December 8-14 and 21 ascertained by applying one daily reading at lower gage to rating table; for remainder of year by applying to rating table for upper gage the mean daily gage height at upper gage and adding flow of Keno Canal. Record for upper gage excellent, for lower gage fair.

Discharge measurements of Link River at Klamath Falls, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 2.....	1.80	1,460	Nov. 2.....	1.58	1,120	Apr. 4.....	1.13	698
Oct. 3.....	1.64	1,210	Feb. 16.....	2.05	1,720	June 3.....	1.83	805
Do.....	1.19	792	Feb. 22.....	1.70	1,310	July 21.....	1.56	1,220
Oct. 4.....	2.16	1,910	Mar. 3.....	1.03	612	Aug. 14.....	1.46	1,000

Daily discharge, in second-feet, of Link River at Klamath Falls for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,430	1,180	1,180	1,160	1,930	629	1,270	1,230	675	523	645	1,170
2.....	1,430	1,180	1,040	1,150	1,930	645	988	1,230	677	519	663	1,220
3.....	1,300	1,180	879	1,160	1,930	863	700	1,240	585	522	659	1,130
4.....	1,300	1,180	1,060	1,160	1,930	1,500	972	1,250	486	511	665	1,050
5.....	1,440	1,180	1,030	1,170	1,930	1,500	1,250	1,230	457	522	655	1,140
6.....	775	1,180	1,090	1,170	1,730	1,820	1,250	1,230	415	778	655	1,120
7.....	775	1,180	1,110	1,160	1,130	2,080	1,280	1,120	403	981	645	1,090
8.....	956	1,180	1,160	1,170	847	2,260	1,260	1,030	393	987	619	1,110
9.....	946	1,370	1,160	1,430	799	2,540	1,260	936	389	1,020	633	1,190
10.....	937	1,430	1,150	1,730	555	2,550	1,260	787	391	1,120	637	1,240
11.....	1,280	1,370	1,150	1,720	591	2,540	1,150	787	377	1,090	631	1,210
12.....	1,270	1,370	1,150	2,140	949	2,540	1,260	796	375	1,160	661	1,220
13.....	965	1,430	1,150	2,800	1,150	2,470	1,300	781	363	1,180	733	1,240
14.....	965	1,430	1,150	2,790	1,150	2,410	1,280	773	454	1,220	680	1,010
15.....	946	1,430	1,080	2,820	1,490	2,310	1,280	777	525	1,220	846	1,040
16.....	1,300	1,430	1,080	2,780	1,740	2,040	1,250	731	533	1,210	804	1,100
17.....	1,310	1,070	1,080	2,760	1,730	815	1,250	667	543	1,170	941	1,080
18.....	1,330	1,040	1,100	2,730	1,740	639	1,260	675	537	1,150	1,020	1,080
19.....	1,610	1,010	1,100	2,520	1,470	973	1,250	665	523	1,180	1,040	1,330
20.....	1,670	1,000	1,060	2,410	1,300	1,180	1,110	661	522	1,170	1,030	1,250
21.....	1,240	1,240	1,190	2,410	1,300	1,210	1,230	657	535	1,080	1,020	1,280
22.....	1,220	1,240	1,140	2,410	1,290	1,360	1,250	657	543	853	1,070	1,200
23.....	1,210	1,220	1,160	2,140	1,300	1,380	1,288	649	533	836	975	1,280
24.....	1,200	1,170	1,170	1,930	1,300	1,370	1,240	661	527	663	888	1,290
25.....	1,180	1,140	1,160	1,920	1,300	1,400	1,230	645	531	655	995	1,350
26.....	1,190	1,160	1,150	1,930	966	1,390	1,190	651	531	663	1,210	1,350
27.....	1,180	1,180	1,150	1,930	751	1,390	1,200	619	515	673	1,250	1,350
28.....	1,190	1,180	1,140	1,930	999	1,380	1,210	535	529	671	1,100	928
29.....	1,180	1,170	1,140	1,930	755	1,390	1,230	629	537	661	1,280	773
30.....	1,180	1,170	1,150	1,930	-----	1,350	1,230	667	527	653	1,280	970
31.....	1,190	-----	1,140	1,930	-----	1,290	-----	677	-----	647	1,230	-----

NOTE.—The flow of Keno Canal has been included in this table.

Monthly discharge of Link River at Klamath Falls, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1,670	775	1,190	73,200
November.....	1,430	1,140	1,220	72,600
December.....	1,190	879	1,120	68,900
January.....	2,820	1,160	1,950	120,000
February.....	1,930	555	1,310	75,400
March.....	2,550	629	1,590	97,800
April.....	1,300	700	1,200	71,400
May.....	1,250	535	827	50,800
June.....	677	363	498	29,600
July.....	1,220	511	880	54,100
August.....	1,280	619	876	53,900
September.....	1,350	773	1,160	69,000
The year.....	2,820	363	1,150	836,000

NOTE.—The flow of Keno Canal has been included in this table.

Combined monthly discharge of Link River and "A" Canal at Klamath Falls, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	1,670	775	1,190	73,200
November.....	1,430	1,140	1,220	72,600
December.....	1,190	879	1,120	68,900
January.....	2,820	1,160	1,950	120,000
February.....	1,930	555	1,310	75,400
March.....	2,550	629	1,590	97,800
April.....	1,530	700	1,310	78,000
May.....	1,700	1,200	1,450	89,200
June.....	1,280	889	1,070	63,700
July.....	1,770	955	1,400	86,100
August.....	1,520	1,060	1,270	78,100
September.....	1,540	852	1,360	80,900
The year.....	2,820	555	1,360	984,000

KLAMATH RIVER AT SPENCER BRIDGE, NEAR KENO, OREG.

LOCATION.—In SW. $\frac{1}{4}$ sec. 31, T. 39 S., R. 7 E., at Spencer Bridge 1 mile below Spencer Creek, 6 miles below former station at Keno, and 18 miles west of Klamath Falls, Klamath County.

DRAINAGE AREA.—4,000 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—October 7, 1913, to September 30, 1924. Records at Keno May 31, 1904, to December 31, 1913.

GAGE.—Stevens continuous water-stage recorder on right bank about 500 feet below bridge used since October 1, 1923; inspected by Mazella Ward and Boyd Robinson.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Narrow channel, confined by rock crib and timbers of former bridge; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder during year, 5.86 feet at 11 a. m. January 14 (discharge, 3,220 second-feet); minimum stage, 0.97 foot at 9 p. m. June 14 (discharge, 371 second-feet).

1913-1924: Maximum discharge recorded, 5,130 second-feet, April 21, 1914; minimum discharge, that of June 14, 1924. A discharge of 9,250 second-feet occurred at Keno station about May 10, 1904.

ICE.—Stage-discharge relation not affected by ice, but float was frozen in well December 22-25.

DIVERIONS.—Only a small quantity of water diverted below Klamath Falls station. Practically the entire flow of Lost River during the nonirrigating season is diverted into Klamath River below Klamath Falls by the Lost River diversion canal (p. 424).

REGULATION.—Water stored in Upper Klamath Lake by California Oregon Power Co., beginning April 15, 1919. Some natural regulation due to effect of wind on the wide flat stretches of river above Keno.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 700 and 2,200 second-feet. Operation of water-stage recorder satisfactory, except for short periods. Daily discharge ascertained by applying to rating table mean gage height obtained by inspecting recorder graph. Records excellent, except for periods of estimated discharge and for discharges below 700 second-feet, which are fair.

Discharge measurements of Klamath River at Spencer Bridge, near Keno, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Sept. 7.....	3.43	1,520	Feb. 23.....	3.42	1,500	Apr. 4.....	2.44	985
Oct. 1.....	3.43	1,440	Mar. 3.....	1.96	744	July 21.....	2.90	1,370
Nov. 1.....	2.98	1,220	Apr. 1.....	3.31	1,440	Aug. 8.....	1.89	717
Feb. 15.....	3.31	1,470						

Daily discharge, in second-feet, of Klamath River at Spencer Bridge, near Keno, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,500	1,220	1,280	1,320	1,960	895	1,410	1,130	642	470		1,300
2.....	1,500	1,220	1,250	1,640	1,960	805	1,320	1,100	638	470		1,220
3.....		1,220	1,080	1,530	2,030	751	1,060	1,080	626	470		1,360
4.....		1,220	940	1,530	2,030	1,080	985	1,100	562	470		1,190
5.....		1,190	985	1,530	2,100	1,320	1,190	1,130	504	452		1,250
6.....		1,190	1,060	1,530	2,100	1,410	1,250	1,130	428	490		
7.....		1,190	1,100	1,590	1,960	1,700	1,250	1,130		588		
8.....		1,220	1,130	1,440	1,640	1,700	1,280	1,030		805	662	
9.....		1,320	1,190	1,380	1,380	1,960	1,300	1,010		895	670	
10.....		1,300	1,220	1,590	1,160	2,100	1,250	918	421	1,010	697	1,350
11.....		1,320	1,220	1,700	1,010	2,220	1,300	872		1,060	702	
12.....		1,350	1,130	2,100	1,060	2,280	1,250	828	414	1,060	702	
13.....		1,350	1,130	2,410	1,280	2,340	1,250	805	404	1,100	728	
14.....		1,380	1,130	2,550	1,350	2,280	1,280	828	401	1,080	805	
15.....		1,410	1,130	2,340	1,440	2,340	1,300	805	462	1,160	805	1,220
16.....		1,350	1,160	2,220	1,640	2,280	1,280	782	494	1,130	850	1,250
17.....		1,160	1,130	2,280	1,700	1,960	1,300	702	473	1,130	872	1,250
18.....		1,060	1,160	2,280	1,670	1,880	1,280	662	490	1,130	1,010	1,280
19.....		985	1,160	2,410	1,760	1,130	1,250	679	504	1,100	1,060	1,300
20.....		985	1,130	2,340	1,590	1,300	1,220	654	487	1,160	1,100	1,500
21.....		1,100	1,160	2,340	1,530	1,300	1,160	630	476	1,130	1,160	1,470
22.....	1,320	1,130	1,190	2,300	1,500	1,380	1,160	634	494	985	1,160	1,440
23.....	1,300	1,160	1,190	2,200	1,470	1,410	1,130	642	490	962	1,190	1,440
24.....	1,280	1,160	1,190	2,100	1,440	1,410	1,160	628	498	860	1,100	1,440
25.....	1,280	1,220	1,160	2,000	1,410	1,440	1,130	654	490	780	1,160	1,500
26.....	1,250	1,190	1,220	1,960	1,380	1,440	1,130	650	490		1,190	1,590
27.....	1,250	1,190	1,280	1,960	1,080	1,440	1,130	658	518		1,280	1,590
28.....	1,220	1,220	1,190	1,960	1,060	1,410	1,130	594	498		1,280	1,500
29.....	1,220	1,220	1,220	1,960	1,030	1,410	1,130	622	484	700	1,220	1,250
30.....	1,220	1,250	1,220	1,960		1,500	1,160	610	462		1,280	1,100
31.....	1,250		1,250	1,960		1,500		630			1,320	

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Klamath River at Spencer Bridge, near Keno, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			1,260	77,500
November.....	1,410	985	1,220	72,600
December.....	1,280	940	1,160	71,300
January.....	2,550	1,320	1,950	120,000
February.....	2,100	1,010	1,550	89,200
March.....	2,340	751	1,580	97,200
April.....	1,410	985	1,210	72,000
May.....	1,130	594	817	50,200
June.....	642	401	484	28,800
July.....	1,160	452	844	51,900
August.....	1,320	682	932	57,300
September.....	1,590	1,100	1,350	80,300
The year.....	2,550	401	1,200	868,000

KLAMATH RIVER NEAR COPCO, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 31, T. 48 N., R. 4 W., a quarter of a mile above mouth of Fall Creek, 2 miles below California Oregon Power Co.'s Copco plant and half a mile south of Copco post office, Siskiyou County.

DRAINAGE AREA.—4,300 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—October 1, 1923, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by operator at Fall Creek plant of California Oregon Power Co.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel, some large boulders, and bedrock; practically permanent. Banks high with some brush.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 5.85 feet at noon January 2 (discharge, 4,880 second-feet); minimum stage, due to complete shutdown of plant at Copco, 0.75 foot at 6 p. m. August 10, 4 a. m. September 2, and 1 p. m. September 21 (discharge, estimated from extension of rating curve, 112 second-feet).

ICE.—None.

DIVERSIONS.—One small diversion on left bank around station.

REGULATION.—Discharge is regulated by storage in upper Klamath Lake and California Oregon Power Co.'s reservoir above plant at Copco. When no water is going over dam, the discharge varies with the load on the power plant.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined between 200 and 2,500 second-feet. Operation of water-stage recorder satisfactory November 3 to January 2 and January 15 to September 30. Daily discharge ascertained by use of discharge integrator except as indicated in footnote to table of daily discharge. Records excellent except for October and January for which they are good.

Discharge measurements of Klamath River near Copco, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Power plant output	Date	Gage height	Dis-charge	Power plant output
	<i>Feet</i>	<i>Sec.-ft.</i>	<i>Kilowatts</i>		<i>Feet</i>	<i>Sec.-ft.</i>	<i>Kilowatts</i>
Nov. 3.....	3.47	2,180	18,500	Feb. 24.....	1.51	431	960
Nov. 4.....	1.74	551	2,500	Feb. 25.....	3.02	1,670	13,750
Do.....	2.28	993	7,000	Sept. 12.....	4.05	2,670	23,500
Nov. 5.....	3.52	2,210	19,200	Sept. 13.....	1.18	258	• 1,000

* Only 1 generator operating during measurement.

Daily discharge, in second-feet, of Klamath River near Copco Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,510	1,590	1,130	2,640	1,700	1,960	1,640	1,080	525	762	782	730
2.....	1,670	1,720	1,160	4,190	1,860	1,840	1,570	1,320	1,430	862	772	1,700
3.....	1,590	1,220	1,560	2,270	2,420	1,900	1,660	1,040	1,020	758	322	1,840
4.....	1,380	888	1,440	1,550	2,410	1,950	1,620	435	758	325	1,130	1,860
5.....	1,340	1,500	1,630	1,510	2,480	2,070	1,680	890	860	422	1,240	1,810
6.....	1,220	1,720	1,130	880	2,460	2,050	1,420	1,220	902	345	1,230	1,950
7.....	720	1,640	1,180	1,510	2,130	2,120	1,600	1,220	908	820	1,280	710
8.....	1,590	1,560	1,080	1,420	2,200	2,160	1,660	1,290	478	920	1,230	1,840
9.....	1,590	1,600	762	1,670	2,240	1,980	1,710	1,300	845	820	782	1,580
10.....	1,420	1,240	1,130	1,380	1,370	1,980	1,720	975	810	832	315	1,590
11.....	1,420	688	1,410	1,420	1,600	2,240	1,600	510	812	838	1,120	1,590
12.....	1,590	1,360	1,480	1,090	1,610	2,220	1,350	1,180	742	755	1,100	1,430
13.....	1,420	1,680	1,740	720	1,560	2,220	895	1,260	832	345	1,110	1,440
14.....	840	1,500	1,540	1,470	1,710	1,840	1,680	1,310	840	742	852	320
15.....	1,710	1,500	1,600	1,830	1,660	2,080	1,720	1,300	488	732	808	1,400
16.....	1,760	1,620	1,290	2,380	1,660	1,840	1,730	1,360	792	702	632	1,460
17.....	1,720	1,320	1,650	2,340	1,180	2,080	1,560	1,140	778	1,020	270	1,450
18.....	1,510	1,100	1,740	2,200	1,600	2,120	1,730	390	720	1,310	1,020	1,300
19.....	1,590	1,720	1,840	2,400	1,620	2,000	1,710	1,350	675	720	1,180	1,330
20.....	1,180	1,720	1,740	1,750	1,680	1,640	1,410	1,380	755	278	1,150	860
21.....	970	1,560	1,750	2,740	1,680	1,600	1,750	1,360	648	1,240	1,600	240
22.....	1,720	1,140	1,650	2,650	1,660	1,560	1,700	1,220	332	1,280	1,600	1,130
23.....	1,630	1,500	955	2,400	1,600	1,460	1,680	1,440	760	1,220	1,110	1,420
24.....	1,670	1,350	1,470	2,400	1,200	1,600	1,590	1,120	712	1,260	398	1,820
25.....	1,380	1,160	774	2,340	1,360	1,660	1,630	478	698	1,170	1,390	1,650
26.....	1,340	1,490	1,380	2,100	2,010	1,340	1,590	1,240	740	895	1,510	1,540
27.....	1,380	1,620	1,470	1,600	1,840	1,660	468	930	792	388	1,660	1,510
28.....	1,470	1,730	1,490	2,500	1,240	1,620	1,570	1,020	788	1,100	1,330	975
29.....	2,170	1,340	1,360	2,780	1,290	1,620	1,360	855	370	1,230	1,670	1,410
30.....	1,880	972	1,130	2,500	-----	1,380	1,200	832	772	1,150	1,640	1,380
31.....	1,220	-----	1,860	2,060	-----	1,560	-----	882	-----	965	375	-----

NOTE.—No record Oct. 1 to Nov. 3, Nov. 6, Dec. 5, 6, 19, 24, Jan. 3-14, Apr. 24, 25, July 7-9, Sept. 20; discharge computed from electrical output of Copco power plant.

Monthly discharge of Klamath River near Copco, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2,170	720	1,470	90,400
November.....	1,720	888	1,430	85,100
December.....	1,860	774	1,400	86,100
January.....	4,190	720	2,020	124,000
February.....	2,480	1,200	1,760	101,000
March.....	2,240	1,340	1,850	114,000
April.....	1,750	468	1,540	91,600
May.....	1,440	390	1,080	66,400
June.....	1,430	332	751	44,700
July.....	1,310	278	845	52,000
August.....	1,830	270	1,070	65,800
September.....	1,950	240	1,380	82,100
The year.....	4,190	240	1,380	1,000,000

KLAMATH RIVER NEAR SEIAD VALLEY, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 13, T. 46 N., R. 12 W., above highway bridge, 300 feet above mouth of Walker Creek, $1\frac{1}{4}$ miles southeast of Seiad Valley, Siskiyou County, and $11\frac{1}{2}$ miles below mouth of Scott River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 23, 1912, to September 30, 1924.

GAGE.—Staff in five sections on left bank one-fourth mile above highway bridge; read by M. J. Brickley.

DISCHARGE MEASUREMENTS.—Made from cable 35 feet below gage.

CHANNEL AND CONTROL.—Gravel and boulders; fairly permanent. Banks are high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.3 feet at 9 a. m. February 9 (discharge, 6,170 second-feet); minimum stage, 1.9 feet July 7 and 21 (discharge, 390 second-feet).

1912-1924: Maximum stage recorded, 13.3 feet at 9.30 p. m. December 31, 1913 (discharge, from extension of rating curve, about 26,500 second-feet); minimum stage, 2.05 feet November 25, 1917 (discharge, about 320 second-feet).

DIVERSIONS.—Water is diverted from main river and tributaries above the station for use in irrigation, placer mining, and power developments.

REGULATION.—Low-water flow affected by operation of power plant above.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined above 600 second-feet. Staff gage read to tenths once daily at 9 a. m. Daily discharge ascertained by applying mean daily gage height to rating table. Records good at high water and only fair at low water due to regulation from power plants above which cause a diurnal fluctuation of about 2 feet.

The following discharge measurements were made:

June 22, 1924: Gage height, 2.50 feet; discharge, 698 second-feet.

June 22, 1924: Gage height, 2.35 feet; discharge, 618 second-feet.

June 23, 1924: Gage height, 2.34 feet; discharge, 606 second-feet.

Daily discharge, in second-feet, of Klamath River near Seiad Valley, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,860	2,120	2,400	4,010	4,390	2,990	2,540	2,690	1,390	1,390	1,390	1,610
2.....	2,260	2,540	1,610	4,200	4,390	3,150	2,690	2,690	2,895	1,610	1,610	2,690
3.....	2,260	2,840	2,120	3,310	4,580	3,150	2,690	2,690	2,690	1,730	1,610	2,690
4.....	2,400	1,860	2,400	2,990	4,390	3,150	2,690	2,690	1,390	1,120	1,390	3,310
5.....	2,120	1,120	2,540	2,990	4,390	3,150	2,690	2,540	1,730	435	1,610	2,690
6.....	2,690	2,400	2,540	2,840	4,580	3,150	2,690	1,390	1,290	640	1,390	2,990
7.....	1,500	2,540	2,990	3,120	4,960	2,400	2,840	1,610	1,200	390	1,500	2,990
8.....	1,120	2,540	2,990	2,990	5,550	2,990	2,840	1,390	1,040	1,390	2,400	435
9.....	2,120	2,540	2,120	2,990	6,170	3,150	2,540	2,690	1,700	1,610	2,260	2,990
10.....	1,610	2,840	1,040	2,990	4,200	2,840	2,690	2,690	1,610	1,500	2,120	2,690
11.....	1,500	1,990	1,610	2,840	3,480	2,990	2,840	1,610	1,610	1,610	480	2,690
12.....	2,260	1,120	2,540	2,840	3,480	2,690	2,690	895	1,610	1,610	2,260	2,400
13.....	2,400	2,400	2,400	2,690	3,480	2,990	2,690	1,610	1,390	1,390	1,860	2,120
14.....	2,400	2,840	2,840	1,120	3,480	2,990	1,040	1,860	1,390	435	1,730	2,120
15.....	2,540	2,540	2,840	2,400	3,310	2,840	2,840	2,400	1,200	1,200	1,500	435
16.....	2,690	2,840	2,840	3,480	3,310	2,840	2,690	2,120	1,500	640	1,610	2,400
17.....	2,690	2,690	2,360	3,650	3,480	2,690	2,840	2,690	1,610	1,290	1,500	2,690
18.....	2,540	1,500	2,840	3,650	2,990	2,690	2,690	2,540	760	1,200	1,500	2,690
19.....	2,400	2,690	2,840	3,480	3,150	2,840	2,690	700	1,290	2,400	1,390	2,120
20.....	2,400	2,690	2,840	3,650	3,150	2,840	2,690	2,120	1,390	1,200	1,390	2,400
21.....	1,610	2,120	2,840	3,650	3,150	2,690	2,840	1,990	1,610	390	1,860	1,200
22.....	2,120	2,400	2,990	4,200	2,990	2,840	2,840	1,990	1,040	2,400	1,860	435
23.....	2,400	1,860	2,990	4,010	3,150	2,840	2,840	1,500	530	2,260	2,400	2,400
24.....	2,540	2,690	2,400	3,830	2,990	2,690	2,690	2,690	1,500	1,610	1,290	2,400
25.....	2,400	2,400	2,540	3,830	2,840	2,840	2,840	2,120	1,500	1,610	435	2,690
26.....	2,400	2,260	1,730	3,830	2,540	2,840	2,840	700	1,500	1,730	1,390	2,120
27.....	2,400	2,400	2,120	3,650	2,690	2,690	2,690	2,400	1,290	1,390	1,860	2,120
28.....	2,540	2,120	2,540	2,540	2,990	2,840	895	1,500	1,610	530	2,540	2,690
29.....	2,840	2,400	2,690	2,690	2,400	2,840	2,690	1,500	1,290	2,400	2,540	1,040
30.....	2,540	2,400	2,690	4,580	-----	2,690	2,690	1,500	480	2,120	2,690	2,120
31.....	2,690	-----	2,400	4,580	-----	2,690	-----	1,500	-----	1,390	2,400	-----

Monthly discharge of Klamath River near Seiad Valley, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	2,840	1,120	2,270	140,000
November.....	2,840	1,120	2,320	138,000
December.....	2,990	1,040	2,470	152,000
January.....	4,580	1,120	3,310	204,000
February.....	6,170	2,400	3,680	212,000
March.....	3,150	2,400	2,880	177,000
April.....	2,840	895	2,610	155,000
May.....	2,690	700	1,970	121,000
June.....	2,690	480	1,390	79,100
July.....	2,400	390	1,370	84,200
August.....	2,690	435	1,730	106,000
September.....	3,310	435	2,210	132,000
The year.....	6,170	390	2,340	1,700,000

KLAMATH RIVER NEAR REQUA, CALIF.

LOCATION.—In sec. 29, T. 13 N., R. 2 E., at Scofield Ferry, 9 miles above Requa, Del Norte County, and mouth of river and 30 miles below mouth of Trinity River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 25, 1910, to September 30, 1924.

GAGE.—Staff in four sections on right bank at ferry cable; read by S. A. McBeth.

DISCHARGE MEASUREMENTS.—Made from ferry cable.

CHANNEL AND CONTROL.—Gravel; fairly permanent. Banks are high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.6 feet at 7 p. m. February 2 (discharge, 25,800 second-feet); minimum stage recorded, 4.7 feet July 31 and August 1 (discharge, 1,340 second-feet).

1911-1924: Maximum stage recorded, 33.3 feet at 1 p. m. February 2, 1915 (discharge, from extension of rating curve, about 182,000 second-feet); minimum stage that of July 31 and August 1, 1924.

DIVERSIONS.—Water is diverted for irrigation and power from main river and tributaries in Oregon and California.

REGULATION.—Regulation at California Oregon Power Co.'s plants has considerable effect upon the stage.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined between 2,000 and 60,000 second-feet. Staff gage read to half-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of Klamath River near Requa, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
June 5.....	<i>Feet</i> 5.95	<i>Sec.-ft.</i> 2,480	Sept. 13.....	<i>Feet</i> 5.90	<i>Sec.-ft.</i> 2,420
Do.....	6.01	2,540	Do.....	5.98	2,490

Daily discharge, in second-feet, of Klamath River near Requa, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3,040	3,400	6,200	8,680	17,200	8,360	6,200	4,280	2,420	1,680	1,340	2,880
2.....	3,040	3,220	3,820	8,040	25,800	8,360	6,200	4,540	2,170	1,530	1,400	2,880
3.....	3,040	2,880	4,280	8,360	20,800	8,040	6,200	5,060	2,060	1,950	1,530	3,040
4.....	3,400	3,040	4,540	8,360	19,400	8,040	6,500	5,620	3,040	1,850	1,040	2,880
5.....	3,820	3,400	4,540	7,720	18,500	8,040	6,800	4,540	2,290	1,850	1,460	2,720
6.....	4,540	3,400	13,200	7,400	18,000	8,040	7,100	3,600	2,170	1,950	1,950	2,420
7.....	6,200	3,600	25,400	7,100	18,000	8,040	8,040	3,820	2,170	1,460	2,290	2,290
8.....	4,540	3,600	13,600	7,100	18,500	7,720	9,000	4,040	2,170	1,950	1,950	2,420
9.....	3,400	3,600	10,300	7,400	19,400	7,400	8,040	4,280	2,060	1,460	1,760	2,720
10.....	3,400	3,400	9,640	7,720	19,000	6,500	7,400	4,540	1,950	1,530	1,850	2,560
11.....	3,400	3,220	9,000	7,400	18,500	5,620	7,100	5,060	1,950	1,950	1,950	2,720
12.....	3,600	3,220	7,400	7,100	17,200	4,540	6,800	5,340	2,170	2,060	1,760	2,880
13.....	3,820	3,400	6,200	6,800	14,400	7,100	7,400	5,060	2,560	1,850	1,850	2,720
14.....	4,040	4,280	5,900	6,500	14,000	6,800	7,100	5,060	2,420	1,680	1,950	2,720
15.....	4,040	4,280	5,620	6,500	13,600	6,200	6,800	5,060	2,290	1,460	1,950	2,560
16.....	4,540	4,280	6,200	6,800	12,800	6,200	6,500	4,800	2,060	1,680	1,760	2,420
17.....	5,060	4,280	7,100	6,800	12,800	6,200	5,900	4,540	1,950	1,600	1,530	2,420
18.....	5,060	4,040	7,100	6,500	11,300	6,200	5,900	4,540	2,060	1,530	1,680	2,420
19.....	4,540	3,600	5,900	6,200	9,960	6,200	5,620	4,280	2,290	1,680	1,760	2,560
20.....	4,040	3,220	5,620	6,200	9,960	6,200	5,620	3,820	2,060	2,290	2,420	2,060
21.....	4,040	3,600	6,200	5,900	9,640	6,200	5,620	3,600	1,850	1,600	2,290	1,850
22.....	3,400	4,040	7,100	5,620	9,320	6,500	5,620	3,220	1,850	1,460	2,170	1,680
23.....	3,040	4,040	6,200	5,620	9,640	6,500	5,620	3,220	2,060	1,530	2,060	1,850
24.....	3,400	4,040	5,620	5,340	9,640	9,000	5,620	2,880	1,850	1,530	1,850	2,290
25.....	3,820	4,280	5,060	5,620	9,320	5,000	5,340	2,720	2,060	2,060	1,850	2,560
26.....	3,600	4,540	5,060	7,400	9,320	6,300	5,340	2,560	2,060	2,290	1,950	2,720
27.....	3,400	4,540	5,060	8,680	9,320	6,800	5,340	2,420	1,760	2,170	2,060	2,560
28.....	3,400	4,280	5,900	9,000	8,680	7,100	4,800	2,560	1,680	1,760	1,850	2,560
29.....	3,600	4,540	7,100	9,320	8,360	7,400	4,540	2,880	1,950	1,530	1,950	2,420
30.....	3,600	5,340	9,320	10,300	-----	6,800	4,040	2,720	1,760	1,400	2,290	2,290
31.....	3,600	-----	9,000	13,600	-----	6,200	-----	2,560	-----	1,340	2,560	-----

Monthly discharge of Klamath River near Requa, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	6,200	3,040	3,850	237,000
November.....	5,340	2,880	3,820	227,000
December.....	25,400	3,820	7,520	462,000
January.....	13,600	5,340	7,450	458,000
February.....	25,800	8,360	14,200	817,000
March.....	9,000	4,540	6,920	425,000
April.....	9,000	4,040	6,270	373,000
May.....	5,620	2,420	3,970	244,000
June.....	3,040	1,680	2,110	126,000
July.....	2,290	1,340	1,730	106,000
August.....	2,560	1,340	1,890	116,000
September.....	3,040	1,680	2,500	149,000
The year.....	25,800	1,340	5,160	3,740,000

SPRAGUE RIVER NEAR BEATTY, OREG.

LOCATION.—In NW. $\frac{1}{4}$ sec. 20, T. 36 S., R. 13 E., 2 miles above highway bridge on road from Beatty to Silver Lake, 4 miles above mouth of Sycaan River, and 3 miles east of Beatty post office, Klamath County.

DRAINAGE AREA.—513 square miles.

RECORDS AVAILABLE.—April 19, 1912, to September 30, 1924, fragmentary.

GAGE.—Vertical staff gage on left bank; read by L. F. Belknap.

CHANNEL AND CONTROL.—Bed composed of sand and gravel; no defined control as stream is very sluggish for miles above and below gage; banks subject to overflow at a stage of about 5 feet and considerable water may flow in a cut-off across a bend to the right of the station.

DISCHARGE MEASUREMENTS.—Made from cable about 100 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during the year, 1.74 feet April 14 (discharge, 236 second-feet); minimum discharge, 57 second-feet June 30; (gage height, 0.30 foot).

1912-1924: Maximum stage from water-stage recorder, 5.75 feet April 24, 1917 (discharge, 1,320 second-feet); minimum discharge, that of June 30, 1924. A discharge of 2,080 second-feet was recorded at a station 2 miles downstream, on May 21, 1904.

ICE.—Stage-discharge relation not seriously affected by ice, as stream is spring-fed.

DIVERSIONS.—Considerable water is diverted near Bly for irrigation.

REGULATION.—None.

ACCURACY.—Stage-discharge relation affected by growth of aquatic plants.

Staff gage read to hundredths three times a week. Daily discharge ascertained by shifting-control method. Records fair.

Discharge measurements of Sprague River near Beatty, Oreg., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 16	0.80	120	May 16	0.64	100
Feb. 21	1.03	163	Aug. 9 .....	.71	71

Daily discharge, in second-feet, of Sprague River near Beatty, Oreg., for the year ending September 30, 1924

Day	Apr.	May	June	July	Aug.	Day	Apr.	May	June	July	Aug.
1						16	178	100			
2			63			17				69	
3		114		58		18					
4						19	169			71	
5			63	58		20					
6						21	158	83	63	75	
7		107	63			22					
8				59		23	142		59		
9			63		71	24		79			
10		105				25					
11			64	64	71	26	131		59	81	
12		103				27		78			
13					80	28	121		58	81	
14	236		64			29					
15		102		68		30	122	63	57		75
						31		63			

Monthly discharge of Sprague River near Beatty, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 14-30	236	121	157	5,290
May	114	63	90.6	5,570
June	64	57	61.5	3,600
July	81	58	68.4	4,210
August			74.2	4,560

SPRAGUE RIVER AT MCCREADY RANCH, NEAR CHILOQUIN, OREG.

LOCATION.—In sec. 30, T. 34 S., R. 9 E., 200 yards north of F. F. McCready's house, 2 miles below McCready Spring, and 13 miles above Chiloquin, Klamath County.

DRAINAGE AREA.—1,450 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—July 10, 1920, to September 30, 1924.

GAGE.—Enamel-faced vertical staff on right bank, read by F. F. McCready. Gage datum lowered 0.61 foot October 15, 1923.

DISCHARGE MEASUREMENTS.—Made at extremely low stages by wading; medium stages from cable 200 feet above gage; high stages, because of numerous channels opposite cable section, from boat at section opposite McCready ranch house $3\frac{1}{2}$ miles upstream.

CHANNEL AND CONTROL.—Bed composed of hardpan and pumice sand. One channel up to stage of 4 feet above which left bank is overflowed through numerous channels. No definite control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.08 feet February 10 (discharge, 745 second-feet); minimum stage, 0.35 foot June 18 (discharge, 128 second-feet).

1920-1924: Maximum stage recorded, 6.6 feet April 29, 1922 (discharge, 3,560 second-feet) revised; minimum stage recorded, -0.55 foot September 19, 1922 (discharge, 105 second-feet). A discharge of 4,390 second-feet has been derived from high-water marks for station 20 miles upstream near Yainax, about May 15, 1904.

DIVERSIONS.—Considerable water diverted for irrigation especially near Bly.

REGULATION.—Irrigation dam near Yainax regulates flow at times.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of Sprague River at McCready ranch, near Chiloquin, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 15.....	1.14	262	Feb. 20.....	1.50	365	Aug. 10.....	0.54	153
Oct. 18.....	.91	219	May 17.....	.86	212	Aug. 11.....	.42	139

Daily discharge, in second-feet, of Sprague River at McCready ranch, near Chiloquin, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	242	278	278	258	550	318	278	358	152	186	213	240
2.....	260	278	401	258	600	318	258	278	152	186	213	204
3.....	260	278	379	213	625	318	258	136	160	178	213	204
4.....	260	278	318	278	550	318	258	160	169	178	213	204
5.....	260	278	278	298	425	318	278	231	169	169	213	204
6.....	260	278	278	278	475	298	258	240	169	144	213	136
7.....	260	278	298	258	525	298	258	240	169	338	222	160
8.....	280	278	298	258	575	298	258	220	186	222	204	195
9.....	280	278	222	258	655	298	258	240	178	195	169	204
10.....	260	278	258	278	745	298	278	240	186	186	144	213
11.....	260	258	240	258	655	298	298	240	195	186	144	222
12.....	260	258	358	258	550	298	298	240	318	186	160	186
13.....	260	278	278	258	475	278	298	240	258	186	178	160
14.....	260	298	278	240	450	278	318	240	231	186	178	169
15.....	258	278	278	240	379	278	358	231	195	186	186	204

Daily discharge, in second-feet, of Sprague River at McCready ranch, near Chiloquin, Oreg., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	258	258	278	240	379	278	358	195	195	186	178	204
17.....	136	196	278	258	358	278	358	222	144	186	169	204
18.....	231	379	278	258	358	278	358	222	128	195	178	204
19.....	278	318	278	231	358	278	338	222	144	278	186	204
20.....	258	278	278	222	338	278	338	213	152	222	186	204
21.....	258	136	278	258	338	278	258	195	152	213	195	204
22.....	258	204	278	258	338	278	318	152	160	204	195	204
23.....	278	258	222	258	318	278	318	160	160	204	186	204
24.....	278	278	298	240	318	278	318	169	160	204	186	204
25.....	278	258	258	258	318	278	318	160	160	204	186	213
26.....	278	278	240	258	318	278	298	169	160	204	186	213
27.....	195	278	213	278	318	278	298	178	160	204	186	222
28.....	240	278	278	298	318	278	298	186	160	204	186	222
29.....	258	278	258	379	318	258	278	358	160	204	195	222
30.....	278	278	278	500	-----	278	278	136	160	213	213	278
31.....	278	-----	278	575	-----	278	-----	136	-----	204	318	-----

Monthly discharge of Sprague River at McCready ranch, near Chiloquin, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	278	136	257	15,800
November.....	379	136	270	16,100
December.....	401	213	281	17,300
January.....	575	213	279	17,200
February.....	745	318	446	25,700
March.....	318	258	288	17,700
April.....	358	258	298	17,700
May.....	358	136	213	13,100
June.....	318	128	175	10,400
July.....	338	144	201	12,400
August.....	318	144	193	11,900
September.....	278	136	204	12,100
The year.....	745	128	258	187,000

SPRAGUE RIVER AT CHILOQUIN, OREG.

LOCATION.—In SE. $\frac{1}{4}$ sec. 3, T. 35 S., R. 7 E., one-fourth mile above Southern Pacific Railroad bridge, one-fourth mile below diversion dam of Modoc Point Canal of United States Office of Indian Affairs, and three-quarters of a mile south of Chiloquin, Klamath County.

DRAINAGE AREA.—1,550 square miles.

RECORDS AVAILABLE.—July 25, 1911, to September 30, 1919 (partly fragmentary); August 21 to December 31, 1923, when station was discontinued.

GAGE.—Stevens water-stage recorder on right bank, 500 feet above wagon bridge, installed in old recorder shelter August 21, 1923; recorder inspected by Mrs. Anna McKeever.

DISCHARGE MEASUREMENTS.—Made from upstream side of wagon bridge.

CHANNEL AND CONTROL.—Bed and control composed of rocks and boulders; may shift slightly.

EXTREMES OF DISCHARGE.—Maximum stage during period from water-stage recorder, 1.25 feet at 2 a. m. November 20 (discharge, 435 second-feet); minimum discharge estimated at 210 second-feet September 4-6 and 11.

1911-1919; 1923: Maximum stage recorded, 5.3 feet March 28, 1917 (discharge, 4,490 second-feet); minimum discharge that of September 4-6 and 11, 1923.

ICE.—Stage-discharge relation not affected.

DIVERSIONS.—The Modoc Point Canal, completed in 1915, diverts some water around gage. A considerable quantity of water is also diverted for irrigation in the headwaters of Sprague and Sycan Rivers.

REGULATION.—Manipulation of sluiceway of diversion dam may cause some fluctuation at gage. Beginning in July, 1919, a splash dam was also operated a few miles above the station.

ACCURACY.—Stage-discharge relation permanent during period. Rating curve well defined between 220 and 350 second-feet. Operation of water-stage recorder somewhat unsatisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph, or for days when gage-height record is not available, from hydrographic comparison with Williamson River below Sprague River. Records fair.

Discharge measurements of Sprague River at Chiloquin, Oreg., during the period August 21 to December 31, 1923

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	Feet	Sec.-ft.		Feet	Sec.-ft.
Aug. 31.....	0.83	249	Oct. 9.....	1.03	332
Oct. 8.....	.95	296	Do.....	.81	248

Daily discharge, in second-feet, of Sprague River at Chiloquin, Oreg., for the period August 21 to December 31, 1923

Day	Aug.	Sept.	Oct.	Nov.	Dec.	Day	Aug.	Sept.	Oct.	Nov.	Dec.
1.....		292	320	300	320	16.....		230	300	340	320
2.....		268	300	300	329	17.....		324	300	280	312
3.....		222	296	300	388	18.....		272	240	288	308
4.....		210	296	300	374	19.....		230	244	420	308
5.....		210	296	300	338	20.....		230	308	392	305
6.....		210	292	300	338	21.....	252	233	334	320	303
7.....		230	300	300	334	22.....	260	240	308	233	300
8.....		252	300	300	329	23.....	252	248	306	240	288
9.....		244	312	300	308	24.....	252	252	304	300	288
10.....		220	300	300		25.....	268	268	304	300	304
11.....		210	308	300		26.....	256	280	304	304	312
12.....		220	304	300	320	27.....	222	280	338	308	352
13.....		240	312	300		28.....		248	252	308	300
14.....		260	308	300		29.....		260	268	310	300
15.....		230	304	300	329	30.....		304	288	320	342
						31.....	252		288		300

Monthly discharge of Sprague River at Chiloquin, Oreg., for the period September 1 to December 31, 1923

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
September.....	324	210	247	14,700
October.....	338	240	298	18,309
November.....	420	233	305	18,109
December.....	388	288	320	19,709
The period.....				70,800

SYCAN RIVER NEAR BEATTY, OREG.

LOCATION.—In SE. $\frac{1}{4}$ sec. 8, T. 35 S., R. 12 E., 8 miles above mouth and 11 miles north of Beatty, Klamath County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 29, 1917, to September 30, 1924. Also November 25, 1911, to October 30, 1917, at a station located 3 to 6 miles downstream known as "Sycan River near Yainax."

GAGE.—Stevens water-stage recorder on left bank; inspected by L. F. Belknap. Gage datum lowered 0.42 foot August 9, 1924.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet upstream or by wading.

CHANNEL AND CONTROL.—Stream bed, gravel and small boulders, fairly even; control of boulders about 100 feet below gage, fairly permanent. One straight channel at all stages; banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, 2.83 feet February 7 or 8 (discharge, 777 second-feet); minimum stage, 0.44 foot September 21 and 22 (discharge, 3.0 second-feet).

1911-1924: Maximum discharge, 2,250 second-feet April 25, 1917; minimum discharge that of September 21 and 22, 1924.

ICE.—Stage-discharge relation not affected by ice, as most of winter flow comes from springs.

DIVERSIONS.—Some water is used for irrigation by flooding.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly during high water in February. Two well-defined rating curves used. Operation of water-stage recorder satisfactory except January 25 to February 7 and June 20 to August 8. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good, except for February, for which they are fair.

Discharge measurements of Sycan River near Beatty, Oreg., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 18.....	0.21	9.2	Feb. 21.....	0.74	54	Aug. 9.....	0.46	3.8
Feb. 21.....	.62	40	May 16.....	.38	17.8			

Daily discharge, in second-feet, of Sycan River near Beatty, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5.0	13	17	6.5	100	33	13	25	4.5	4.0	4.0	3.5
2.....	5.0	14	22	6.0		32	14	24	4.5			3.5
3.....	5.0	13	17	6.0		33	14	24	4.5			4.0
4.....	5.0	13	16	6.0		32	12	21	4.0			3.5
5.....	5.5	13	17	6.0		28	12	21	4.0			3.5
6.....	6.0	12	18	6.0	505	28	12	24	3.5	4.0	3.5	3.5
7.....	7.0	11	16	6.0		26	13	28	3.5			3.5
8.....	7.0	12	15	6.0		21	12	29	3.5			3.5
9.....	8.0	11	11	6.5		184	23	12	28			3.5
10.....	10	11	9.5	6.5		147	21	12	27			3.5
11.....	10	12	8.5	6.5	119	21	17	26	3.5	4.0	3.5	3.5
12.....	9.5	13	8.0	6.5	81	19	23	20	3.5		3.5	3.5
13.....	9.0	12	8.0	6.5	64	22	30	19	3.5		3.5	3.5
14.....	9.0	13	8.0	6.0	67	21	33	19	3.0		3.5	3.5
15.....	8.0	14	7.0	5.5	70	18	49	18	3.0		3.5	3.5
16.....	8.5	16	7.0	5.5	62	15	69	17	3.0	4.0	3.5	3.5
17.....	9.0	17	7.0	5.0	56	15	59	15	3.0		3.5	3.5
18.....	9.0	16	7.0	4.8	52	13	47	13	3.5		3.5	3.5
19.....	9.0	17	7.0	4.7	46	17	41	11	3.5		3.5	3.5
20.....	8.5	17	6.5	4.3	45	15	37	9.5	3.5		3.5	3.5
21.....	9.5	17	6.5	4.3	45	15	45	8.0	4.0	4.0	3.5	3.0
22.....	10	17	6.5	4.3	40	18	47	7.5			3.5	3.0
23.....	12	16	6.5	4.3	33	17	47	7.0			3.5	3.5
24.....	14	16	6.5	4.3	29	18	50	6.5			3.5	3.5
25.....	13	15	6.0	10	31	16	49	6.0			3.5	3.5
26.....	13	14	6.0		30	18	41	6.0	4.0	4.0	3.5	3.5
27.....	12	16	6.0		31	19	35	5.5			3.5	
28.....	12	18	5.5		33	17	30	5.0			3.5	
29.....	12	28	8.0		32	15	28	5.0			3.5	
30.....	12	24	7.0	10	13	26	4.5	4.5	4.0	4.0	3.5	
31.....	12		6.5								3.5	

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Sycan River near Beatty, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	14	5.0	9.18	564
November.....	28	11	15.0	893
December.....	22	5.5	9.79	602
January.....		4.3	6.58	406
February.....	505	29	86.3	4,960
March.....	33	10	20.3	1,250
April.....	69	12	31.0	1,840
May.....		4.5	15.6	959
June.....	4.5	3.0	3.72	221
July.....			4.0	246
August.....		3.5	3.63	223
September.....	4.0	3.0	3.48	207
The year.....	505	3.0	17.0	12,400

MODOC POINT CANAL NEAR CHILOQUIN, OREG.

LOCATION.—In SE. $\frac{1}{4}$ sec. 3, T. 35 S., R. 7 E., at intake on Sprague River 1 mile south of Chiloquin, Klamath County.

RECORDS AVAILABLE.—June 14, 1915, to September 30, 1919, and irrigation seasons of 1920, 1921, 1923, and 1924.

GAGE.—Inclined staff on left of concrete-lined section, about 100 feet below head gates used since June 29, 1915; read by J. A. McKeever.

DISCHARGE MEASUREMENTS.—Made by wadings.

CHANNEL AND CONTROL.—Earth section of channel begins immediately below gage; bottom width, 10 feet; grade, 2.64 feet a mile. Control is cobblestone apron several hundred feet below gage, placed in March, 1918.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 2.1 feet June 5-7 and July 1-13 (discharge, 43 second-feet); canal dry all winter.

1915-1924: Maximum quantity diverted, 95 second-feet July 10, 1915, most of which was returned to river at first wasteway. Canal dry at times.

ACCURACY.—Stage-discharge relation permanent during year; affected by fish racks on May 18. Rating curve fairly well defined. Gage read to tenths at irregular intervals May 18 to October 31, when water was turned out of canal. Daily discharge ascertained by applying daily gage reading to rating table. Records fair.

The following discharge measurements were made:

October 9, 1923: Gage height, 0.98 foot; discharge, 5.1 second-feet.

May 18, 1924: Gage height, 1.95 feet; discharge, 25.9 second-feet.

Daily discharge, in second-feet, of Modoc Point Canal near Chiloquin, Oreg., for the the period May 18 to October 11, 1924

Day	May	June	July	Aug.	Sept.	Oct.	Day	May	June	July	Aug.	Sept.	Oct.
1.....			43			13	16.....		27				
2.....		40	43			13	17.....		27		31	31	
3.....				31		13	18.....	26	27				
4.....					31	13	19.....		27	31			
5.....		43	43			13	20.....	39	39	31	31		
6.....			43				21.....		39			31	
7.....			43		31	13	22.....		39				
8.....			27				23.....		39	31			
9.....			27	43		13	24.....		39		31	13	
10.....			27		31		25.....		39				
11.....			27			13	26.....		39				
12.....			27	43			27.....		39	31			
13.....			27	43			28.....		39			13	
14.....			27		31		29.....		39				
15.....			27				30.....		39				
							31.....				31		

Monthly discharge of Modoc Point Canal near Chiloquin, Oreg., for the period May 1 to October 31, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May.....			• 30	1,840
June.....	43	27	34.7	2,060
July.....	43	31	38.6	2,370
August.....	31	31	31.0	1,910
September.....	31	13	25.9	1,540
October.....			13.0	799
The period.....				10,500

• Estimated.

WOOD RIVER AT FORT KLAMATH, OREG.

LOCATION.—In sec. 22, T. 33 S., R. 7½ E., at highway bridge a quarter of a mile east of Fort Klamath, Klamath County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 5, 1911, to January 1, 1921; July 1, 1921, to May 31, 1922; October 1, 1922, to September 30, 1924; gage heights only January 1, 1912, to March 31, 1913.

GAGE.—Vertical staff attached to downstream side of west abutment of new concrete highway bridge, used since October 20, 1923; gage reader, Harold Moon.

DISCHARGE MEASUREMENTS.—Made from highway bridge.

CHANNEL AND CONTROL.—Clean gravel overlain with pumice sand, dunes of which may at times be observed moving downstream; likely to shift.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.26 feet February 8 (discharge, 380 second-feet); minimum stage, 0.06 foot September 18 (discharge, 126 second-feet).

1911; 1913-1924: Maximum discharge recorded, estimated at 600 second-feet, during the period November 23-25, 1921; minimum discharge, that of September 18, 1924.

ICE.—Stage-discharge relation not affected by ice, as most of the water comes from large springs a few miles above.

DIVERSIONS.—Considerable water is diverted above station for watering hay lands, mostly in May and June.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during winter, probably on date of highest water, February 8. Two well-defined rating curves used. Gage read to hundredths once a day. Daily discharge ascertained by applying daily gage reading to rating table. Records good.

Discharge measurements of Wood River at Fort Klamath, Oreg., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 6.....	0.95	257	Feb. 17.....	0.76	252	May 19.....	0.46	188
Oct. 20.....	.82	238	Apr. 3.....	.71	240	Aug. 12.....	.21	148

Daily discharge, in second-feet, of Wood River at Fort Klamath, Oreg., for the year ending September 30, 1924

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		200	260	238	238	152		152	145	145
2.....		190	240	238	228	160		152	145	145
3.....		190	230	228	238	160		152	145	145
4.....		190	230	238	238	152		150	145	152
5.....		210	260	228	228	160		147	145	152
6.....		210	240	228	238	160		145	145	160
7.....	230	210	260	238	228	152	160	152	145	160
8.....		210	380	238	238	160		145	145	160
9.....		210	294	228	238	160		145	145	160
10.....		220	238	238	238	160		145	145	160
11.....		210	249	238	238	160		145	145	160
12.....		210	238	228	238	169		145	145	160
13.....		210	249	238	238	169		145	145	152
14.....	220	210	249	238	228	188		145	145	152
15.....	220	210	249	228	228	188	160	145	145	152
16.....	210	210	260	238	238	188	160	145	145	160
17.....	210	230	249	228	238	188	160	145	145	132
18.....	210	210	249	228	228	198	160	145	152	126
19.....	220	210	260	238	238	188	160	145	152	132
20.....	220	210	249	228	238	145	160	145	152	152
21.....	210	190	249	238	238	145	160	145	152	160
22.....	200	200	238	238	249	145	160	145	152	169
23.....	200	200	238	228	169	138	160	145	145	160
24.....	210	200	238	249	169	145	152	145	145	178
25.....	220	200	238	228	169	145	152	145	145	178
26.....	220	190	249	228	160	145	152	145	145	178
27.....	240	200	249	228	152	160	152	145	145	178
28.....	230	210	249	238	152	160	160	145	145	178
29.....	230	210	238	238	152	160	152	145	145	178
30.....	220	210	-----	228	152	160	152	145	145	178
31.....	210	210	-----	238	-----	160	-----	145	145	-----

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Wood River at Fort Klamath, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....			* 240	14,800
November.....			* 230	13,700
December.....		200	222	13,600
January.....	230	190	206	12,700
February.....	380	230	252	14,500
March.....	249	228	234	14,400
April.....	238	152	215	12,800
May.....	198	158	162	9,960
June.....	-----	152	158	9,400
July.....	152	145	146	8,980
August.....	152	145	146	8,980
September.....	178	126	158	9,400
The year.....	380	126	197	143,000

* Estimated.

ANNA CREEK NEAR FORT KLAMATH, OREG.

LOCATION.—In sec. 36, T. 32 S., R. 6 E., at sawmill 3 miles below boundary of Crater Lake National Park and 6 miles northwest of Fort Klamath, Klamath County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 12, 1922, to September 30, 1924.

GAGE.—Vertical staff on right bank used since May 4, 1923; read by Alonzo Ray, M. E. McFarling, and Andy Virsto.

DISCHARGE MEASUREMENTS.—Made from footbridge near gage or by wading.

CHANNEL AND CONTROL.—Gravel and cobbles, with some pumice sand and considerable accumulation of logs and drift.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.64 feet immediately after log dam broke (discharge, not estimated). Maximum open-water stage, 1.72 feet May 15 and 16 (discharge, 85 second-feet); minimum discharge, 36 second-feet August 26 to September 1.

1923-1924: Maximum discharge, 108 second-feet July 14, 1923; minimum discharge, that of August 26 to September 1, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—None above station; much of the flow is diverted below for irrigation in the Wood River valley.

REGULATION.—May be regulated occasionally by operation of flashboards at log pond just above.

ACCURACY.—Stage-discharge relation changed December 28, April 20, and May 5 due to drift on control and momentary floods caused by breaking up of logging dam. Fairly well defined rating curves used. Gage read once a day to hundredths. Daily discharge ascertained by applying daily gage reading to rating table. Records fair.

Discharge measurements of Anna Creek near Fort Klamath, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	0.67	52	Feb. 17.....	0.68	40.8	July 4.....	1.15	54
Do.....	.36	25.1	Apr. 3.....	.66	37.3	Aug. 12.....	1.07	38.8
Dec. 5.....	.70	62	May 20.....	1.50	69			

Daily discharge, in second-feet, of Anna Creek near Fort Klamath, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	52	57	60	46	49	41	39	51	54	40	39	36
2.....	52	57	58	45	45	41	39	51	54	40	39	39
3.....	60	58	57	44	44	41	39	45	50	40	39	39
4.....	54	56	56	43	44	41	40	50	54	44	39	40
5.....	55	56	57	43	44	42	41	45	54	40	39	40
6.....	63	56	78	43	46	40	44	40	50	40	40	44
7.....	62	56	72	43	48	42	45	40	50	47	39	40
8.....	61	56	67	44	45	42	45	50	50	40	39	40
9.....	59	56	63	43	44	42	48	58	47	40	39	40
10.....	58	56	63	43	43	40	50	77	47	40	38	39
11.....	57	56	62	43	43	42	50	77	47	40	38	39
12.....	57	57	62	42	43	42	52	77	47	40	38	39
13.....	56	58	62	43	43	40	44	77	47	40	38	39
14.....	56	57	62	43	42	40	44	85	47	40	38	39
15.....	56	56	62	43	42	40	44	85	47	40	38	39
16.....	69	56	57	43	42	40	44	85	47	40	38	39
17.....	61	56	56	43	42	40	45	77	47	40	38	39
18.....	59	56	56	44	41	40	45	69	47	40	47	40
19.....	59	56	56	44	42	40	45	69	54	40	40	40
20.....	57	56	56	44	42	39	45	69	47	40	40	40
21.....	59	56	56	44	42	39	46	73	47	39	39	39
22.....	57	58	56	43	42	39	46	69	47	39	39	40
23.....	59	61	56	43	41	40	46	65	47	39	39	44
24.....	59	64	56	43	41	40	45	65	44	39	38	40
25.....	59	61	59	43	42	39	45	61	44	39	38	40
26.....	57	59	64	43	42	40	45	61	44	39	36	40
27.....	57	57	56	48	42	39	45	58	44	40	36	40
28.....	57	56	74	44	42	39	42	58	44	39	36	39
29.....	57	61	52	45	41	39	46	54	44	39	36	39
30.....	57	61	48	44	-----	39	51	54	44	39	36	40
31.....	59	-----	47	43	-----	39	-----	54	-----	39	36	-----

NOTE.—Discharge estimated, Dec. 1-3, 9-15, 21-23, 31, Jan. 1, 17, 18, 21; affected by ice. Discharge interpolated May 5.

Monthly discharge of Anna River near Fort Klamath, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	69	52	58.1	3,570
November.....	64	56	57.4	3,420
December.....	78	47	59.5	3,660
January.....	48	42	43.6	2,680
February.....	49	41	43.1	2,480
March.....	42	39	40.2	2,470
April.....	52	39	44.8	2,670
May.....	85	40	62.9	3,870
June.....	54	44	47.9	2,850
July.....	47	39	40.0	2,460
August.....	47	36	38.5	2,370
September.....	44	36	39.7	2,360
The year.....	85	36	48.0	34,900

FOURMILE LAKE RESERVOIR NEAR ODESSA, OREG.

LOCATION.—In NW. $\frac{1}{4}$ sec. 9, T. 36 S., R. 5 E., at dam at Fourmile Lake and 15 miles northwest of Odessa, Klamath County.

RECORDS AVAILABLE.—June 14, 1923, to September 30, 1924; occasional readings.

GAGE.—Vertical staff on gate-tower of dam, reading elevations above sea level; read by employees of Rogue River Valley Canal Co.

EXTREMES OF STAGE.—Maximum stage recorded during the period of record 5,993.6 feet, June 3 (contents, 8,248 acre-feet); minimum stage recorded, 5,981.28 feet, September 24 (contents, 685 acre-feet).

DIVERSIONS.—Water turned out of reservoir is diverted a few hundred feet below dam into Cascade Canal, which conveys it over the divide into the drainage basin of Fish Lake in the Rogue River basin.

Monthly run-off, in acre-feet, at the intake of the Cascade Canal

1923		1924	
Month	Discharge	Month	Discharge
August.....	10	June.....	881
September.....	1,060	July.....	2,770
October.....	2,480	August.....	2,180
The year.....	3,550	September.....	361
		The year.....	6,190

Stage and contents of Fourmile Lake Reservoir near Odessa, Oreg., for the period June 14, 1923, to September 30, 1924

Date	Gage-height	Contents	Date	Gage-height	Contents	Date	Gage-height	Contents
1923	Feet	Acre-ft.	1924	Feet	Acre-ft.	1924	Feet	Acre-ft.
June 14.....	5,991.25	6,642	Jan. 14.....	5,985	2,776	May 20.....	5,993.25	8,002
July 4.....	5,992.15	7,244	Feb. 19.....	5,989.3	5,386	May 31.....	.....	8,200
July 10.....	5,992.50	7,484	Mar. 7.....	5,989.7	5,670	June 30.....	.....	7,100
July 20.....	5,992.50	7,484	Apr. 10.....	5,990.5	6,152	July 31.....	5,986.9	3,904
Aug. 31.....	5,992	7,141	Apr. 24.....	5,991	6,475	Aug. 31.....	5,982.2	1,188
Oct. 18.....	5,986	3,365	May 7.....	5,992	7,141	Sept. 30.....	.....	700
			May 14.....	5,992.7	7,621			

* Estimated.

CASCADE CANAL NEAR FISH LAKE, OREG.

LOCATION.—In SE. $\frac{1}{4}$ sec. 30, T. 36 S., R. 5 E., at divide between Rogue and Klamath River Basins, 3 miles above Fish Lake and 24 miles east of Lake Creek, Jackson County.

RECORDS AVAILABLE.—June 1 to September 30, 1924.

GAGE.—Vertical staff on left bank of canal at the Cascade Range divide, just below Dry Creek flume.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Canal section excavated in gravel and heavy material; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 1.72 feet on August 7, 9, and 10 (discharge, 42 second-feet). Canal dry at times.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read to hundredths once a day July 11 to August 27, estimates for other periods when water was being diverted are based on current-meter measurements. Daily discharge ascertained by applying daily gage reading to rating table. Record for July and August good; for June and September fair.

The Cascade Canal diverts from Fourmile Creek in the Klamath River Basin and discharges into Fish Lake in the Rogue River Basin. The gaging station is maintained at the Cascade Range divide about 10 miles from the point of diversion and 3 miles above Fish Lake. About $1\frac{1}{2}$ miles above Fish Lake is a lava bed into which the entire flow sinks. During the year four groups of comparative discharge measurements were made on the canal at the divide and at a point about $1\frac{1}{2}$ miles below the divide, above the lava bed. These measurements seem to indicate that in this distance there is a loss of about 10 per cent of the flow when it is more than 20 second-feet and about 2 second-feet when the flow is less than 20 second-feet. From observations above and at the lake, about seven days are required for time of transit for the remaining flow of the canal to reach Fish Lake through the lava bed.

Discharge measurements of Cascade Canal above Fish Lake lava beds, and at Cascade divide during the year ending September 30, 1924

Date	Discharge		Date	Discharge	
	Cascade divide	Above lava beds		Cascade divide	Above lava beds
	<i>Sec.-ft.</i>	<i>Sec.-ft.</i>		<i>Sec.-ft.</i>	<i>Sec.-ft.</i>
July 24.....	38.0	34.5	Aug. 6.....	41.0	36.3
Aug. 2.....	41.0	37.0	Aug. 26.....	9.6	7.8

Discharge measurements of Cascade Canal near Fish Lake, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 5.....	1.55	30.1	July 12.....	1.34	23.4	Aug. 6.....	1.70	42.0
June 20.....	.78	6.7	July 22.....	1.57	34.5	Aug. 26.....	.90	9.7
July 1.....	1.09	15.0	July 31.....	1.67	38.6	Aug. 27.....	.81	7.6
July 9.....	1.33	23.9	Do.....	1.66	38.4	Sept. 24.....	.16	.20

Daily discharge, in second-feet, of Cascade Canal near Fish Lake, Oreg., for the year ending September 30, 1924

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1.		15	40	9.0	16.		27	30	1.5
2.			41		17.		29	26	
3.			41		18.		30	24	
4.			41		19.	4.0	30	23	
5.		19	41		20.	7.0	32	21	
6.			42	5.0	21.		34	20	0.2
7.			42		22.		35	19	
8.			41		23.	9.0	36	16	
9.		23	42		24.		38	14	
10.		23	42		25.		38	11	
11.		23	41	4.0	26.		38	10	9.0
12.		24	40		27.		39	8.3	
13.		24	37		28.	12	39		
14.		26	34		29.		40		
15.		26	32		30.		41		
					31.		40		

Monthly discharge of Cascade Canal near Fish Lake, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June.....		0	3.87	230
July.....	41	15	28.5	1,750
August.....	42		27.6	1,700
September.....		0	3.01	179
The period.....	42	0	15.9	3,860

"A" CANAL AT KLAMATH FALLS, OREG.

LOCATION.—In NE. $\frac{1}{4}$ sec. 30, T. 38 S., R. 9 E., at head gate, a quarter of a mile above tunnel and $1\frac{1}{2}$ miles northwest of Klamath Falls, Klamath County.

RECORDS AVAILABLE.—Irrigation seasons, 1911–1924. Some water was diverted for three or four years prior to 1911, but no record was kept.

GAGE.—Vertical staff gage at head gate used April 21 to September 30; staff gage on right bank of canal just back of Bureau of Reclamation office used April 8–20. Read by employees of Bureau of Reclamation.

DISCHARGE MEASUREMENT.—Made from bridge just above first gage used in 1924.

CHANNEL AND CONTROL.—Trapezoidal concrete-lined canal; remains of former weir projecting 3 or 4 feet above grade just above intake of tunnel and a quarter of a mile below gage acts as control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year 10.25 feet at time of measurement May 10. (discharge, 750 second-feet); canal dry each winter.

1911–1924: Maximum discharge, 773 second-feet June 28, 1922.

ACCURACY.—Stage-discharge relation permanent, beginning April 21; unstable at station used April 8–20. Rating curve well defined. Gage read to half-tenths twice a day, with additional readings whenever head gates were changed. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

"A" canal diverts from Link River immediately below outlet of Upper Klamath Lake, in NE. $\frac{1}{4}$ sec. 30, T. 38 S., R. 9 E., for irrigating lands east of Klamath River on both sides of Lost River. Most of the return waters reach Lost River.

Discharge measurements of "A" canal at Klamath Falls, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Apr. 8.....		28.1	Apr. 22.....	5.50	201	May 31.....	8.85	596
Apr. 12.....		48.1	Apr. 23.....	5.90	242	June 11.....	9.00	624
Apr. 18.....		79	May 4.....	7.65	427	July 15.....	7.60	424
Apr. 21.....	4.60	129	May 10.....	10.25	750	July 31.....	9.30	661

Daily discharge, in second-feet, of "A" canal at Klamath Falls, Oreg., for the year ending September 30, 1924

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1.....		345	600	474	656	215	16.....	68	706	474	449	391	226
2.....		387	600	465	636	204	17.....	73	697	493	498	380	240
3.....		394	634	461	622	239	18.....	79	674	514	543	341	221
4.....		399	667	444	613	276	19.....	90	598	542	582	306	221
5.....		427	680	436	617	282	20.....	120	661	536	596	270	205
6.....		557	676	423	615	296	21.....	142	689	537	599	270	162
7.....		656	673	417	600	303	22.....	195	702	523	586	257	164
8.....	28	711	668	432	596	292	23.....	229	697	533	594	238	170
9.....	33	735	662	423	532	272	24.....	231	700	573	609	212	161
10.....	38	698	653	397	460	240	25.....	251	681	614	642	220	140
11.....	43	645	631	415	425	240	26.....	274	667	610	671	230	127
12.....	48	694	615	414	397	240	27.....	280	662	547	681	270	85
13.....	53	700	526	402	414	240	28.....	280	662	501	689	266	69
14.....	58	713	488	407	419	233	29.....	280	642	488	685	204	79
15.....	63	719	486	417	407	224	30.....	299	610	474	697	226	43
							31.....		600		662	226	

Monthly discharge of "A" canal at Klamath Falls, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 8-30.....	299	28	142	6,480
May.....	735	345	627	38,600
June.....	680	474	574	34,200
July.....	697	397	523	32,200
August.....	656	204	397	24,400
September.....	303	43	204	12,100
The year.....				148,000

KENO CANAL AT KLAMATH FALLS, OREG.

LOCATION.—In NE. $\frac{1}{4}$ sec. 31, T. 38 S., R. 9 E., 200 feet above penstock to west side plant of California Oregon Power Co., a quarter of a mile above Link River bridge at Klamath Falls, Klamath County.

RECORDS AVAILABLE.—October 1, 1923, to September 30, 1924.

GAGE.—Vertical staff gage on left bank of canal; also integrating wattmeter in power-house. Read by employees of California Oregon Power Co.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage. The measured discharge in second-feet is referred to the load in kilowatts by observing number of revolutions a minute of the integrating wattmeter at beginning and end of measurement.

CHANNEL AND CONTROL.—Smooth earth bottom, high banks, and swift even current at measuring section. Stage is controlled by load on turbines of power plant.

EXTREMES OF DISCHARGE.—Maximum load observed during year, 654 kilowatts on March 4 (discharge, 222 second-feet).

DIVERSIONS.—Spillway from canal to river 300 feet above power plant is practically never used.

REGULATION.—The flow is controlled by gates at head of canal which are regulated to supply water for power plant.

ACCURACY.—Stage-discharge relation very unstable; kilowatt-discharge relation permanent, except as affected by slight variations in net head, which have been disregarded. The rating curve is well defined. Integrating watt-meter read once daily at midnight to hundredths of kilowatt-hours. Records good.

Discharge measurements of Keno Canal at Klamath Falls, Oreg., during the year ending September 30, 1924

Date	Gage height	Discharge	Power-plant output	Date	Gage height	Discharge	Power-plant output
	<i>Feet</i>	<i>Sec.-ft.</i>	<i>Kilowatts</i>		<i>Feet</i>	<i>Sec.-ft.</i>	<i>Kilowatts</i>
Oct. 2.....	3.45	220	-----	Feb. 22.....	3.61	216	606
Oct. 3.....	3.91	207	-----	Mar. 4.....	3.50	220	654
Oct. 4.....	3.09	204	-----	Apr. 4.....	3.65	207	604
Nov. 2.....	3.01	212	-----	May 14.....	3.49	211	610
Feb. 16.....	3.96	218	617				

Daily discharge, in second-feet, of Keno Canal at Klamath Falls, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	211	207	207	209	209	211	209	213	209	211	211	173
2.....	211	207	213	205	209	211	217	211	211	207	213	159
3.....	211	207	215	211	209	215	213	213	197	217	209	149
4.....	205	203	215	207	207	213	215	211	211	213	215	145
5.....	203	205	211	209	207	211	213	211	211	217	213	119
6.....	209	205	203	207	207	205	213	209	211	213	213	127
7.....	207	207	215	203	211	201	217	209	213	211	211	141
8.....	207	211	217	211	209	209	217	209	209	207	209	115
9.....	209	203	215	211	211	203	215	205	211	209	207	97
10.....	205	213	211	201	213	207	217	209	213	213	203	97
11.....	209	205	211	203	203	207	215	209	211	209	205	129
12.....	213	203	207	205	201	205	219	209	215	209	211	105
13.....	213	205	211	203	209	207	217	211	215	213	211	121
14.....	209	207	213	207	211	207	215	211	215	213	207	147
15.....	205	209	211	205	207	209	217	207	213	209	205	151
16.....	207	209	213	205	207	167	211	209	213	213	209	183
17.....	211	209	209	209	141	211	219	209	215	213	201	183
18.....	211	207	211	199	215	213	217	209	209	213	197	169
19.....	211	205	209	207	213	209	213	207	211	211	203	161
20.....	207	209	213	207	213	211	165	211	217	209	201	123
21.....	205	209	207	207	213	211	207	207	215	215	205	135
22.....	203	207	213	209	209	205	209	207	215	215	199	107
23.....	209	207	213	207	211	217	209	207	213	215	145	157
24.....	205	209	219	209	215	209	213	211	215	213	195	127
25.....	207	179	211	203	213	215	207	211	219	213	195	153
26.....	209	209	213	209	211	211	207	209	219	213	191	151
27.....	211	211	209	209	213	209	211	177	217	215	193	149
28.....	205	215	213	209	215	215	211	177	217	213	193	159
29.....	209	211	207	207	209	213	211	219	217	211	189	157
30.....	209	211	209	207	-----	213	213	209	215	211	185	151
31.....	209	-----	207	211	-----	213	-----	211	-----	213	177	-----

Monthly discharge of Keno Canal at Klamath Falls, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	213	203	208	12,800
November.....	215	179	207	12,300
December.....	219	203	211	13,000
January.....	211	199	207	12,700
February.....	215	141	208	12,000
March.....	217	167	208	12,800
April.....	219	165	212	12,600
May.....	219	177	208	12,800
June.....	219	197	213	12,700
July.....	217	207	212	13,000
August.....	215	177	201	12,400
September.....	183	97	141	8,390
The year.....	219	97	203	147,000

LOST RIVER DIVERSION CANAL NEAR OLENE, OREG.

LOCATION.—In SE. $\frac{1}{4}$ sec. 30, T. 39 S., R. 10 E., one-fourth mile below intake of canal at Lost River Dam, 4 miles below Olene, Klamath County.

RECORDS AVAILABLE.—March 14, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on right bank about 100 yards below spillway from the "C-G" Canal, beginning May 4, 1913; vertical staffs showing height of water in pond back of head gates and in canal below gates also read once a day.

CHANNEL AND CONTROL.—Wide shallow canal, excavated in sand and silt, backwater from Klamath River extends practically to head of canal.

DISCHARGE MEASUREMENTS.—Made from a footbridge a short distance below head gate, or from wagon bridge at gage.

EXTREMES OF DISCHARGE.—Maximum discharge during year from water-stage recorder, 3.75 feet on February 12 (discharge, 307 second-feet); canal practically dry April 26 to May 8.

1912-1924: Maximum discharge recorded, 508 second-feet February 28, 1914.

DIVERSIONS.—Beginning in June, 1922, water has been wasted from the "C-G" canal into the diversion canal, the amount of which has been estimated. Beginning May 4, 1923, the station was located below wasteway.

ACCURACY.—Stage-discharge relation at recorder site unstable on account of varying backwater from Klamath River and growth of aquatic plants. Fairly well defined rating curves. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting the recorder graph, except for the periods April 19-25, May 9-22, and June 12-16 when gate openings at dam were used. Records fair.

COOPERATION.—Record furnished by the United States Bureau of Reclamation, Klamath project.

Lost River diversion canal diverts from Lost River in SW. $\frac{1}{4}$ sec. 29, T. 39 S., R. 10 E., and discharges into Klamath River in SW. $\frac{1}{4}$ sec. 17, T. 39 S., R. 9 E. The discharge of Lost River during the nonirrigation season has been diverted into Klamath River beginning in 1912 to assist in the reclamation of the bed of Tule Lake. Most of the water discharged during July to September, 1924, was released from storage at the Clear Lake Reservoir near the head of Lost River.

Discharge measurements of Lost River diversion canal near Olene, Oreg., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 14.....	1.45	69.0	May 9.....	0.28	31.6	July 14.....	3.13	125
Feb. 9.....	3.60	278	May 16.....	1.02	67.6	July 21.....	3.42	140
Feb. 11.....	3.70	300	May 23.....	1.37	77.8	July 28.....	3.01	112
Feb. 12.....	3.75	305	June 9.....	1.58	41.7	Aug. 4.....	3.04	117
Feb. 23.....	2.00	131	June 17.....	1.73	62.9	Aug. 11.....	3.16	189
Feb. 28.....	1.66	124	June 20.....	1.61	59.6	Aug. 18.....	2.77	150
Mar. 22.....	1.74	125	June 25.....	1.75	57.1	Aug. 21.....	3.76	249
Apr. 5.....	1.53	120	June 28.....	1.60	48.0	Sept. 9.....	3.75	252
Apr. 16.....	1.27	94.1	June 30.....	2.06	65.7	Sept. 17.....	4.02	283
Apr. 18.....	.43	39.3	July 7.....	2.96	112	Sept. 27.....	4.07	290

Daily discharge, in second-feet, of Lost River diversion canal near Olene, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	91	72	62	65	101	126	136	-----	73	65	121	220
2.....	121	73	61	65	179	114	135	-----	74	64	117	222
3.....	129	74	61	65	247	102	126	-----	67	64	115	225
4.....	129	74	61	66	283	102	115	-----	57	72	115	229
5.....	129	74	62	67	265	102	114	-----	59	83	124	238
6.....	129	73	63	67	244	106	115	-----	58	97	136	245
7.....	125	72	65	68	229	110	117	-----	55	112	144	247
8.....	125	72	66	68	233	114	117	-----	63	106	166	248
9.....	125	72	66	69	243	126	116	40	57	109	183	251
10.....	125	72	67	70	296	131	118	139	51	107	184	252
11.....	124	72	68	73	299	133	118	92	53	101	187	250
12.....	120	69	68	75	307	133	115	89	69	110	180	248
13.....	116	69	69	77	307	135	115	87	66	122	171	247
14.....	115	69	69	78	299	141	114	87	63	122	163	249
15.....	114	69	69	80	274	140	112	40	60	121	153	260
16.....	115	69	70	80	250	141	101	46	48	120	147	272
17.....	114	69	68	81	216	141	84	44	51	122	148	284
18.....	109	68	67	81	181	130	31	49	26	124	156	288
19.....	109	68	67	81	173	128	31	61	4	125	183	290
20.....	108	68	67	81	176	128	32	65	33	132	213	290
21.....	107	68	67	81	167	128	32	78	64	142	247	389
22.....	107	67	67	80	148	130	16	84	64	127	253	287
23.....	105	67	66	78	131	132	3	86	54	118	246	287
24.....	98	67	65	75	133	136	3	89	73	116	236	284
25.....	94	65	65	73	136	137	3	73	62	114	229	285
26.....	91	60	65	72	137	137	-----	73	89	114	220	289
27.....	88	60	64	72	131	140	-----	72	50	114	215	289
28.....	82	60	65	72	128	144	-----	95	50	110	216	280
29.....	80	60	64	74	128	150	-----	85	62	118	218	277
30.....	77	61	65	75	-----	142	-----	73	67	121	218	277
31.....	72	-----	64	76	-----	140	-----	73	-----	123	218	-----

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of Lost River diversion canal near Olene, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	129	72	109	6,700
November.....	74	60	68.4	4,070
December.....	70	61	65.6	4,030
January.....	81	65	73.7	4,530
February.....	307	101	208	12,000
March.....	150	102	129	7,930
April.....	136	0	70.6	4,200
May.....	139	0	55.3	3,400
June.....	89	4	57.4	3,420
July.....	142	64	110	6,760
August.....	253	115	181	11,100
September.....	290	220	263	15,600
The year.....	307	0	115	83,700

JENNY CREEK NEAR COPCO, CALIF.

LOCATION.—In NW. $\frac{1}{4}$ sec. 35, T. 48 N., R. 5 W., 200 yards above highway, half a mile above mouth, about $2\frac{1}{2}$ miles west of Fall Creek power house and Copco post office, Siskiyou County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 1, 1922, to September 30, 1924.

GAGE.—Stevens eight-day water-stage recorder on left bank, inspected by power-plant operator.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage or by wading.

CHANNEL AND CONTROL.—Boulders and heavy gravel, practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 3.64 feet during period February 5–10 when clock stopped (discharge, 420 second-feet); minimum stage, 0.23 foot at noon July 2 (discharge, estimated at 0.1 second-foot).

1922–1924: Maximum stage from water-stage recorder, 3.69 feet at 6 a. m. January 17, 1923 (discharge, 445 second-feet); minimum stage, that of July 2, 1924.

ICE.—Apparently no ice effect.

DIVERSIONS.—Run-off of Keene Creek, a tributary of Jenny Creek, is stored in Hyatt Prairie Reservoir and diverted about 2 miles below dam over divide into Bear Creek Basin by Talent irrigation district. Practically no irrigation within the basin. Two small ditches divert around gage.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Water-stage recorder operated successfully November 4 to February 4, February 11 to June 20, and September 11–30. Gage read about once a week June 25 to September 3. Discharge ascertained by applying mean daily gage height to rating table. Records good except for July and August and estimated period in February, for which they are fair.

Discharge measurements of Jenny Creek near Copco, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 4.....	1.18	18.9	June 28.....	0.57	7.1
Feb. 25.....	1.75	68	Sept. 11.....	.62	2.7

Daily discharge, in second-feet, of Jenny Creek near Copco, Calif., for the year ending September 30, 1924

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		31	32	231	68	73	42	10			1.8
2.....	25	21	25	182	68	78	39	9.1	0.1		1.9
3.....		20	34	132	90	78	38	7.0			2.0
4.....	22	18	36	164	90	84	37	6.6			
5.....	20	23	30		78	84	36	6.2			
6.....	18	25	30		73	78	35	6.6			
7.....	16	109	30	180	68	84	30	6.4		1.8	3.0
8.....	16	51	28		63	84	29	6.0			
9.....	16	35	28		68	90	26	6.2	2.0		
10.....	16	23	30		63	90	23	6.6			
11.....	16	25	33	109	68	90	23	7.3			3.9
12.....	16	33	35	156	61	90	23	6.4			3.9
13.....	17	33	29	109	54	90	28	5.8			3.9
14.....	22	30	27	96	51	90	25	5.8			3.7
15.....	24	28	28	96	49	96	22	5.8			3.7

Daily discharge, in second-feet, of Jenny Creek near Copco, Calif., for the year ending September 30, 1924—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	21	27	27	84	47	96	18	5.8	3.4		3.7
17.....	19	29	22	84	48	96	18	5.6			3.7
18.....	18	43	27	78	52	84	16	6.2			4.0
19.....	18	46	20	73	48	78	14				4.2
20.....	18	39	25	68	45	73	15			5.0	5.0
21.....	18	30	24	78	50	68	15	4.0			5.6
22.....	17	23	22	68	51	68	12				5.2
23.....	17	19	22	68	51	61	11		2.6		5.2
24.....	18	23	22	63	59	55	11				5.6
25.....	20	24	22	63	54	52	11	1.4			6.0
26.....	19	22	28	68	55	52	10	1.9			6.2
27.....	18	16	41	78	63	51	10	2.5		1.4	6.0
28.....	17	26	51	73	68	48	9.4	3.0			5.8
29.....	20	43	52	73	68	45	10	2.3			5.6
30.....	38	44	63		73	45	9.1	1.6			5.6
31.....		38	78		63		9.1				

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Jenny Creek near Copco, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November.....	38	16	19.7	1,170
December.....	109	18	32.2	1,980
January.....	78	20	32.3	1,990
February.....	231	63	116	6,670
March.....	90	45	61.5	3,739
April.....	96	45	75.0	4,460
May.....	42	9.1	21.1	1,300
June.....	10	1.4	5.20	309
July.....		.1	2.02	124
August.....			2.73	168
September.....	6.2	1.8	4.09	243
The period.....	231	.1	33.4	22,200

HYATT PRAIRIE RESERVOIR NEAR ASHLAND, OREG.

LOCATION.—In SW. $\frac{1}{4}$ sec. 16, T. 39 S., R. 3 E., at dam of Talent irrigation district and practically over location of former station on Keene Creek, 3 miles north of Ashland-Klamath Falls highway, and 20 miles east of Ashland, Jackson County.

RECORDS AVAILABLE.—December 27, 1922, to September 30, 1924.

GAGE.—Vertical staff on outside of gate tower, graduated to read elevations above sea level; read about once a week, October to June, by employees of Talent irrigation district.

EXTREMES OF STAGE.—Maximum stage recorded during year, 4,999.60 feet April 28 (storage, 4,515 acre-feet); minimum stage, 4,981.7 feet September 12-30 (storage, zero).

DIVERSIONS.—Water turned out of reservoir and diverted about 2 miles below dam through Keene Creek Canal into headwaters of Bear Creek, Rogue River basin, beginning April 22.

Monthly contents of Hyatt Prairie Reservoir near Ashland, Oreg., for the year ending September 30, 1924

Date	Contents	Loss or gain in storage	Date	Contents	Loss or gain in storage
	<i>Acre-feet</i>	<i>Acre-feet</i>		<i>Acre-feet</i>	<i>Acre-feet</i>
Sept. 30.....	742		May 31.....	2,800	-1,700
Oct. 31.....	992	+250	June 30.....	520	-2,280
Nov. 30.....	1,185	+193	July 31.....	300	-220
Dec. 31.....	1,620	+435	Aug. 31.....	100	-200
Jan. 31.....	1,880	+260	Sept. 30.....	0	-100
Feb. 29.....	2,860	+980			
Mar. 31.....	3,560	+700	The year.....		-742
Apr. 30.....	4,500	+940			

NOTE.—Contents interpolated from gage readings made once a week, except for July and August, for which they were estimated.

KEENE CREEK CANAL NEAR ASHLAND, OREG.

LOCATION.—In NW. $\frac{1}{4}$ sec. 29, T. 39 S., R. 3 E., 400 feet above short tunnel through the Cascade divide, 2 miles north of Ashland-Klamath Falls highway, and 16 miles southeast of Ashland, Jackson County.

RECORDS AVAILABLE.—June 17, 1923, to September 12, 1924.

GAGE.—Stevens eight-day water-stage recorder on right bank, new datum used in 1924; inspected by ditch walker employed by Talent irrigation district. Staff gage at same point read April 22 to May 6.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Concrete-lined section 10 feet above and below gage. Control is riffle caused by break in grade at end of concrete lining 10 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during period from water-stage recorder, 1.31 feet from noon to 10 p. m. June 22 (discharge, 47 second-feet). Canal dry at times.

1923-24: Maximum discharge, that of June 22, 1924.

ICE.—None.

DIVERSIONS.—None above gage.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Staff gage read to hundredths twice daily April 22 to May 6; water-stage recorder operated satisfactorily May 7 to June 25, water below intake thereafter. Daily discharge ascertained by applying to rating table mean daily gage height determined from two daily gage readings or from recorder graph by inspection, except for June 10-24, for which it is based on records on East Talent lateral. Records good.

Keene Creek Canal diverts from Keene Creek in Klamath River basin in SE. $\frac{1}{4}$ sec. 20, T. 39 S., R. 3 W., water released from Hyatt Prairie Reservoir, about 2 miles upstream, and delivers it through a 400-foot tunnel under the divide into head of Sampson Creek, a tributary of Emigrant Creek in the Rogue River basin, whence it is diverted onto lands of the Talent irrigation district.

Discharge measurements of Keene Creek Canal near Ashland, Oreg., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
May 7.....	1.08	24.9	June 9.....	1.29	37.8
May 14.....	1.25	35.3	July 19.....	.35	1.09

Daily discharge, in second-feet, of Keene Creek Canal near Ashland, Oreg., for the year ending September 30, 1924

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		9.9	8.6	4.7			16		36	41			
2		21	30	5.4			17		36	42	0.8		
3		21	36	5.6			18		36	43			
4		21	39	4.9			19		36	43	1.2		
5		21	39				20		36	43			
6		21	38				21		36	45			
7		25	39			1.0	22	10	36	47			
8		31	38	2.5	1.0		23	8.5	36	45			
9		33	38				24	5.8	35	29		1.0	
10		36	39				25	2.7	34	2.9	.9		
11		36	39				26	1.8	34				
12		36	39	.5			27	1.8	33	2.7			
13		36	40				28	1.8	33				
14		36	40	.8			29	7.2	27				
15		36	41				30	8.0		2.5			
							31						

NOTE.—No flow on days for which no discharge is given. Braced figures show estimated mean discharge for period indicated.

Monthly discharge of Keene Creek Canal near Ashland, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	10	0	1.59	95
May	36	0	29.2	1,800
June	47	2.5	31.1	1,850
July	5.6		1.79	110
August			1.00	61
September		0	.40	24
The year	47	0		3,940

SHASTA RIVER NEAR MONTAGUE, CALIF.

LOCATION.—In N. $\frac{1}{2}$ NE. $\frac{1}{4}$ sec. 33, T. 45 N., R. 6 W., at highway bridge $1\frac{1}{4}$ miles southwest of Montague, Siskiyou County. Little Shasta River enters 1 mile above and Yreka Creek $5\frac{1}{2}$ miles below station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 24, 1911, to September 30, 1913; September 20, 1916, to June 30, 1922; and April 7, 1923, to September 30, 1924.

GAGE.—Water-stage recorder on right bank, installed June 26, 1923.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Small boulders and gravel; fairly permanent. Banks are subject to overflow during very high water.

EXTREMES OF DISCHARGE.—Maximum stage, from water-stage recorder, during year, 4.48 feet at 3 a. m. February 8 (discharge, 449 second-feet); minimum stage, 2.24 feet at 6 p. m. May 17 (discharge, 1.2 second-feet).

1911-1924: Maximum stage recorded, 8 feet February 21, 1921 (discharge, 3,630 second-feet); minimum discharge, that of May 17, 1924.

DIVERSIONS.—The Dwinnell ditch diverts about 30 second-feet 2 miles above gage. The Grenada ditch diverts about 40 second-feet 12 miles above gage. Some water is probably returned to the river above gage. Other small ditches divert above station.

REGULATION.—Considerable diurnal fluctuation at gage due to irrigation above.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Water-stage recorder record poor. Clock stopped frequently and record is fragmentary. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge estimated for periods during which clock was stopped.

COOPERATION.—Gage-height record and results of several discharge measurements furnished by State Division of Water Rights.

Discharge measurements of Shasta River near Montague, Calif., during the year ending September 30, 1924

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 1.....	3.40	129	Mar. 9.....	3.46	147	June 24.....	2.32	2.3
Nov. 24.....	3.60	186	Apr. 25.....	2.68	20	July 13.....	2.42	5.2
Mar. 9.....	3.48	147	June 21.....	2.35	2.9	Aug. 29.....	2.56	15

Daily discharge, in second-feet, of Shasta River near Montague, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	129	175	183	187	213	177	50	9	5.5	12	5.5	18
2.....	129	172	186	187	220	175			4.0	11	5.5	35
3.....	129	169	183	188	229	189	22	7.5		7	7.5	13
4.....	132	172	177	188	238	183				13	24	15
5.....	132	172	180	189	247	175	15	9		11	16	16
6.....	147	166	181	189	257	166				8	5.5	21
7.....	145	172	182	189	286	161	12	15		10	4.0	24
8.....	137	169	183	191	403	155				11	4.5	24
9.....	134	169	169	197	374	150	35	18		9	4.5	22
10.....	132	169	155	205	301	139				14	7.5	17
11.....	134	172	147	208	257	134	31	20		9.5	6.5	18
12.....	134	172	147	211	240	137				9	6	18
13.....	132	169	152	208	231	132	3.2	7.5		5.5	4.2	22
14.....	129	175	152	200	223	132				7.5	5.5	27
15.....	129	180	180	197	211	132	24	8		7.5	8.5	31
16.....	137	183	183	200	205	127						
17.....	147	183	180	205	200	124	4	4.5	14	7.5	10	36
18.....	145	180	177	198	194	124			9	7	12	40
19.....	145	183	197	191	194	115	3.2	4.0	3.7	4.5	13	31
20.....	142	183	197	186	191	102			3.4	3.4	16	30
21.....	142	183	189	180	186	100	3.7	3.2	3.2	4.0	18	34
22.....	145	183	183	177	183	106						
23.....	150	183	183	178	183	102	4.5	4.5	2.6	6.5	16	37
24.....	155	183	180	180	183	102			12	19	43	
25.....	155	183	180	180	183	104	16	1.8	3.2	13	18	68
26.....	155	180	181	183	177	98			8.5	12	16	81
27.....	155	180	182	191	177	96	13	3.2	5.5	11	14	82
28.....	155	180	184	234	177	92			7.5	11	11	84
29.....	158	180	186	243	177	100	9	9	7.5	11	9.5	98
30.....	161	182	186	200	83	83			7	8	11	98
31.....	175	-----	186	207	-----	83	-----	-----	6.5	12	11	82
										6	9.5	-----

NOTE.—Braced figures show estimated mean discharge for period indicated.

Monthly discharge of Shasta River near Montague, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	175	129	143	8,790
November.....	183	166	177	10,500
December.....	197	147	178	10,900
January.....	243	177	196	12,100
February.....	403	177	226	13,000
March.....	189	83	129	7,930
April.....	-----	-----	14.9	887
May.....	-----	-----	12.2	750
June.....	-----	2.6	9.36	557
July.....	13	3.4	8.77	539
August.....	24	4.0	10.7	658
September.....	98	13	40.0	2,380
The year.....	403	2.6	94.9	69,000

TRINITY RIVER AT LEWISTON, CALIF.

LOCATION.—In NE. $\frac{1}{4}$ sec. 19, T. 33 N., R. 8 W., at highway bridge at Lewiston, Trinity County, and 9 miles below Stewarts Fork. Indian Creek enters 6 miles below station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 28, 1911, to September 30, 1924.

GAGE.—Vertical staff in two sections on left bank at bridge; lower section fastened to pile 10 feet above bridge; upper section fastened to downstream end of bridge abutment. Gage read by R. N. Phillips.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Small boulders and gravel; practically permanent. Banks are subject to overflow at extremely high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.20 feet at 11 p. m. February 7 (discharge, 8,920 second-feet); minimum stage, 1.40 feet at 6 p. m. July 30 (discharge, 23 second-feet).

1911-1924: Maximum stage recorded 16.7 feet at 12.30 p. m. January 2, 1914 (discharge, from extension of rating curve, about 26,900 second-feet); minimum stage that of July 30, 1924.

DIVERSIONS.—Water is diverted above the station for irrigation, placer mining, and development of power.

REGULATION.—None.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

April 20, 1924: Gage height, 3.41 feet; discharge, 732 second-feet.

June 28, 1924: Gage height, 1.78 feet; discharge, 70 second-feet.

Daily discharge, in second-feet, of Trinity River at Lewiston, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	202	195	262	262	2,020	615	400	615	180	56	32	34
2.....	195	195	230	250	2,020	615	400	675	160	59	33	33
3.....	223	195	230	238	1,260	675	400	675	152	60	33	34
4.....	460	195	212	290	1,020	675	400	615	152	59	33	36
5.....	391	195	212	319	1,060	615	400	555	143	53	33	38
6.....	425	195	238	319	1,100	615	400	500	133	54	33	39
7.....	490	180	675	319	6,940	585	555	500	126	54	33	42
8.....	364	180	425	290	4,530	585	740	500	126	50	33	37
9.....	310	180	364	290	2,600	585	870	555	138	48	30	36
10.....	278	180	310	278	1,720	555	980	615	138	49	31	38
11.....	250	180	278	270	1,350	500	1,020	615	126	44	36	38
12.....	262	189	270	270	1,350	490	1,020	615	126	42	33	38
13.....	270	250	278	262	1,180	500	1,050	555	138	43	33	38
14.....	270	355	302	250	1,100	500	1,100	555	126	42	33	37
15.....	250	355	302	238	1,060	500	1,100	555	126	42	33	40
16.....	346	319	310	250	940	500	940	500	114	42	33	40
17.....	318	278	302	238	940	490	805	450	114	42	33	40
18.....	278	230	332	212	940	460	740	450	103	42	42	38
19.....	250	230	355	238	838	450	615	410	103	42	59	36
20.....	238	230	346	290	805	450	740	364	103	42	67	38
21.....	230	223	310	310	740	450	772	355	103	36	67	38
22.....	223	212	290	302	740	450	805	346	92	29	56	44
23.....	202	212	278	278	675	450	805	302	92	36	56	43
24.....	202	230	270	238	615	460	805	290	92	36	52	48
25.....	195	262	270	230	615	475	740	270	73	33	50	49
26.....	195	270	270	262	615	490	675	278	73	32	53	52
27.....	195	262	270	490	585	475	645	223	73	31	49	50
28.....	212	223	270	905	615	475	615	195	73	32	40	52
29.....	212	238	270	615	615	475	615	189	70	34	40	54
30.....	212	262	302	615	475	585	195	68	28	40	40	54
31.....	195	270	270	708	460	180	180	180	31	43	43	-----

Monthly discharge of Trinity River at Lewiston, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	490	195	269	16,500
November.....	355	180	230	13,700
December.....	675	212	300	18,400
January.....	905	212	333	20,500
February.....	6,940	585	1,400	80,500
March.....	675	450	519	31,900
April.....	1,100	400	725	43,100
May.....	675	180	442	27,200
June.....	180	68	115	6,840
July.....	60	28	42.7	2,630
August.....	67	30	41.0	2,520
September.....	54	33	41.1	2,450
The year.....	6,940	28	367	266,000

MISCELLANEOUS DISCHARGE MEASUREMENTS

Measurements of stream flow in the Pacific slope basins of California at points other than gaging stations are listed in the following tables:

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924

Streams south of San Francisco Bay

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 3	San Diego River.....	Pacific Ocean.....	Just above junction with Boulder Creek, near Lakeside, Calif.	-----	0.8
Jan. 3	do.....	do.....	do.....	-----	3.5
Feb. 22	do.....	do.....	do.....	-----	1.3
Mar. 10	do.....	do.....	do.....	-----	1.4
Mar. 14	do.....	do.....	do.....	-----	2.5
Apr. 14	do.....	do.....	do.....	-----	12
Oct. 29	do.....	do.....	do.....	-----	9.2
			El Capitan dam site, near Lakeside, Calif.	-----	.2
Dec. 3	do.....	do.....	do.....	-----	2.2
Jan. 3	do.....	do.....	do.....	-----	5.3
Jan. 22	do.....	do.....	do.....	-----	2.5
Feb. 12	do.....	do.....	do.....	-----	2.3
Mar. 10	do.....	do.....	do.....	-----	2.7
Mar. 24	do.....	do.....	do.....	-----	5.3
Apr. 14	do.....	do.....	do.....	-----	4.4
Apr. 28	do.....	do.....	do.....	-----	2.7
May 31	do.....	do.....	do.....	-----	.4
July 5	do.....	do.....	do.....	-----	1.1
May 31	do.....	do.....	One-half mile above El Monte pump, near Lakeside, Calif.	-----	1.1
June 9	do.....	do.....	do.....	-----	1.0
July 5	do.....	do.....	do.....	-----	.7
Aug. 4	do.....	do.....	do.....	-----	.3
Oct. 29	do.....	do.....	do.....	-----	.2
Oct. 29	Cuyamaca Water Co.'s flume.	Diverts from San Diego River.	Siphon, South Fork of San Diego River near Alpine, Calif.	0.61	2.7
Dec. 3	do.....	do.....	do.....	.93	7.6
Jan. 3	do.....	do.....	do.....	1.19	13.2
Jan. 22	do.....	do.....	do.....	.70	3.8
Feb. 12	do.....	do.....	do.....	.72	4.2
Mar. 10	do.....	do.....	do.....	.98	8.8
Mar. 24	do.....	do.....	do.....	1.54	23
Apr. 24	do.....	do.....	do.....	1.60	25
May 31	do.....	do.....	do.....	.95	8.5

* Estimated.

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924—Continued

Streams south of San Francisco Bay—Continued

Date	Stream	Tributary to—	Locality	Gage height	Dis-charge
				<i>Feet</i>	<i>Sec.-ft.</i>
Aug. 29	Cuyamaca Water Co.'s flume.	Diverts from San Diego River.	Siphon, South Fork of San Diego River near Alpine, Calif.	0.83	5.0
Sept. 29	do.	do.	do.	.79	4.6
Oct. 29	do.	do.	Chocolate Creek near Lakeside, Calif.	.49	2.7
Dec. 3	do.	do.	do.	.83	7.8
Jan. 3	do.	do.	do.	1.10	13.3
22	do.	do.	do.	.58	3.9
Feb. 12	do.	do.	do.	.60	4.2
Mar. 10	do.	do.	do.	.93	8.9
Mar. 24	do.	do.	do.	1.50	23
Apr. 24	do.	do.	do.	1.55	24
May 31	do.	do.	do.	.90	8.6
Aug. 29	do.	do.	do.	.73	4.6
Sept. 29	do.	do.	do.	.72	4.6
Oct. 3	do.	do.	do.	-----	2.7
3	do.	do.	Above El Monte tunnel, near Lakeside, Calif.	-----	6.6
29	do.	do.	Below El Monte tunnel, near Lakeside, Calif.	-----	-----
Dec. 3	do.	do.	Grossmont, Calif.	.40	2.7
Jan. 3	do.	do.	do.	.53	5.1
22	do.	do.	do.	.80	9.9
22	do.	do.	do.	.42	3.1
Feb. 12	do.	do.	do.	.39	2.5
Mar. 10	do.	do.	do.	.60	6.0
24	do.	do.	do.	1.20	20
29	do.	do.	do.	1.26	21
Apr. 8	do.	do.	do.	1.34	24
14	do.	do.	do.	1.28	22
28	do.	do.	do.	1.07	16.4
May 31	do.	do.	do.	.40	2.9
July 22	do.	do.	do.	.61	5.8
Aug. 29	do.	do.	do.	.50	3.9
Sept. 29	do.	do.	do.	.50	3.8
Jan. 7	La Mesa ditch.	Diverts from Cuyamaca Water Co.'s flume.	Intake at Grossmont, Calif.	1.11	6.2
22	do.	do.	do.	.69	2.4
Mar. 10	do.	do.	do.	.82	3.6
24	do.	do.	do.	1.72	15.7
29	do.	do.	do.	2.11	22
Apr. 14	do.	do.	do.	1.99	21
28	do.	do.	do.	1.70	16.1
Jan. 3	do.	do.	Outlet at La Mesa, Calif.	1.30	9.0
7	do.	do.	do.	.96	6.2
22	do.	do.	do.	.62	2.1
Mar. 10	do.	do.	do.	.74	3.4
24	do.	do.	do.	1.43	14.2
29	do.	do.	do.	1.79	22
Apr. 28	do.	do.	do.	1.44	15.2
Oct. 29	Cuyamaca Water Co.'s South Fork flume.	Diverts from South Fork of San Diego River.	Intake near Alpine, Calif.	.18	.4
Dec. 3	do.	do.	do.	-----	1.5
Jan. 3	do.	do.	do.	-----	2.5
22	do.	do.	do.	-----	1.7
Feb. 12	do.	do.	do.	-----	1.7
Mar. 10	do.	do.	do.	-----	2.0
24	do.	do.	do.	-----	6.3
Apr. 24	do.	do.	do.	-----	5.3
May 31	do.	do.	do.	-----	.5
Jan. 3	Chocolate Creek	San Diego River	Mouth near Lakeside, Calif.	-----	.6
Oct. 20	San Vicente Creek	do.	Foster, Calif.	-----	* 1
Jan. 8	Santa Ysabel Creek	San Dieguito River	Santa Ysabel, Calif.	-----	2.5
Mar. 20	do.	do.	Bridge near San Pasqual, Calif.	-----	14
Nov. 23	East San Pasqual ditch.	Diverts from Santa Ysabel Creek.	Intake, San Pasqual Valley near Escondido, Calif.	-----	1.0
Dec. 24	do.	do.	do.	-----	3.8
Feb. 28	do.	do.	do.	0.26	2.5
Jan. 17	Webb upper ditch	do.	do.	-----	3.8
17	Lake Hodges Canal.	Diverts from San Dieguito River.	Intake at Lake Hodges, near Escondido, Calif.	.81	3.1
July 31	do.	do.	do.	.80	7.8

* Estimated.

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924—Continued

Streams south of San Francisco Bay—Continued

Date	Stream	Tributary to—	Locality	Gage height	Dis-charge
				Feet	Sec.-ft.
Oct. 5	San Luis Rey River	Pacific Ocean	Just above intake at Pala ditch, Pala, Calif.	-----	5.8
Nov. 6	do	do	do	-----	7.6
Dec. 21	do	do	do	-----	10
Feb. 15	do	do	do	-----	8.7
Mar. 4	do	do	do	-----	15
May 9	do	do	do	-----	8.7
Oct. 5	do	do	Monseratt Narrows, 3 miles below Pala, Calif.	-----	2.6
Nov. 6	do	do	do	-----	5.4
Dec. 21	do	do	do	-----	12
Mar. 4	do	do	do	-----	22
May 9	do	do	do	-----	4.7
Dec. 21	do	do	Bridge at Bonsall, Calif.	-----	14
4	do	do	Narrows, 2 miles below Bonsall, Calif.	1.95	13
Jan. 4	do	do	do	1.98	18
18	do	do	do	1.90	15
Feb. 15	do	do	do	1.88	6.4
Mar. 4	do	do	do	2.02	20
11	do	do	do	1.97	13
19	do	do	do	2.06	26
26	do	do	do	2.07	30
28	do	do	do	2.32	113
Apr. 7	do	do	do	2.06	64
15	do	do	do	1.89	34
25	do	do	do	1.83	18
May 9	do	do	do	1.53	3.3
Mar. 28	do	do	1 mile above mouth at Oceanside, Calif.	-----	134
Apr. 7	do	do	do	-----	52
15	do	do	do	-----	25
25	do	do	do	-----	15
June 3	Warner Hot Springs	Agua Caliente Creek	Warner Springs, Calif.	-----	.3
Oct. 13	Draft from Lake Henshaw.	San Luis Rey River	Henshaw Dam near Mesa Grande, Calif.	.38	4.0
Feb. 29	do	do	do	.96	18.2
Aug. 1	do	do	do	1.56	39
27	do	do	do	1.48	35
Oct. 4	Escondido Mutual Water Co.'s canal.	Diverts from San Luis Rey River.	Intake near Nellie, Calif.	.47	7.0
13	do	do	do	.33	3.7
Apr. 2	do	do	do	1.06	26
Sept. 14	Temecula Creek	Santa Margarita River.	Below intake of Vail Co.'s upper diversion near Temecula, Calif.	-----	1.7
14	do	do	Three-eighths mile below junction with Deluz Creek, near Deluz, Calif.	-----	1.1
14	Santa Margarita River	Pacific Ocean	Above intake to O'Neill ditch, near Deluz, Calif.	-----	.4
Oct. 2	Arroyo Seco	Temecula Creek	Mouth, at head of Nigger Canyon, near Temecula, Calif.	.28	.1
Nov. 16	do	do	do	.27	.2
Nov. 1	do	do	Mouth at head of Nigger Canyon, near Temecula, Calif.	.39	.6
Dec. 15	do	do	do	.40	.5
1	do	do	do	.41	.4
16	do	do	do	.40	.4
31	do	do	do	.42	.5
Jan. 2	do	do	do	.53	1.7
6	do	do	do	.44	.7
20	do	do	do	.41	.5
Feb. 3	do	do	do	.41	.4
17	do	do	do	.41	.5
Mar. 2	do	do	do	.44	.7
7	do	do	do	.50	.9
16	do	do	do	.45	.7
27	do	do	do	1.14	35
Apr. 2	do	do	do	.86	8.9
16	do	do	do	.53	2.2
May 4	do	do	do	.45	.9
17	do	do	do	.35	.1
20	do	do	do	.35	.1
June 4	do	do	do	.33	.1
Aug. 15	do	do	do	-----	0
31	do	do	do	-----	0

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924—Continued

Streams south of San Francisco Bay—Continued

Date	Stream	Tributary to—	Locality	Gage height	Dis-charge
				Feet	Sec.-ft.
Oct. 2	Murrieta Creek.....	Temecula Creek.....	Mouth near Temecula, Calif.	0.77	0.5
16	do.....	do.....	do.....	.77	.5
Nov. 1	do.....	do.....	do.....	.81	.6
15	do.....	do.....	do.....	.83	.7
Dec. 1	do.....	do.....	do.....	.97	.7
15	do.....	do.....	do.....	.90	1.0
Jan. 2	do.....	do.....	do.....	.92	1.4
6	do.....	do.....	do.....	.85	1.0
20	do.....	do.....	do.....	.89	1.2
Feb. 3	do.....	do.....	do.....	.91	1.2
17	do.....	do.....	do.....	.95	1.2
Mar. 2	do.....	do.....	do.....	1.00	1.4
7	do.....	do.....	do.....	.93	1.5
16	do.....	do.....	do.....	.89	1.0
23	do.....	do.....	do.....	.95	3.2
Apr. 2	do.....	do.....	do.....	.85	1.9
16	do.....	do.....	do.....	.80	1.3
May 4	do.....	do.....	do.....	.79	.9
13	do.....	do.....	do.....	.78	.5
20	do.....	do.....	do.....	.78	.6
June 4	do.....	do.....	do.....	.80	.4
18	do.....	do.....	do.....	.86	.4
July 4	do.....	do.....	do.....	.89	.4
17	do.....	do.....	do.....	.92	.4
Aug. 1	do.....	do.....	do.....	.90	.4
7	do.....	do.....	do.....		.3
15	do.....	do.....	do.....	.82	.3
31	do.....	do.....	do.....	.74	.3
Sept. 14	do.....	do.....	do.....	.70	.3
Apr. 19	O'Neill ditch.....	Divers from Santa Margarita River.	Just above O'Neill Reservoir, near Home ranch, Calif.		8.3
May 18	do.....	do.....	do.....	10.15	2.6
Sept. 14	O'Neill flume.....	Divers from O'Neill Reservoir.	Just below O'Neill Reservoir, near Home ranch, Calif.	3.3	12.1
June 25	Spring Brook.....	Santa Ana River.....	Mouth at Riverside, Calif.		4.9
July 8	do.....	do.....	do.....		4.6
17	do.....	do.....	do.....		4.5
25	do.....	do.....	do.....		4.3
Aug. 1	do.....	do.....	do.....		4.1
8	do.....	do.....	do.....		4.6
15	do.....	do.....	do.....		3.9
21	do.....	do.....	do.....		4.3
29	do.....	do.....	do.....		4.6
Sept. 6	do.....	do.....	do.....		4.5
June 25	Durkey ditch.....	Divers from Santa Ana River.	Near intake of Anburndale bridge, near Corona, Calif.		12
July 8	do.....	do.....	do.....		8.3
17	do.....	do.....	do.....		5.9
25	do.....	do.....	do.....		5.7
Aug. 1	do.....	do.....	do.....		4.8
Jan. 17	Warm Creek Water Co.'s canal No. 1.	Divers from Warm Creek.	SE $\frac{1}{4}$ sec. 31, T. 1 N., R. 3 W., one-half mile west of Harlem Springs, near San Bernardino, Calif.		6.0
July 10	Devil Canyon Creek..	Santa Ana River.....	10 feet below weir, 500 feet below forks of creek, near San Bernardino, Calif.		.3
Feb. 28	Dalton Creek diversion.	Divers from Dalton Creek.	Opposite Dalton Creek gaging station, near Glendora, Calif.		.1
Mar. 8	do.....	do.....	do.....		.2
20	do.....	do.....	do.....		.2
Feb. 28	Fish Creek diversion..	Divers from Fish Creek.	Below Fish Creek gaging station, near Duarte, Calif.		.2
Oct. 29	Tujunga Creek diversion.	Divers from Tujunga Creek.	Near intake at Gold Creek, at Bryant's ranch, near Sunland, Calif.		1.4
Jan. 10	do.....	do.....	do.....		1.8
Feb. 19	do.....	do.....	do.....		1.2
27	do.....	do.....	do.....		1.9
Mar. 11	do.....	do.....	do.....		1.4
18	do.....	do.....	do.....		1.4
May 8	do.....	do.....	do.....		1.6
June 27	do.....	do.....	do.....		.8
July 2	do.....	do.....	do.....		.6

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924—Continued

Streams south of San Francisco Bay—Continued

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				<i>Feet</i>	<i>Sec.-ft.</i>
July 9	Tujunga Creek diversion.	Diverts from Tujunga Creek.	Near intake at Gold Creek, at Bryant's ranch, near Sunland, Calif.		0.4
14	do.	do.	do.		.4
23	do.	do.	do.		.4
Aug. 9	do.	do.	do.		.2
19	do.	do.	do.		.3
22	do.	do.	do.		.3
Jan. 24	Haines Creek diversion.	Diverts from Haines Creek.	Upper sand box near Tujunga, Calif.	1.70	.16
Feb. 21	do.	do.	do.	1.68	.16
Mar. 25	do.	do.	do.	1.70	.14
May 7	do.	do.	do.	1.68	.14
22	do.	do.	do.	1.64	.12
June 26	do.	do.	do.	1.61	.08
July 9	do.	do.	do.	1.60	.07
28	do.	do.	do.	1.60	.07
Aug. 1	do.	do.	do.	1.58	.06
9	do.	do.	do.	1.58	.06
22	do.	do.	do.	1.60	.07
Jan. 24	do.	do.	Lower sand box at tunnel below Haines Creek gaging station, near Tujunga, Calif.	1.70	.14
Feb. 21	do.	do.	do.	1.68	.13
Mar. 25	do.	do.	do.	1.70	.19
May 7	do.	do.	do.	1.68	.12
22	do.	do.	do.	1.64	.12
June 26	do.	do.	do.	1.61	.10
July 9	do.	do.	do.	1.60	.10
28	do.	do.	do.	1.60	.10
Aug. 1	do.	do.	do.	1.58	.09
9	do.	do.	do.	1.58	.09
22	do.	do.	do.	1.60	.08
Nov. 16	Fillmore Land & Water Co.'s canal.	Diverts from Sespe Creek.	Near Sespe, Calif.		4.4

Kern River basin

Oct. 25	Salmon Creek	Kern River	In sec. 30, T. 23 S., R. 33 E., one-half mile above mouth, near Kernville, Calif.	1.25	2.3
Apr. 3	do.	do.	do.	1.56	5.2
9	do.	do.	do.	2.22	19
28	do.	do.	do.	1.39	3.7
28	do.	do.	do.	1.39	3.8
Oct. 4	South Fork of Kern River.	do.	400 feet above bridge, above Isabella, Calif.	.55	9.9

Tulare Lake basin

Apr. 30	Wilcox ditch	Diverts from Tule River.	Opposite Tule River gaging station, near Porterville, Calif.		3.7
Sept. 13	Kaweah River	Tulare Lake	Above South Fork of Kaweah River, near Three Rivers, Calif.		14
Oct. 5	South Fork of Kings River.	Kings River	Just above junction with Middle Fork of Kings River, near Hume, Calif.		146
July 28	do.	do.	do.		79

San Joaquin River basin

Aug. 14	South Fork of San Joaquin River.	San Joaquin River	About 1,000 feet above Evolution Creek.		10
14	do.	do.	About 1,000 feet below Evolution Creek.		29
13	Evolution Creek	South Fork of San Joaquin River.	Outlet of Wanda Lake		* 2.0

* Estimated.

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924

San Joaquin River basin—Continued

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				<i>Feet</i>	<i>Sec.-ft</i>
12	Evolution Creek.....	South Fork of San Joaquin River	100 feet below Evolution Lake.	-----	5.3
13	do.....	do.....	McClure Meadow, about 4 miles above mouth.	-----	16
11	Piute Creek.....	do.....	About 3,000 feet above junction with French Canyon Creek.	-----	18
10	do.....	do.....	About 1,000 feet below junction with French Canyon Creek.	-----	19
Apr. 16	Hooper Creek.....	do.....	One-eighth mile above mouth at Bear Creek trail crossing, Calif.	-----	3.0
July 2	do.....	do.....	do.....	-----	3.7
Aug. 6	do.....	do.....	do.....	-----	1.2
Sept. 8	do.....	do.....	do.....	-----	.8
June 1	Rube Creek.....	do.....	Cassidy Meadow trail, Calif.	-----	1.0
Sept. 3	do.....	do.....	do.....	-----	.4
July 28	North Fork of San Joaquin River.	Middle Fork of San Joaquin River.	Above Dike Creek, Calif.	-----	22
Aug. 30	do.....	do.....	do.....	-----	14
July 28	Dike Creek.....	North Fork of San Joaquin River.	At mouth, Calif.	-----	1.7
Aug. 30	do.....	do.....	do.....	-----	.9
Oct. 27	Cora Lakes Creek	do.....	do.....	-----	.3
Nov. 25	do.....	do.....	do.....	-----	.2
Feb. 19	do.....	do.....	do.....	-----	1.2
25	do.....	do.....	do.....	-----	1.2
Apr. 28	do.....	do.....	do.....	-----	32
May 30	do.....	do.....	do.....	-----	2.2
June 29	do.....	do.....	do.....	-----	.1
July 30	do.....	do.....	do.....	-----	(b)
Sept. 29	do.....	do.....	do.....	-----	(b)
Oct. 1	Chiquito Creek.....	San Joaquin River	Just above Mugler Creek, Calif.	-----	7.1
1	Mugler Creek.....	Chiquito Creek	At mouth at Johnson Meadows, Calif.	-----	1.4
Apr. 27	do.....	do.....	do.....	-----	8.6
May 1	do.....	do.....	do.....	-----	11
July 10	do.....	do.....	do.....	-----	5.7
June 11	do.....	do.....	do.....	-----	.8
July 23	do.....	do.....	do.....	-----	.2
Sept. 7	do.....	do.....	do.....	-----	.1
July 23	Beasore Creek.....	do.....	do.....	-----	.3
Sept. 7	do.....	do.....	do.....	-----	.2
Aug. 21	Merced River.....	San Joaquin River	Above Illilouette Creek near Yosemite, Calif.	1.10	8.0
20	do.....	do.....	Sentinal bridge, Yosemite, Calif.	2.45	13
21	Illilouette Creek.....	Merced River	Mouth near Yosemite, Calif.	.70	1.0
July 30	Tuolumne River.....	San Joaquin River	Above Hetch Hetchy Reservoir, Calif.	-----	44
Aug. 7	do.....	do.....	do.....	-----	32
15	do.....	do.....	do.....	-----	36
Sept. 3	do.....	do.....	do.....	-----	22
18	do.....	do.....	do.....	-----	13
July 30	Total of side streams.....	Hetch Hetchy Reservoir.	Near Hetch Hetchy, Calif.	-----	1.0
Aug. 7	do.....	do.....	do.....	-----	1.5
15	do.....	do.....	do.....	-----	.8
Sept. 3	do.....	do.....	do.....	-----	.4
18	do.....	do.....	do.....	-----	.2
July 29	Eleanor Creek.....	Cherry Creek	Above Lake Eleanor, Calif.	-----	.2
29	Kibbe Creek.....	Lake Eleanor	At mouth at Lake Eleanor, Calif.	-----	.2
29	Frog Creek.....	do.....	do.....	-----	0
Aug. 27	Blue Creek.....	North Fork of Moke-lumne River.	Mouth 1 mile below Bruce's Camp, near West Point, Calif.	-----	2.0
Feb. 17	Park Creek.....	Camp Creek	SE. ¼ sec. 9, T. 10 N., R. 13 E., Sly Park, Calif.	1.35	4.5
Mar. 31	do.....	do.....	do.....	1.40	5.7

* Estimated.

* Discharge less than 0.1 second-foot.

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924

Sacramento River basin

Date	Stream	Tributary to—	Locality	Gage height	Discharge
Mar. 10	Sacramento River	Suisun Bay	Castella, Calif.	Feet 2.40	Sec.-ft. 222
Apr. 24	do	do	do	2.32	194
June 20	do	do	do	1.99	120
25	do	do	do	1.88	110
July 25	do	do	Vernon Bar, Verona, Calif.	1.00	1,210
Aug. 2	do	do	do	1.05	1,200
15	do	do	do	2.05	1,350
22	do	do	do	2.50	1,810
29	do	do	do	2.91	2,140
Sept. 5	do	do	do	2.75	1,910
12	do	do	do	3.05	2,370
Aug. 30	Pit River	Sacramento River	Sec. 2, T. 41 N., R. 8 E., one-half mile below Turner Creek.		1.8
Sept. 24	do	do	Sec. 11, T. 41 N., R. 8 E., 1 mile below Turner Creek.		8.4
Aug. 13	do	do	Sec. 23, T. 40 N., R. 7 E., at Gould's bridge.		1.5
Sept. 19	do	do	do		2.2
19	do	do	Sec. 13, T. 37 N., R. 5 E., 300 feet below highway bridge at Pitville, Calif.		12
May 21	do	do	Sec. 3, T. 36 N., R. 6 E., below Pitville, Calif.		8.2
Aug. 17	South Fork of Pit River.	Pit River	Abandoned U. S. Geological Survey gaging station above West Valley Creek.		4.9
17	do	do	Sec. 12, T. 39 N., R. 13 E., below West Valley Creek and 600 feet above county bridge		9.9
23	do	do	do	.53	11
Sept. 17	do	do	do	.59	15
30	do	do	do	.60	16
20	East Creek	South Fork of Pit River.	Sec. 13, T. 39 N., R. 15 E., below 3 small ditches.		7.3
22	do	do	Sec. 13, T. 39 N., R. 15 E., below 1 small ditch.		10
30	do	do	do		9.0
5	Mill Creek	do	Sec. 23, T. 40 N., R. 15 E., 1 mile above Soup Creek and 150 feet below Mill Creek Falls.		6.1
22	do	do	do		8.1
30	do	do	do		7.7
20	Harvey Creek	do	Sec. 24, T. 39 N., R. 14 E., above all diversions.		2.4
30	do	do	do		1.4
5	West Valley Creek	do	Sec. 15, T. 38 N., R. 14 E., above Van Loan's ditch.		9.9
17	do	do	do		10
Aug. 19	do	do	Abandoned U. S. Geological Survey gaging station near mouth.	3.00	14
23	do	do	do	2.74	5.8
Sept. 27	Roberts Creek	North Fork of Pit River.	Sec. 34, T. 45 N., R. 14 E., at mouth of canyon.		.8
Aug. 16	Linville Creek	do	Sec. 3, T. 44 N., R. 14 E., 100 feet below power house.		2.4
26	do	do	do		1.8
Sept. 27	do	do	do		3.3
Aug. 26	Swedrengeon Creek	do	Sec. 10, T. 44 N., R. 14 E., above all diversions.		1.6
Sept. 27	do	do	do		2.3
Aug. 27	Joseph Creek	do	Sec. 33, T. 44 N., R. 14 E., above Couch Creek and all diversions.		.7
Sept. 27	do	do	do		.4
27	Couch Creek	Joseph Creek	Sec. 32, T. 44 N., R. 14 E., 1,000 feet west of McElwain's ranch house.		.8
23	Tom Creek	North Fork of Pit River.	Sec. 24, T. 43 N., R. 14 E., above all diversions.		.5
Aug. 27	Parker Creek	do	Sec. 28, T. 42 N., R. 14 E., above Shields Creek.		1.0
28	do	do	do		1.0
Sept. 11	do	do	do		1.1
28	do	do	do		2.0

* Add 6.75 feet to reduce to U. S. Engineer Corps datum.

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924

Sacramento River basin—Continued

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				Feet	Sec.-ft.
Aug. 28	Shields Creek	Parker Creek	Sec. 34, T. 42 N., R. 14 E., one half mile above Archer ranch.		1.8
Sept. 11	do	do	do		1.8
28	do	do	do		1.5
Aug. 31	Canyon Creek	Pit River	Sec. 32, T. 41 N., R. 11 E., above all diversions.		1.8
Sept. 26	do	do	do		2.7
Aug. 20	Ash Creek	do	Sec. 29, T. 39 N., R. 10 E., one-half mile below lower end of Ash Valley.	0.55	18
Sept. 19	do	do	do	.58	18
16	Rush Creek	Ash Creek	Sec. 26, T. 40 N., R. 9 E., 2 miles above mouth and below one small diversion.		2.2
25	do	do	do		2.6
Aug. 15	Willow Creek	do	Sec. 27, T. 38 N., R. 9 E., at county bridge 6 miles above mouth.		5.7
Sept. 25	do	do	do		5.6
Aug. 12	Widow Valley Creek	Pit River	Sec. 26, T. 39 N., R. 6 E., one-half mile below Vick-er's ranch house.		4.3
Sept. 19	do	do	do		4.5
Feb. 18	Horse Creek	do	Sec. 3, T. 35 N., R. 7 E., in Little Valley.		9.4
Sept. 5	do	do	Sec. 25, T. 36 N., R. 6 E., at mouth.		4.2
Aug. 12	Beaver Creek	do	Sec. 13, T. 37 N., R. 5 E., near mouth above one small spring.		3.2
21	Hot Creek	do	Sec. 28, T. 37 N., R. 6 E., one-half mile northwest of Burns ranch house.		2.8
Oct. 19	Shelly Creek	do	One-half mile above road near Fall River Mills, Calif.		.6
Sept. 18	do	do	do		.1
Oct. 19	North Fork of Shelly Creek	Shelly Creek	Near Fall River Mills, Calif.		.3
Nov. 21	Hat Creek	Pit River	Above Big Springs, at Big Springs ranger station, Calif.		9
June 26	do	do	do		3.7
Nov. 21	do	do	Below Big Springs, at Big Springs ranger station, Calif.	.91	134
June 26	do	do	do	.88	114
26	do	do	Wilcox ranch, Cassel, Calif.	2.12	87
Mar. 19	do	do	Gelssner ranch, near Cassel, Calif.	1.65	68
31	do	do	1 mile above mouth, near Carbon, Calif.	1.64	503
Apr. 23	do	do	do	1.47	406
June 25	do	do	do	1.46	389
26	Halls Mill ditch	Divers from Hat Creek	2 miles below Big Springs, Calif.		17
26	Rising River	Hat Creek	Rising River ranch, Cassel, Calif.	1.72	218
Jan. 19	Salmon (or Fish) Creek	Pit River	Sec. 2, T. 36 N., R. 3 E., near Carbon, Calif.	.97	52
Apr. 4	Burney Creek	do	Below Burney Falls, near Burney, Calif.	1.83	160
June 20	do	do	do	1.82	144
Sept. 30	do	do	do	1.82	145
June 23	McCloud River	do	Bigelow Meadows, Calif.	-2.02	18
July 18	Nelson Creek	Middle Fork of Feather River.	Mouth at Nelson Point, Calif.		11
18	South Fork of Yuba River.	Yuba River	Highway bridge near Nevada City, Calif.		26
12	North Fork of American River.	American River	Just above junction with Middle Fork of American River, near East Auburn, Calif.		36
12	do	do	Just below junction with Middle Fork of American River, near East Auburn, Calif.		76

Miscellaneous discharge measurements in the Pacific slope basins in California during the year ending September 30, 1924

Sacramento River basin—Continued

Date	Stream	Tributary to—	Locality	Gage height	Dis-charge
July 12	Middle Fork of American River.	North Fork of American River.	Near mouth, near East Auburn, Calif.	Feet	Sec.-ft.
May 22	Outlet of Lake of Woods.	South Fork of American River.	NE. $\frac{1}{4}$ sec. 32, T. 12 N., R. 17 E., near Wade, Calif.	-----	41
				-----	2.9

Streams north of San Francisco Bay

May 31	Middle Eel River.....	Eel River.....	Covelo ranger station, in E. $\frac{1}{2}$ sec. 36, T. 23 N., R. 12 W., 6 miles east of Covelo, Calif.	-----	22
Sept. 21	.....do.....	.....do.....	.....do.....	-----	1.2
16	Klamath River.....	Pacific Ocean.....	Just above Ten Eyke Creek near Somes Bar, Calif.	1.90	737
18	.....do.....	.....do.....	.....do.....	2.80	940
Oct. 19	Shakespeare Creek.....	Williamson River.....	5 miles above Chilouquin, near Bend road near Chilouquin, Oreg.	-----	11.0
19	Spring Creek.....	.....do.....	Above rapids near mouth, near Chilouquin, Oreg.	-----	294
Feb. 18	.....do.....	.....do.....	.....do.....	-----	279
May 20	.....do.....	.....do.....	.....do.....	-----	290
Oct. 17	Fivemile Creek.....	Sprague River.....	Former gaging station near Beatty, Oreg.	0.89	19
16	Brown Creek.....	.....do.....	Highway bridge near Beatty, Oreg.	-----	5.0
Feb. 21	.....do.....	.....do.....	.....do.....	-----	5.2
May 17	.....do.....	.....do.....	.....do.....	-----	3.3
Oct. 18	Whiskey Creek.....	.....do.....	Road bridge near Beatty, Oreg.	-----	12.6
Feb. 20	.....do.....	.....do.....	.....do.....	-----	14.8
Aug. 10	.....do.....	.....do.....	.....do.....	-----	11.7
Oct. 8	Fort Creek.....	Wood River.....	Near Fort Klamath, Oreg., in sec. 26, T. 33 S., R. 7 $\frac{1}{2}$ E.	-----	82
Feb. 17	.....do.....	.....do.....	.....do.....	-----	83
Apr. 3	.....do.....	.....do.....	.....do.....	-----	87
May 19	.....do.....	.....do.....	.....do.....	-----	76
Aug. 12	.....do.....	.....do.....	.....do.....	-----	80
Oct. 8	Crooked Creek.....	.....do.....	Klamath Agency, Oreg., in sec. 13, T. 34 S., R. 7 $\frac{1}{2}$ E.	-----	89
Apr. 2	.....do.....	.....do.....	.....do.....	-----	84
May 19	.....do.....	.....do.....	.....do.....	-----	75
Aug. 12	.....do.....	.....do.....	.....do.....	-----	73
Apr. 2	Agency Spring.....	Crooked Creek.....	Klamath Agency.....	-----	18.6
Oct. 6	Sevenmile Creek.....	Upper Klamath Lake.....	Road crossing near Fort Klamath, Oreg., in sec. 36, T. 33 S., R. 6 E.	-----	80
Apr. 3	.....do.....	.....do.....	.....do.....	-----	87
May 19	.....do.....	.....do.....	.....do.....	-----	55
July 4	.....do.....	.....do.....	.....do.....	-----	51
Aug. 12	.....do.....	.....do.....	.....do.....	-----	38
Sept. 16	Salmon Creek.....	Klamath River.....	1,000 feet above mouth, near Somes Bar, Calif.	-1.70	70
15do.....do.....do.....	-1.70	78

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