

Surface Water Supply of the United States 1946

Part 11. Pacific Slope Basins in California

Prepared under the direction of C. G. PAULSEN, Chief Hydraulic Engineer

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1061

*Prepared in cooperation with the States
of California and Oregon, and other
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**UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1948**

**For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. - Price \$1.00 (paper cover)**

PREFACE

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ILLUSTRATION

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Figure 1. Gaging-station structures: A, Fish Creek near Duarte, Calif.; B, San Joaquin River below Kerckhoff powerhouse, Calif.; C, North Fork Cache Creek near Lower Lake, Calif.	3

SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1946. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 10,900 gaging stations in the 48 States and also at many in the Territories of Alaska and Hawaii. In July 1946, 5,810 gaging stations, including those in Hawaii, were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made during the water year at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged, under the heading "Cooperation," in the introductory matter that precedes the gaging-station records in each volume. In the present volume, the section on cooperation of the second kind appears on page 13.

DEFINITION OF TERMS

The units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-foot" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

"Second-foot 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 runoff is distributed uniformly both as regards time and area.

"Runoff in inches" is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. It is used for comparing runoff with rainfall, which is usually expressed in inches.

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

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons and represents a runoff of 0.0372 inch from 1 square mile.

"Stage-discharge relation" is an abbreviation for the term "relation between gage height and discharge."

"Control" is a term used to designate a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural section, a reach of the channel, or an artificial structure.

"Contents" is a term applied to the volume of water in a reservoir. It is computed on the basis of a level pool and does not include bank storage unless otherwise indicated.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the records of stage and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. Typical structures in use at gaging stations are shown in figure 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the "shifting-control method," in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. At times the stage-discharge relation for a station may be temporarily changed by the presence of aquatic growth, or debris on the control. For such times the daily mean discharge is computed by what is essentially the "shifting-control" method, described above.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the "slope method," in which the slope or fall in a reach of the stream is a factor in the determination of discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage, and for them the rate of change of stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, which makes it impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for stations in the same or nearby basins. For those stations at which the stage-discharge relation is affected by ice, the days included in the periods of ice effect either are indicated in the table by symbols referring to a footnote that states this fact or are given in a general note following the table. The days on which discharge measurements were made during or between periods of ice effect, shortly before the first period, or shortly after the last period are similarly indicated by a footnote.

For most of the gaging stations on streams in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and runoff. Skeleton rating



A. FISH CREEK NEAR DUARTE, CALIF.

Note broad-crested control used in southern California.



B. SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, CALIF.



C. NORTH FORK CACHE CREEK NEAR LOWER LAKE, CALIF.

FIGURE 1.—GAGING-STATION STRUCTURES.

tables are published for all stations except those at which the daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

The description of the station gives the type of gage, its latitude and longitude as determined from the best available maps, and information in regard to diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). Unless otherwise qualified, the maximum discharge corresponds to the crest stage, obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum discharge represents the lowest stage, unless otherwise qualified. Selected peak discharges with the times of their occurrence are given, below the table of monthly discharge, for some stations. This supplementary information is generally omitted for a station at which the drainage area of the stream is less than 10 or more than 10,000 square miles or at which, on most days, the peak discharge exceeds the mean discharge by less than 10 percent.

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day or by using the discharge integrator, an instrument for obtaining the daily mean discharge from a continuous gage-height graph and containing as an essential element a curve representing the stage-discharge relation at the station. For stations equipped with nonrecording gages, the table of daily discharge gives the discharge in second-feet corresponding to once-daily readings of the gage or the mean of twice-daily readings. For periods of rapidly changing stage the daily mean discharge is determined from gage-height graphs based on gage readings made once or twice daily or oftener, as stated in the station description.

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge, not the momentary discharge when the water surface was at crest stage. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" gives the average flow in cubic feet per second during the month.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents is given. A skeleton table of capacity at given stages is usually given in the first report in which data for a station are published but is omitted from succeeding reports.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more accurate than the daily records.

Yield at some stations as indicated by monthly means may vary widely from natural yield, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations figures of "second-feet per square mile" and "runoff in inches" are not published unless storage or diversion records are included indicating the extent of the regulation or diversion or unless satisfactory adjustments can be made for changes in contents or reservoirs or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless its inclusion is indicated. Figures of second-feet per square mile and runoff in inches are also omitted if the drainage area includes large noncontributing areas or if the average annual rainfall over the drainage area is less than 20 inches.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and therefore the discharge recorded does not show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The table of monthly discharge presents in summary the distribution of the flow past the station. The table of daily discharge affords opportunity for more detailed studies of the variation in flow. As further observations in each succeeding year may be expected to throw new light on data previously published, it should be borne in mind that such data are subject to revision in succeeding water-supply papers.

PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

- Part 1. North Atlantic slope basins (St. John River to York River).
2. South Atlantic and eastern Gulf of Mexico basins (James River to Mississippi River).
3. Ohio River Basin.
4. St. Lawrence River Basin.
5. Hudson Bay and upper Mississippi River Basins.
6. Missouri River Basin.
7. Lower Mississippi River Basin.
8. Western Gulf of Mexico basins.
9. Colorado River Basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River Basin.
13. Snake River Basin.
14. Pacific slope basins in Oregon and lower Columbia River Basin.

Water-supply papers and other publications of the Geological Survey containing data on the water resources of the United States may be obtained or consulted as explained 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. Sets of the reports may be consulted in the libraries of the principal cities in the United States.
3. Sets are available for consultation in the offices of the water-resources branch of the Geological Survey as follows:

East of the Mississippi River:

Albany, N. Y., 528 Federal Building.
 Asheville, N. C., 220 Post Office Building.
 Atlanta, Ga., 410 Grand Theater Building.
 Augusta, Maine, Statehouse.
 Baton Rouge, La., 124 Geology Building, Louisiana State University.
 Boston, Mass., 939 Post Office Building.
 Charleston, W. Va., 408 Union Building.
 Charlottesville, Va., House G, Dawson Row, University of Virginia.
 Chattanooga, Tenn., 442 Post Office Building.
 College Park, Md., 105 Engineering Building, University of Maryland.
 Columbia, S. C., 207 Creason Building.
 Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.
 Harrisburg, Pa., 490 Education Building.
 Hartford, Conn., 203 Federal Building.
 Indianapolis, Ind., 205 Underwriters Building.
 Jackson, Miss., 208 Millsaps Building.
 Knoxville, Tenn., 337 Post Office Building.
 Louisville, Ky., 531 Federal Building.
 Madison, Wis., 666 State Office Building.
 Montgomery, Ala., 507 Post Office Building.
 Morgantown, W. Va., 406 Mineral Industries Building.
 New Philadelphia, Ohio, Muskingum Watershed Conservancy District Building.
 Ocala, Fla., 304 Post Office Building.
 Pittsburgh, Pa., 515 Plaza Building.
 Raleigh, N. C., 908 Capital Club Building.
 St. Paul, Minn., 1427 New Post Office Building.
 Trenton, N. J., 228 Federal Building.
 Urbana, Ill., 14 Post Office Annex, Elm Street.
 Washington, D. C., Federal Works Agency Building.
 Williamsburg, Ky., Kentucky Highway Building.

West of the Mississippi River:

Albuquerque, N. Mex., 723 North Second Street.
 Austin, Tex., 302 West Fifteenth Street.
 Bismarck, N. Dak., 7 Eltinge Building.
 Boise, Idaho, 429 Federal Building.
 Denver, Colo., 126 New Customhouse.
 Fort Smith, Ark., 6 Post Office Building.
 Helena, Mont., 408 Federal Building.
 Honolulu, Hawaii, 225 Federal Building.
 Idaho Falls, Idaho, 204 Federal Building.
 Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.
 Lincoln, Nebr., 510 Rudge-Guenzel Building.
 Los Angeles, Calif., 429-F United States Post Office and Courthouse.
 Oklahoma City, Okla., 535 State Capitol.
 Pierre, S. Dak., City Hall.
 Portland, Oreg., 606 Post Office Building.
 Rolla, Mo., Ramsey Building.
 St. Louis, Mo., 1004 New Federal Building.
 Salt Lake City, Utah, 303 Federal Building.
 San Francisco, Calif., 702 Appraisers Building.
 Santa Fe, N. Mex., 204 United States Courthouse.
 Tacoma, Wash., 207 Federal Building.
 Topeka, Kans., 306 Federal Building.
 Tucson, Ariz., 210 Post Office Building.

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

Prior to publication, records of discharge in provisional form for individual stations may usually be obtained from the district offices listed above.

Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

Stream-flow data for the years 1884-1901, in reports of the 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 September 1890.
12th A, pt. 2do.....	1884 to June 30, 1891.
13th A, pt. 3do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage heights, and ratings.....	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	1895.
W 11.....	Gage heights.....	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge...	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.....	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.

Papers on surface water supply containing records from 1899 to date, grouped by years and drainage basins, are listed by number on page 8. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained. For example, the data for 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements" at the end of each report, the streams and points of measurement listed appearing in the same relative order as the streams and gaging stations in the body of the report. An index of the records obtained prior to 1904 has been published in Water-Supply Paper 119.

Each of the reports on surface water supply for the year 1939, issued as Water-Supply Papers 871 to 884 (see table on p. 8), contains, for the area covered by that report, a summary of yearly discharge at gaging stations at which 10 or more complete years of record have been collected. These summaries are available also as separate reprints.

Numbers of water-supply papers containing results of stream measurements, 1899-1946

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b85, 36	36	36	36	c36, 37	37	37	437	38	38, f39	38	38	38
1900 g...	47, h48	55, 49	49	49	49	49, j50	50	50	50	51	51	51	51	51
1901 a...	65, 92	b65, 67, 63	67, 63	65, 63	65, 63	66, 64	66	66	66, 65	66, 68	66, 68	66, 65	66, 65	66, 65
1902 a...	97	b97, 98	98	97	k98, 99	99	k98, 99	99	100	100	100	100	100	100
1903 a...	128	129	129	129	k128, 130	130, r131	k128, 131	132	133	133, s134	134	135	135	135
1904 a...	169	169	170	171	172	172	k169, 173	174	175, t177	177	177	178	178	u177, 178
1905 a...	205	206	207	207	208	208	k205, 209	210	211	s213	213	214	214	214
1906 a...	241	242	243	244	245	246	247	248	249	250, s251	251	252	252	252
1907 a...	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1908 a...	319	320	321	322	323	324	325	326	327	328	329	330	331	332
1909 a...	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1910 a...	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1911 a...	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1912 a...	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1913 a...	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1914 a...	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1915 a...	461	462	463	464	465	466	467	468	469	470	471	472	473	474
1916 a...	491	492	493	494	495	496	497	498	499	500	501	502	503	504
1917 a...	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1918 a...	551	552	553	554	555	556	557	558	559	560	561	562	563	564
1919 a...	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1920 a...	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1921 a...	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1922 a...	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1923 a...	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1924 a...	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1925 a...	691	692	693	694	695	696	697	698	699	700	701	702	703	704
1926 a...	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1927 a...	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1928 a...	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1929 a...	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1930 a...	761	762	763	764	765	766	767	768	769	770	771	772	773	774
1931 a...	781	782	783	784	785	786	787	788	789	790	791	792	793	794
1932 a...	801	802	803	804	805	806	807	808	809	810	811	812	813	814
1933 a...	821	822	823	824	825	826	827	828	829	830	831	832	833	834
1934 a...	831	832	833	834	835	836	837	838	839	840	841	842	843	844
1935 a...	851	852	853	854	855	856	857	858	859	860	861	862	863	864
1936 a...	871	872	873	874	875	876	877	878	879	880	881	882	883	884
1937 a...	891	892	893	894	895	896	897	898	899	900	901	902	903	904
1938 a...	911	912	913	914	915	916	917	918	919	920	921	922	923	924
1939 a...	931	932	933	934	935	936	937	938	939	940	941	942	943	944
1940 a...	951	952	953	954	955	956	957	958	959	960	961	962	963	964
1941 a...	971	972	973	974	975	976	977	978	979	980	981	982	983	984
1942 a...	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004
1943 a...	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024
1944 a...	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044
1945 a...	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 59. Monthly discharge for 1900 and 22d Annual Report, part 4.
b James River only.
c Gallatin River.
d Green and Gunnison Rivers and Colorado River above Gunnison River only.
e Snake River only.
f Kings and Kern Rivers and south Pacific alone basins.
g Rating tables and index to Water-Supply Papers 47-52 contained in Water-Supply Paper 52. Monthly discharge for 1900 and 22d Annual Report, part 4.
h Wasatch and Schuyllkill Rivers to James River.
i Soloto River.
j Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.
k Snake River.
l Mississippi River from east.
m Lake Ontario and tributaries to St. Lawrence River upper.
n Pacific alone basins.
o Hudson Bay only.
p Hudson River to Delaware River, inclusive.
q Susquehanna River to Yackin River.
r Platte and Kansas Rivers.
s The Great Basin in California, except Snake River.
t Mouth of Gila River.
u Rogue, Umpqua, and Siletz Rivers only.

Reports have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which have been revised), as well as some records not contained in the annual series of water-supply papers. The following table gives the numbers and titles of these reports, arranged alphabetically, some by States and some by drainage basins.

Reports containing compilations of records of discharge by States and drainage basins

Report	Period	Water-Supply Paper
STATE		
Alabama, Water powers of, with an appendix on stream measurements in Mississippi.	1895-1903	107
California, Water resources of, part 1, Stream measurements in Sacramento River Basin.	1887-1912	298
California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.	1878-1912	299
California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific Coast river basins.	1891-1912	300
California, southern, Surface water supply of Pacific slope of.....	1890-1918	447
California, Surface water supply of Sacramento River Basin.....	1895-1927	597-E
California, Surface water supply of San Joaquin River Basin.....	1895-1927	636-D
California, southern, Surface water supply of Pacific slope basins in..	1894-1927	636-E
California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.	1895-1927	637-A
Colorado, Water resources of.....	1884-1900	74
Georgia, Water resources of.....	1895-1905	197
Massachusetts, Surface waters of.....	1845-1915	415
Nebraska, Surface water supply of.....	1894-1906	230
Oregon, Surface water supply of.....	1878-1910	370
Texas, Summary of records of surface waters of.....	1898-1937	850
Vermont, Surface waters of.....	1875-1916	424
Washington, Summary of hydrometric data in.....	1878-1919	492
Washington, Summary of records of surface waters of.....	1919-35	870
Wisconsin, northern, Water power of.....	1895-1905	156
Wyoming, Surface waters of, and their utilization.....	1894-1921	469
DRAINAGE BASIN		
Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization..	1888-1914	395
Colorado River, upper (Colo., Utah), and its utilization.....	1897-1927	617
Colorado River Basin (Ariz., Calif., Colo., Utah, Wyo.), Surface waters at base stations in.	1891-1938	918
Colorado River Basin (Ariz., Calif., Nev., N. Mex., Utah), Surface waters at stations on tributaries in lower.	1888-1938	1049
Columbia River Basin, upper (Mont., Idaho), Surface waters of.....	1898-1938	916
Great Salt Lake Basin, Water powers of.....	1889-1920	517
Green River (Colo., Utah, Wyo.) and its utilization.....	1894-1926	618
Kennebec River Basin (Maine), Water resources of.....	1890-1906	198
Milk River. See St. Mary and Milk Rivers.....	1881-1938	917
Missouri and St. Mary River Basins (Mont.), Surface waters of.....	1895-1920	536
New-Kanawha River Basin (N. C., Va., W. Va.), Surface water supply of..	1904-9	279
Potomac River Basin (D. C., Md., W. Va.).....	1895-1906	192
Rio Grande Basin (Colo., N. Mex., Tex.), Water resources of.....	1888-1913	358
St. Mary and Milk Rivers (Mont., Canada), Water supply of.....	1898-1917	491
St. Mary River. See St. Mary and Milk Rivers; Missouri and St. Mary River Basin.		
Sevier Lake Basin (Utah), Utilization of surface water resources of.....	1889-1937	920
Susquehanna River Basin (Pa., Md.), Hydrography of.....	1890-1904	109

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The following table contains a list of these reports.

State reports containing compilations of records of discharge

State	Period	Report	Issued by
Alabama.....	1895-1915	Bull. 17, Water powers of Alabama.....	Geological Survey of Alabama.
Arkansas.....	1857-1928	Stream-gaging Rept. 1.....	Arkansas Geological Survey.
Colorado.....	1881-1935	Water resources of Colorado, Appendix 2, Data on stream-gaging stations of Colorado. ¹	State Planning Commission, Water Conservation Board, State engineer.
Do.....	1881-1938	Water resources of Colorado, Appendix 3, vols. 1 and 2, Stream-flow data of Colorado.	Do.
Connecticut...	1900-1927	Bull. 44, Water resources of Connecticut..	State Geological and Natural History Survey.
Do.....	1912-33	5th biennial report ²	State Water Commission.
Georgia.....	1895-1906	Bull. 16, Water powers of Georgia.....	Geological Survey of Georgia.
Do.....	1907-19	Bull. 38, Water powers of Georgia.....	Do.
Illinois.....	1908-11	Water resources of Illinois.....	Rivers and Lakes Commission.
Do.....	1900-1934	Stream-flow data of Illinois.....	Division of Waterways.
Indiana.....	1923-27	Pub. 72, Surface water supply of Indiana..	Department of Conservation.
Do.....	1927-30	Pub. 112, Surface water supply of Indiana.	Do.
Iowa.....	1873-1932	Stream-flow records of Iowa.....	State Planning Board.
Do.....	1873-1940	Water-Supply Bull. 1, Summaries of yearly and flood flow relating to Iowa streams.	Iowa Geological Survey.
Do.....	1941-42	Water-Supply Bull. 2, Surface water resources of Iowa.	Do.

1 Contains records of yearly discharge only.

2 Contains records of monthly discharge in second-feet per square mile.

State reports containing compilations of records of discharge--Continued

State	Period	Report	Issued by
Kansas.....	1895-1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	1919-24	Do.....	Do.
Do.....	1924-28	Report of Division of Water Resources.....	State Board of Agriculture.
Do.....	1928-35	Stream-flow data of Kansas.....	Do.
Do.....	1935-39	Do.....	Do.
Kentucky.....	1910-20	Surface waters of Kentucky.....	Kentucky Geological Survey.
Louisiana.....	1903-38	Geol. Bull. 16, Surface water supply of Louisiana.	Department of Conservation.
Maine.....	1897-1920	1st annual report ²	Maine Water Power Commission.
Maryland.....	1929-37	Flow data and draft storage curves for major streams in Maryland.	State Planning Commission and Water Resources Commission.
Do.....	1892-1943	Bull. 1, Summary of records of surface waters of Maryland and the Potomac River Basin.	Department of Geology, Mines, and Water Resources.
Minnesota....	1909-12	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri.....	1887-1926	Vol. 20, 2d series, Water resources of Missouri.	Missouri Bureau of Geology and Mines.
Do.....	1927-39	Vol. 26, 2d series, Surface waters of Missouri.	Missouri Geological Survey and Water Resources.
Montana.....	1889-1911	5th biennial report.....	Office of the State Engineer.
Do.....	1881-1938	Special Rept. 10, vols. 1-4, Water resources of Montana.	Montana Agricultural Experiment Station.
Nebraska.....	1894-1914	1st hydrographic report.....	Bureau of Water Power, Irrigation, and Drainage.
Do.....	1914-28	2d hydrographic report.....	Do.
New Hampshire	1889-1922	Annual and statistical report, vol. 12 ² ..	Public Service Commission.
New Jersey....	1892-1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1928-34	Special Rept. 5, Surface water supply of New Jersey.	State Water Policy Commission.
Do.....	1934-40	Special Rept. 9, Surface water supply of New Jersey.	Do.
New Mexico....	1889-1925	Surface water supply of New Mexico.....	Office of the State Engineer.
North Carolina	1889-1923	Bull. 34, Discharge records of North Carolina streams. ³	Department of Conservation and Development.
Do.....	1889-1936	Bull. 39, Discharge records of North Carolina streams. ⁴	Do.
Do.....	1866-1945	Hydrologic Data on the Neuse River Basin.	Do.
Do.....	1820-1945	Hydrologic Data on the Cape Fear River Basin.	Do.
North Dakota..	1919-21	Report to Governor of North Dakota on flood control.	State chief engineer.
Do.....	1882-1938	Surface water in North Dakota.....	State Planning Board.
Do.....	1882-1944	Supplement B, 4th biennial report.....	State Water Conservation Commission.
Ohio.....	1898-1921	Bull. 73, Ohio stream flow, Part 1.....	Engineering Experiment Station, Ohio State University.
Do.....	1898-1944	Bull. 127, Ohio stream flow, Part 2.....	Do.
Do.....	1902-39	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Do.....	1895-1939	Bull. 111, Ohio stream-drainage areas and flow-duration tables.	Engineering Experiment Station, Ohio State University.
Oregon.....	1878-1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1914-24	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	1924-30	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	1930-36	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania..	1890-1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1928-32	Stream-flow records of Pennsylvania.....	Department of Forests and Waters.
Rhode Island..	1929-41	7th annual report.....	Department of Public Works.
Tennessee....	1874-1924	Bull. 34, Water resources of Tennessee....	Department of Education.
Do.....	1920-30	Bull. 40, Surface waters of Tennessee....	Do.
Utah.....	1889-1905	5th biennial report.....	Office of the State Engineer.
Do.....	1906-10	7th biennial report.....	Do.
Do.....	1911-16	10th biennial report.....	Do.
Virginia.....	1895-1927	Bull. 31, Water resources of Virginia.....	Virginia Geological Survey.
Do.....	1927-42	Bull. 4, Surface water supply of Virginia (Potomac, Rappahannock, and York River Basins).	Virginia Conservation Commission.
Do.....	1927-42	Bull. 5, Surface water supply of Virginia (James River Basin).	Do.
Do.....	1927-42	Bull. 6, Surface water supply of Virginia (Roanoke and Chowan River Basins).	Do.
Do.....	1927-42	Bull. 7, Surface water supply of Virginia (New, Tennessee, and Big Sandy River Basins).	Do.
Washington....	1878-1933	Bull. 5, Monthly and yearly summaries of hydrologic data.	Department of Conservation and Development.
Wisconsin.....	1888-1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	1914-23	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

² Contains records of monthly discharge in second-feet per square mile.

³ Contains records of weekly discharge.

⁴ Contains records of maximum and minimum daily, weekly, and monthly discharge and yearly mean discharge.

Note.— In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: California, Colorado, Connecticut, Idaho, Indiana, Kansas, Maine, Missouri, Montana, Nebraska, Nevada, New Mexico, New York (also New York City Board of Water Supply and city of Rochester), North Dakota, Oregon, Pennsylvania, Rhode Island, Washington, and Wyoming.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these special reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier noteworthy floods. The following list gives the numbers and titles of these reports:

Water-Supply Paper	Title
88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, Calif., January 1, 1934.
796-G	Major Texas floods of 1935.
798	The floods of March 1936, part 1, New England rivers.
799	The floods of March 1936, part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, part 3, Potomac, James, and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
844	Floods of March 1938 in southern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.
914	Texas floods of 1938 and 1939.
966	Minor floods of 1938 in North Atlantic States.
967-A	Floods of September 1939 in Colorado River Basin below Boulder Dam.
967-B	Flood of July 5, 1939, in eastern Kentucky.
967-C	Flood of August 21, 1939, in town of Baldwin, Maine.
994	Cloudburst floods in Utah, 1850 to 1938.
997	Floods in Colorado.
1046	Texas floods of 1940.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table lists gaging stations for the area covered by this report at which records of daily discharge were collected during the water year October 1945 to September 1946 by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey. Not listed are gaging stations on many canals for which records were collected in connection with the operation of irrigation projects.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Alameda storm drain.....	Alameda St. at Santiago Blvd., north-east of Orange, Calif.	1937-46	Orange County Flood Control District.
Alhambra Wash.....	Short St., Wilmar, Calif.....	1929-46	Los Angeles County Flood Control District.
Aliso Wash.....	Nordhoff St., near Northridge, Calif...	1939-46	Do.
Arroyo Seco.....	Below Devils Gate Dam, near Pasadena, Calif.	1942-46	Do.
Auger Creek.....	SE 1/4 sec. 3, T. 38 S., R. 19 E., near Lakeview, Oreg.	1945-46	Oregon State engineer.
Azusa conduit diversion..	San Gabriel dam 1, Calif.....	1935-46†	Los Angeles County Flood Control District.
Azusa conduit diversion..	Garcia Canyon, Calif.....	1933-46†	Do.

† Records for some earlier years contained in water-supply papers of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Collected by
Azusa Duarte tunnel diversion.	Mouth of San Gabriel Canyon, near Azusa, Calif.	1918-46	Los Angeles County Flood Control District.
Ballona Creek.....	Curson Ave., Los Angeles, Calif.....	1942-46	Corps of Engineers, War Department.
Batavia storm drain.....	Parker St., north of Santiago Creek, near Orange, Calif.	1935-46	Orange County Flood Control District.
Bauers Creek.....	SE $\frac{1}{4}$ sec. 7, T. 38 S., R. 20 E., just downstream from Cox Creek, near Lakeview, Oreg.	1945-46	Oregon State engineer.
Big Dalton Creek.....	Below Big Dalton Dam, near Glendora, Calif.	1929-46	Los Angeles County Flood Control District.
Calabasas Creek.....	Ventura Blvd., near West Los Angeles, Calif.	1940-46	Do.
Calleguas Creek.....	Simi, Calif.....	1934-46	Ventura County Water Survey.
Do.....	Moorpark, Calif.....	1934-46	Do.
Camp Creek.....	SW $\frac{1}{4}$ sec. 2, T. 38 S., R. 19 E., 400 feet upstream from road bridge, near Lakeview, Oreg.	1945-46	Oregon State engineer.
Castaic Creek.....	State Highway 126 near Saugus, Calif....	1945-46	Los Angeles County Flood Control District.
Castle Creek.....	Above Lake Van Norden, near Soda Springs, Calif.	1946	Cooperative Snow Investigations Corps of Engineers, War Department, and U. S. Weather Bureau.
Cerritos Channel.....	Seventh St., near Long Beach, Calif....	1942-46	Los Angeles County Flood Control District.
Clear Lake Reservoir (elevation and discharge)	Sec. 8, T. 47 N., R. 8 E., in California, near Langell Valley, Oreg.	1919-46*	Bureau of Reclamation.
Compton Creek.....	Greenleaf St., Compton, Calif.....	1928-46	Los Angeles County Flood Control District and Corps of Engineers, War Department.
Cox Creek.....	NE $\frac{1}{4}$ sec. 8, T. 38 S., R. 20 E., about half a mile upstream from confluence with Bauers Creek, near Lakeview, Oreg.	1945-46	Oregon State engineer.
Dalton Wash.....	Merced Ave., near Baldwin Park, Calif.	1941-46	Los Angeles County Flood Control District.
Dominguez Channel.....	Carson Blvd., Torrance, Calif.....	1940-46	Do.
Dry Creek.....	SW $\frac{1}{4}$ sec. 16, T. 41 S., R. 18 E., 18 miles southwest of Lakeview, Oreg.	1945-46	Oregon State engineer.
Dume (Zuma) Creek.....	At bridge on Roosevelt Highway, Calif.	1930-46	Los Angeles County Flood Control District.
Eaton Wash.....	Ellis Lane, near El Monte, Calif.....	1930-46	Do.
Do.....	Below Eaton Wash debris dam, near Pasadena, Calif.	1940-46	Do.
Evey Creek.....	At mouth and at sites 500 feet and 1,500 feet above mouth, near Claremont, Calif.	1946	Corps of Engineers, War Department.
Fullerton relief channel..	Brighton Way west of Magnolia Ave., Fullerton, Calif.	1941-46	Orange County Flood Control District.
Gerber Reservoir (elevation and discharge).	Sec. 12, T. 39 S., R. 13 E., near Lorella, Oreg.	1926-46	Bureau of Reclamation.
"J" Canal.....	Intake, near southeast corner of sec. 7, T. 41 S., R. 11 E., Oreg.	1923-46	Do.
La Tuna Creek.....	2 miles upstream from mouth, near Roscoe, Calif.	1945-46	Los Angeles County Flood Control District.
La Veta Avenue storm drain.	La Veta Ave., east of Santiago Creek, southeast of Orange, Calif.	1936-46	Orange County Flood Control District.
Limekiln Wash.....	Devonshire Ave., near Chatsworth, Calif.	1939-46	Los Angeles County Flood Control District.
Little Santa Anita Creek..	270 feet below Sierra Madre Dam at Sierra Madre, Calif.	1929-46	Do.
Do.....	Woodlawn Ave., near Sierra Madre, Calif.	1938-46	Do.
Live Oak Creek.....	Half a mile below Live Oak Dam, near La Verne, Calif.	1928-46	Do.
Los Angeles River.....	Mariposa St., near Burbank, Calif.....	1938-46	Los Angeles Flood Control District and Corps of Engineers, War Department.
Do.....	Artesia Ave., near Compton, Calif.....	1944-46	Corps of Engineers, War Department.
Lost River.....	Harbold Dam, in S $\frac{1}{2}$ sec. 19, T. 39 S., R. 11 E., 4 miles southwest of Bonanza, Oreg.	1945-46	Bureau of Reclamation.
Do.....	Stone bridge below diversion dam near corner of secs. 7, 8, 17, and 18, T. 41 S., R. 11 E., near Merrill, Oreg.	1923-46	Do.
Monrovia Creek.....	Above confluence with Sawpit Creek, near Monrovia, Calif.	1927-46	Los Angeles County Flood Control District.
Monrovia storm drain.....	Peck Rd., Monrovia, Calif.....	1932-46	Do.
Montebello storm drain....	Mines Ave., Montebello, Calif.....	1932-46	Do.
Pacolina Wash.....	Parthenia St., near Van Nuys, Calif....	1928-46	Do.
Peters Canyon Wash.....	Lane Road, near Santa Ana, Calif.....	1930-46	Orange County Flood Control District.

* Monthly discharge 1919-24; daily discharge 1924-46.

Records of discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Collected by
Puddingstone Creek.....	Below Puddingstone Dam, near San Dimas, Calif.	1927-46	Los Angeles County Flood Control District.
Rio Hondo.....	Lower Azusa road, 1½ miles north of El Monte, Calif.	1932-46	Do.
Do.....	Anaheim-Telegraph Road, near Montebello, Calif.	1944-46	Corps of Engineers, War Department.
Rio Hondo diversion.....	Below Santa Fe Dam, near Azusa, Calif.	1944-46	Los Angeles County Flood Control District.
Rubio Wash.....	Glendon Way, near San Gabriel, Calif.	1928-46	Do.
San Antonio Creek.....	Mouth of canyon, near Claremont, Calif.	1931-46	Do.
San Diego Creek.....	Harcrow Road at Culver Road, southwest of Irvine, Calif.	1941-46	Orange County Flood Control District.
San Dimas Wash.....	Below Puddingstone diversion dam, near San Dimas, Calif.	1945-46	Los Angeles County Flood Control District.
San Gabriel River.....	Foothill Blvd., near Azusa, Calif.....	1932-46	Do.
Do.....	Valley Blvd., near El Monte, Calif.....	1937-46	Do.
Do.....	Florence St., near Santa Fe Springs, Calif.	1934-46	Do.
Santa Ana River.....	Yorba Bridge, northeast of Olive, Calif.	1934-46	Orange County Flood Control District.
Do.....	Jefferson Street Bridge, northeast of Olive, Calif.	1934-46	Do.
Santa Anita Creek.....	Foothill Blvd., near Arcadia, Calif....	1938-46	Los Angeles County Flood Control District.
Sawpit Creek.....	Below Sawpit Dam, near Monrovia, Calif.	1941-46	Do.
Sepulveda Creek.....	Charnock Road, Albright City, Calif....	1932-46	Do.
Sycamore upper storm drain	Above Solway St., Glendale, Calif.....	1927-46	Do.
Sycamore lower storm drain	Adams Square, Glendale, Calif.....	1927-46	Do.
Thomas Creek.....	NW¼ sec. 22, T. 38 S., R. 19 E., just upstream from Barnes spring, 7 miles northwest of Lakeview, Oreg.	1945-46	Oregon State engineer.
Thompson Creek.....	Below Thompson Creek Dam, near Claremont, Calif.	1943-46	Do.
Thompson Creek spreading ground intake.	Thompson Creek Dam near Claremont, Calif.	1940-46	Do.
Tujunga Creek.....	In Hansen flood-control basin, near Stonehurst Ave., Los Angeles, Calif.	1941-46	Corps of Engineers, War Department.
Do.....	Below Big Tujunga dam 1, near Sunland, Calif.	1932-46	Los Angeles County Flood Control District.
Tujunga Wash.....	Magnolia Blvd., North Hollywood, Calif.	1930-46	Do.
Tujunga Wash (central branch).do.....	1930-46	Do.
Verdugo storm drain.....	Estelle Ave., Glendale, Calif.....	1936-46	Los Angeles County Flood Control District and Corps of Engineers, War Department.
Villa Park storm drain....	Center Dr. at Lincoln St., near Villa Park, Calif.	1936-46	Orange County Flood Control District.
Walnut Avenue storm drain.	Walnut Ave. at Prospect Ave., east of Orange, Calif.	1928-46	Do.
Walnut Wash.....	Covina Blvd., at Baldwin Park, Calif...	1926-46	Los Angeles County Flood Control District.
West Anaheim storm drain..	Manchester Blvd., west of Anaheim, Calif.	1936-46	Orange County Flood Control District.
West Fork San Gabriel River.	Half a mile below San Gabriel dam 2, Calif.	1934-46	Los Angeles County Flood Control District.

COOPERATION

In California the work was done under cooperative agreements with the State Department of Public Works, C. H. Purcell, director, and Edward Hyatt, State engineer; the East Bay Municipal Utility District; Santa Clara Valley Water Conservation District; San Bernardino, Orange, Los Angeles, Ventura, and Santa Barbara Counties; and the cities of San Diego, Santa Barbara, Santa Cruz, and Lodi. In Oregon the work was done under cooperative agreement with the State of Oregon, Chas. E. Stricklin, State engineer.

Financial assistance was furnished by the Corps of Engineers, U. S. Army, for the operation of 41 gaging stations and by the Bureau of Reclamation of the United States Department of the Interior for the maintenance of 36 gaging stations. The entire expense of the investigation of stream flow in the Tuolumne River Basin made for the Hetch Hetchy project and of the flow of Alameda Creek near Niles was borne by the city and county of San Francisco.

Assistance in collecting records was also rendered by the following organizations: In California, by The California Oregon Power Co., Southern California Edison Co., Ltd., Pacific Gas & Electric Co., Emma Rose & Hobart Estate Co., and Merced, Modesto, Table Mountain, Thermalito, Turlock, and Woodbridge Irrigation Districts; in Oregon, by The California Oregon Power Co.

DIVISION OF WORK

The stream-gaging work was conducted by the water-resources branch of the Geological Survey, Glenn L. Parker, chief hydraulic engineer (until Feb. 12, 1946) succeeded by Carl G. Paulsen, and Joseph V. B. Wells, chief of the division of surface water after Sept. 17, 1946. The data for the gaging stations were collected and prepared for publication under supervision of district engineers as follows: In California (except for Fall Creek and Klamath River near Copco), H. D. McGlashan; in Oregon and for Fall Creek and Klamath River near Copco, Calif., G. H. Canfield. The work in Oregon was done in collaboration with Charles E. Stricklin, State engineer.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson, hydraulic engineer in charge, and F. J. Flynn, associate engineer, section of reports.

TIA JUANA RIVER BASIN

Cottonwood Creek at Morena Dam, Calif.

Location.- Lat. 32°41'00", long. 116°32'55", in SW $\frac{1}{4}$ sec. 14, T. 17 S., R. 4 E., at Morena Dam, 1.8 miles upstream from Hauser Creek. Altitude of top of spillway gates, 3,045 feet.

Drainage area.- 120 square miles.

Records available.- January 1916, October 1936 to September 1946.

Average discharge.- 10 years, 27.8 second-feet.

Remarks.- Records of discharge represent flow into Morena Reservoir (capacity, 61,178 acre-feet), computed on basis of records of storage, release, leakage, spill, evaporation, and rainfall.

Cooperation.- Records computed in cooperation with city of San Diego.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	1.30	80
November.....	3.35	200
December.....	56.1	3,450
Calendar year 1945.....	19.1	13,810
January.....	15.8	971
February.....	14.2	791
March.....	19.6	1,210
April.....	17.1	1,020
May.....	5.65	347
June.....	7.18	427
July.....	10.6	650
August.....	5.09	313
September.....	4.92	293
Water year 1945-46.....	13.5	9,750

Cottonwood Creek at Barrett Dam, near Dulzura, Calif.
(Formerly published as Cottonwood Creek near Dulzura, Calif.)

Location.- Lat. 32°40'45", long. 116°40'20", in NW $\frac{1}{4}$ sec. 22, T. 17 S., R. 3 E., at Barrett Dam, 1 mile downstream from Pine Valley Creek and about 17 miles northeast of Dulzura. Altitude of top of flash gates, 1,615 feet; of spillway lip, 1,607 feet.

Drainage area.- 250 square miles.

Records available.- January 1906 to December 1915, October 1936 to September 1946.

Average discharge.- 19 years (1906-15, 1936-46), 22.5 second-feet.

Remarks.- Flow regulated by Morena Reservoir, about 9 miles upstream. Records of discharge represent flow into Barrett Reservoir (capacity, 42,796 acre-feet), computed on basis of records of storage, release, leakage, spill, evaporation, and rainfall.

Cooperation.- Records computed in cooperation with city of San Diego.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	2.06	127
November.....	1.79	107
December.....	55.5	3,290
Calendar year 1945.....	20.1	14,540
January.....	15.0	920
February.....	10.6	591
March.....	19.0	1,170
April.....	22.5	1,340
May.....	7.18	441
June.....	2.31	137
July.....	2.88	177
August.....	3.80	234
September.....	3.04	181
Water year 1945-46.....	12.0	8,720

TIA JUANA RIVER BASIN

Cottonwood Creek above Tecate Creek, near Dulzura, Calif.

Location.- Water-stage recorder, lat. 32°34'10", long. 116°45'40", in sec. 27, T. 18 S., R. 2 E., 0.5 mile upstream from confluence with Tecate Creek and 5.5 miles south of Dulzura.

Drainage area.- 316 square miles.

Records available.- October 1936 to September 1946.

Average discharge.- 10 years, 20.1 second-feet.

Extremes.- Maximum discharge during year, 517 second-feet Dec. 23 (gage height, 4.88 feet); no flow during several months.
1936-46: Maximum discharge, 2,780 second-feet Feb. 7, 1937 (gage height, 9.65 feet), from rating curve extended above 550 second-feet on basis of velocity-mean depth and area computations; no flow during part of each year.

Remarks.- Records good. Flow regulated by Barrett and Morena Reservoirs, 10 and 18 miles, respectively, above station. Water diverted outside drainage basin by Dulzura conduit (see p. 19).

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	2.3	1.3	0.5	8.3	0.4				
2			0	2.2	1.3	.5	19	.3				
3			0	18	2.4	.6	10	.3				
4			0	17	9.5	.6	6.4	.3				
5			0	20	4.4	.5	5.1	.2				
6			0	22	3.2	.5	5.1	.2				
7			0	13	3.2	.5	5.4	.2				
8			0	10	2.5	.4	4.7	.1				
9			0	8.9	2.2	.4	3.9	.1				
10			0	7.3	2.2	.4	3.2	.2				
11			0	5.9	2.7	.4	2.5	.3				
12			.2	4.9	3.4	.4	2.0	.3				
13			.2	4.4	4.0	.5	1.7	.2				
14			.1	3.9	2.3	1.0	1.6	.2				
15			.1	3.5	2.0	.7	1.3	.2				
16			.1	3.2	2.0	.6	1.2	.2				
17			.1	3.0	2.0	.6	1.1	.2				
18			.1	2.8	1.6	.6	1.0	.2				
19			.3	2.8	1.3	.8	.9	.2				
20			.2	2.8	1.5	2.2	.8	.2				
21			.1	2.7	1.5	5.4	.7	.1				
22			130	2.5	1.5	3.4	.6	.1				
23			285	2.3	1.1	2.5	.5	.1				
24			48	2.2	1.0	1.9	.5	.1				
25			16	2.0	.8	1.6	.5	.1				
26			10	1.9	.8	1.2	.5	.1				
27			6.8	1.9	.7	1.1	.5	.1				
28			4.9	1.7	.6	2.0	.5	.1				
29			3.9	1.7	-	2.7	.5	.1				
30			3.4	1.6	-	1.9	.4	0				
31			2.5	1.3	-	18	-	0				
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October.....				0		0	0	0	0			
November.....				0		0	0	0	0			
December.....				512.0		285	0	16.5	1,020			
Calendar year 1945.....				1,378.0		285	0	3.78	2,740			
January.....				179.7		22	1.3	5.80	356			
February.....				62.8		9.5	.6	2.24	125			
March.....				54.4		18	.4	1.75	108			
April.....				90.4		19	.4	3.01	179			
May.....				5.4		.4	0	.17	11			
June.....				0		0	0	0	0			
July.....				0		0	0	0	0			
August.....				0		0	0	0	0			
September.....				0		0	0	0	0			
Water year 1945-46.....				904.7		285	0	2.48	1,800			

Tia Juana River near Dulzura, Calif.

Location.- Water-stage recorder, lat. 32°33'50", long. 116°46'25", in sec. 33, T. 18 S., R. 2 E., 0.5 mile downstream from confluence of Cottonwood and Tecate Creeks and 5.5 miles south of Dulzura. Altitude of gage, about 550 feet (from topographic map).

Drainage area.- 478 square miles, of which 62 square miles is in Mexico.

Records available.- October 1936 to September 1946.

Average discharge.- 10 years, 32.6 second-feet.

Extremes.- Maximum discharge during year, 840 second-feet Dec. 23 (gage height, 4.00 feet); minimum daily discharge, less than 0.05 second-foot during June, July, August, September.

1936-46: Maximum discharge, 4,700 second-feet Feb. 7, 1937 (gage height, 8.50 feet, present datum), from rating curve extended above 300 second-feet on basis of velocity-mean depth and area studies; no flow during part of most years.

Remarks.- Records fair. Flow regulated by Morena and Barrett Reservoirs on Cottonwood Creek.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.04	0.08	0.08	11	7.0	5.9	34	1.1	0.2			
2	.04	.08	.08	11	7.0	5.9	61	2.0	.2			
3	.04	.08	.08	32	11	7.0	28	1.5	.2			
4	.05	.08	.08	31	25	7.0	17	1.1	.1			
5	.06	.08	.08	44	15	8.2	13	1.1	.1			
6	.06	.08	.08	43	11	11	19	.6	.1			
7	.06	.09	.08	23	9.5	13	25	.4	.1			
8	.06	.08	.08	19	9.5	8.2	21	.2	.1			
9	.06	.08	.08	17	8.2	5.9	17	.2	.1			
10	.06	.08	.09	15	8.2	5.9	11	.4	.1			
11	.06	.09	.14	13	11	5.9	7.0	1.5	.1			
12	.06	.08	.11	13	13	7.0	5.9	2.0	.1			
13	.06	.08	.10	9.5	15	7.0	8.2	1.5	.1			
14	.07	.08	.10	9.5	11	9.5	8.2	.4	.1			
15	.07	.08	.10	9.5	5.9	8.2	5.9	.2	.1	e0.02	e0.02	e0.01
16	.07	.07	.10	9.5	9.5	7.0	7.0	.8	.1			
17	.07	.07	.09	9.5	9.5	8.2	5.9	1.9	.1			
18	.08	.07	.10	9.5	9.5	7.0	4.9	.2	.1			
19	.08	.07	.09	11	11	11	4.0	.2	.1			
20	.08	.07	.1	13	9.5	28	4.0	.2	.1			
21	.08	.06	.2	9.5	7.0	50	3.2	.2	.1			
22	.08	.06	244	9.5	5.9	40	2.5	.4	.1			
23	.08	.06	592	11	5.9	31	4.0	.2	.1			
24	.08	.06	180	11	5.9	25	4.9	.4	.1			
25	.08	.07	61	13	8.2	23	4.0	.4	.1			
26	.08	.06	28	11	11	19	2.0	.4	.1			
27	.08	.06	17	9.5	8.2	19	2.0	.4				
28	.08	.06	15	9.5	5.9	28	1.1	.4				
29	.08	.08	13	9.5	-	28	.8	.4		e.02		
30	.08	.09	11	8.2	-	28	.8					
31	.08	-	11	8.2	-	70	-	.2				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2.11	0.08	0.04	0.068	4.2
November.....	2.23	.06	.074		4.4
December.....	1,174.04	592	.08	37.9	2,330
Calendar year 1945.....	3,943.28	592	.02	10.8	7,820
January.....	460.9	44	8.2	14.9	914
February.....	274.3	25	5.9	9.80	544
March.....	537.8	70	5.9	17.5	1,070
April.....	332.3	61	.8	11.1	659
May.....	21.1	2.0	.2	.68	42
June.....	2.98	.2	-	.099	5.9
July.....	.62	-	-	.02	1.2
August.....	.62	-	-	.02	1.2
September.....	.50	-	-	.01	.6
Water year 1945-46.....	2,809.30	592	-	7.70	5,580

e Daily discharge less than 0.05 second-foot.

TIA JUANA RIVER BASIN

Tia Juana River near Nestor, Calif.

Location.- Water-stage recorder, lat. 32°32'55", long. 117°05'15", on line between secs. 3 and 4, T. 19 S., R. 2 W., 1.5 miles south of Nestor and 3 miles upstream from mouth. Datum of gage is 18.07 feet above mean sea level (levels by California Water & Telephone Co.).

Drainage area.- 1,668 square miles, of which 1,198 square miles is in Mexico.

Records available.- October 1914 to September 1915, October 1936 to September 1946.

Average discharge.- 11 years (1914-15, 1936-46), 96.8 second-feet.

Extremes.- Maximum discharge during year, 2,100 second-feet Dec. 23 (gage height, 5.03 feet); no flow for several months.
1936-46: Maximum discharge, 17,700 second-feet Feb. 7, 1937 (gage height, 8.20 feet), from rating curve extended above 2,000 second-feet on basis of velocity-depth relation and cross section after the peak; no flow part of each year.

Remarks.- Records good except those for days of faulty gage-height record, which are fair. Flow regulated by Morena and Barrett Reservoirs, operated by city of San Diego, and by Rodriguez Reservoir, operated by Government of Mexico.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	5.2	8.4	28	16	a12	47	3.9	0.5			0
2	.9	8.4	8.4	26	14	a12	52	3.5	.3			0
3	.4	4.3	5.6	26	18	a13	72	3.2	.6			0
4	.4	2.3	3.5	43	31	a13	50	2.5	.2			0
5	.5	4.7	6.1	70	34	f12	40	2.5	.6			0
6	.5	6.1	5.6	154	26	11	34	2.5	.7			0
7	2.0	7.7	7.7	101	23	9.0	31	2.0	1.0			0
8	1.2	7.1	7.1	70	21	8.4	30	1.6	.4			0
9	1.6	6.6	8.4	56	18	f7.1	28	1.6	.3			0
10	1.4	5.2	8.4	43	17	f6.1	23	1.4	0			0
11	.9	3.2	9.6	35	19	6.1	18	2.0	0			0
12	.5	4.7	12	32	19	5.7	16	2.8	0			0
13	.6	7.1	11	28	19	6.6	12	2.8	0			0
14	1.0	6.1	10	27	19	9.0	10	3.2	0			0
15	2.8	2.1	9.6	26	19	6.6	f11	3.2	0			0
16	2.5	1.0	9.6	24	19	6.6	f10	2.8	0			0
17	2.3	1.4	9.6	23	19	6.6	9.6	2.3	0			.4
18	2.5	f1.4	9.6	23	18	7.1	7.7	2.5	0			.8
19	5.6	6.1	9.6	23	17	9.0	7.1	2.0	0			.8
20	6.6	3.9	9.0	22	17	24	7.1	2.5	0			.4
21	5.2	1.8	8.4	22	16	27	7.1	2.0	0			.3
22	7.1	2.5	7.9	21	16	30	13	1.2	0			.1
23	6.6	3.2	1,020	20	14	30	13	2.0	0			1.4
24	6.6	3.5	487	21	14	27	12	5.6	0			.9
25	3.9	4.7	149	20	14	24	9.6	2.0	0			.6
26	5.6	7.7	86	19	14	21	7.1	.8	0			1.8
27	6.6	7.7	64	18	14	16	7.1	1.8	0			1.4
28	5.2	4.7	50	18	12	15	f4.3	.6	0			.7
29	7.1	5.6	43	17	-	14	4.3	1.0	0			0
30	7.7	8.4	38	18	-	13	4.3	.8	0			.6
31	5.2	-	31	17	-	26	-	.2	-			-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	102.4	7.7	0.4	3.30	203
November.....	144.4	8.4	1.0	4.81	286
December.....	2,224.2	1,020	3.5	71.7	4,410
Calendar year 1945.....	7,665.1	1,020	0	21.0	15,200
January.....	1,091	154	17	35.2	2,160
February.....	517	34	12	18.5	1,030
March.....	433.9	30	5.7	14.0	861
April.....	595.8	72	4.3	19.9	1,180
May.....	68.6	5.6	.2	2.21	136
June.....	4.6	1.0	0	.15	9.1
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	10.2	1.8	0	.34	20
Water year 1945-46.....	5,192.1	1,020	0	14.2	10,300

a No gage-height record; discharge computed on basis of records of Tia Juana River near Dulzura and Cottonwood Creek above Tecate Creek.

f Computed on basis of partly estimated gage-height record.

Dulzura conduit near Dulzura, Calif.

Location.- Water-stage recorder and Cippoletti weir, lat. $32^{\circ}37'05''$, long. $116^{\circ}45'50''$, in SW $\frac{1}{4}$ sec. 10 T. 18 S., R. 2 E., about 0.1 mile south of State Highway 94 and 2.3 miles east of Dulzura. Elevation of weir crest, 1,446.41 feet.

Records available.- January 1909 to September 1915, May 1940 to September 1946.

Average discharge.- 12 years (1909-15, 1940-46), 15.6 second-feet.

Extremes.- Maximum daily discharge during year, 50 second-feet Nov. 9-12; no flow for many days.
1909-15, 1940-46: Maximum daily discharge, 65 second-feet Feb. 4, 1911; no flow during parts of each year.

Remarks.- Records good. Conduit diverts from Cottonwood Creek at Barrett Dam in NW $\frac{1}{4}$ sec. 22, T. 17 S., R. 3 E.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	26	48	32	35	34	26	36	0	28	40	37
2	37	37	48	37	35	34	30	36	0	32	40	37
3	37	40	48	40	36	34	26	37	0	32	40	37
4	37	40	48	41	24	34	26	37	1.6	32	40	37
5	37	42	48	35	26	34	26	37	16	32	40	37
6	37	46	48	29	34	34	26	37	20	32	40	37
7	29	48	48	29	37	33	26	37	20	32	40	36
8	18	48	47	17	36	33	26	37	19	32	40	36
9	21	50	48	14	36	33	26	36	19	31	40	36
10	21	50	48	24	36	33	25	36	21	31	39	36
11	2.2	50	48	32	35	33	32	36	25	31	39	36
12	0	50	49	35	26	33	37	36	25	31	39	35
13	0	49	49	35	13	33	37	36	27	31	39	35
14	0	49	48	35	8.5	34	37	36	26	31	39	35
15	0	48	42	35	30	33	37	36	26	31	39	35
16	0	48	34	35	30	33	37	36	26	31	39	35
17	0	48	38	35	30	33	37	36	26	31	39	35
18	0	48	40	35	30	33	37	36	26	33	39	35
19	0	48	39	35	31	34	37	36	26	35	39	35
20	0	48	40	35	31	32	37	36	26	37	39	35
21	0	48	40	35	31	21	37	36	26	40	39	35
22	0	48	42	35	31	26	37	36	26	40	39	35
23	0	48	24	35	31	34	37	37	36	41	39	34
24	0	48	21	35	31	34	37	37	26	41	39	34
25	0	48	19	35	32	34	37	37	26	41	39	34
26	0	48	13	35	34	36	37	37	26	41	39	34
27	0	48	4.4	35	34	39	37	30	26	41	38	34
28	0	48	5	35	34	33	37	37	26	41	38	34
29	0	48	5.9	35	-	25	37	0	26	40	38	34
30	0	48	20	35	-	25	37	0	26	40	38	34
31	3.1	-	24	35	-	28	-	0	-	40	38	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	317.3	38	0	10.2	629
November.....	1,393	50	26	46.4	2,760
December.....	1,119.8	49	.5	36.1	2,220
Calendar year 1945.....	10,222.9	50	0	28.0	20,270
January.....	1,081	41	14	33.3	2,040
February.....	857.5	37	8.5	30.6	1,700
March.....	1,002	39	21	32.3	1,990
April.....	998	37	25	33.3	1,980
May.....	976.4	37	0	31.5	1,940
June.....	634.6	26	0	21.2	1,260
July.....	1,082	41	28	34.9	2,150
August.....	1,213	40	38	39.1	2,410
September.....	1,059	37	34	35.3	2,100
Water year 1945-46.....	11,683.6	50	0	32.0	23,180

Campo Creek near Campo, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 32°35'20", long. 116°31'35", in sec. 24, T. 18 S., R. 4 E., on State highway, 3.5 miles southwest of Campo.

Drainage area.- 84 square miles, of which 4 square miles is in Mexico.

Records available.- October 1936 to September 1946.

Average discharge.- 10 years, 6.08 second-feet.

Extremes.- Maximum discharge during year, 235 second-feet Dec. 22 (gage height, 2.27 feet); no flow for several periods.

1936-46: Maximum discharge, 1,470 second-feet Feb. 6, 1937 (gage height, 3.80 feet), from rating curve extended above 45 second-feet on basis of velocity-mean depth relation and cross-section area at control; no flow at times during most summers.

Remarks.- Records good except those for Mar. 26-29, Apr. 3-24, which are fair, and those for Mar. 30 to Apr. 2, July 18-22, which are poor.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.5	1.2	5.2	5.7	4.3	a6.0	1.2	0.3	o		o
2	.2	.5	1.3	5.2	4.9	4.0	a13	1.4	.2	o		o
3	.2	.5	1.3	14	5.2	4.0	8.5	1.4	.2	o		o
4	.3	.4	1.2	10	12	4.9	7.0	1.4	.1	o		o
5	.3	.5	1.3	19	7.6	4.9	6.5	1.4	.1	o		o
6	.3	.5	1.3	15	6.4	4.6	6.7	1.4	.1	o		o
7	.3	.6	1.3	9.6	6.0	4.3	9.4	1.6	.1	o		o
8	.4	.6	1.3	8.6	6.0	2.9	6.6	1.6	.1	o		o
9	.4	.6	1.2	8.1	5.2	3.1	6.5	1.6	.1	o		o
10	.4	.5	1.3	6.8	5.2	2.9	5.3	1.9	.1	o		o
11	.5	.6	1.8	6.4	6.4	3.1	5.3	2.5	.1	o		o
12	.4	.7	2.0	6.4	7.6	2.9	4.7	2.2	.1	o		o
13	.4	.7	1.8	6.4	8.8	4.0	3.3	1.9	f.1	o		o
14	.4	.8	1.6	6.4	5.6	7.2	3.2	1.4	f.1	o		o
15	.4	.7	1.5	6.4	4.9	6.8	4.0	1.4	f.1	o		o
16	.5	.7	1.6	6.4	4.9	6.0	3.7	1.2	.1	o		o
17	.6	.7	1.6	6.4	5.2	4.0	3.3	.7	.1	o		o
18	.4	.7	1.7	6.0	4.9	3.7	2.9	.7	o	ao		o
19	.4	.7	1.6	8.0	4.9	5.6	3.0	.5	o	ao		o
20	.4	.7	1.6	6.0	4.9	12	2.9	.4	o	ao		o
21	.3	.7	1.8	5.2	4.9	15	1.9	.4	o	ao		o
22	.4	.7	72	4.9	4.9	11	2.2	.4	o	fo		o
23	.4	.7	105	4.9	4.6	8.1	1.6	.4	o	.2		o
24	.3	.7	25	5.2	4.6	6.4	1.6	.4	o	.1		o
25	.3	.7	14	5.2	4.3	6.0	1.4	.4	o	.1		o
26	.3	.7	11	5.2	4.3	6.0	1.2	.5	o	o		o
27	.4	.8	9.6	4.9	4.3	4.6	1.4	.8	o	o		.1
28	.5	1.1	8.1	4.9	4.3	5.2	1.4	.7	o	o		o
29	.4	1.1	7.2	4.9	-	5.2	1.0	.4	o	o		o
30	.5	1.4	6.0	4.9	-	a3.7	1.0	.3	o	o		5.4
31	.5	-	5.2	4.6	-	a8.4	-	.3	-	o		-
Month	Second-foot-days		Maximum		Minimum		Mean		Runoff in acre-feet			
October	11.7		0.6		0.2		0.58		23			
November	20.5		1.4		.4		.68		41			
December	294.4		105		1.2		9.50		584			
Calendar year 1945	1,622.80		105		.1		4.45		3,220			
January	219.1		19		4.6		7.07		435			
February	156.5		12		4.3		5.59		310			
March	174.8		15		2.9		5.64		347			
April	126.5		13		1.0		4.22		251			
May	32.8		2.5		.3		1.06		65			
June	2.1		.3		o		.07		4.2			
July	.4		.2		o		.01		.8			
August	o		o		o		o		o			
September	5.5		5.4		o		.18		11			
Water year 1945-46	1,044.3		105		o		2.86		2,070			

a No gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for Cottonwood Creek above Tecate Creek.

f Computed on basis of partly estimated gage-height record.

Jamul Creek near Jamul, Calif.

Location.- Water-stage recorder and broad-crested weir with 5-foot venturi flume for low-water notch, lat. 32°38'10", long. 116°53'05", in NE $\frac{1}{4}$ sec. 4, T. 18 S., R. 1 E., 300 feet upstream from county road crossing at upper end of Lower Otay Reservoir, 1.4 miles downstream from Dulzura Creek, and 5.5 miles south of Jamul. Altitude of gage, about 500 feet.

Drainage area.- 72 square miles.

Records available.- April 1940 to September 1946.

Extremes.- Maximum discharge during year, 690 second-foot Dec. 23 (gage height, 3.18 feet), from rating curve extended above 170 second-foot; minimum daily, 0.2 second-foot Oct. 25.

1940-46: Maximum discharge, 890 second-foot Feb. 23, 1944 (gage height, 3.45 feet); minimum daily, 0.1 second-foot Oct. 12-23, 1940, Oct. 19-27, 1944.

Remarks.- Records good except those above 200 second-foot, which are fair. Water diverted from Cottonwood Creek by Dulzura conduit discharges to Jamul Creek via Dulzura Creek and is included in records for this station (see p. 19).

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	10	48	35	38	34	38	36	1.5	26	39	37
2	37	30	48	41	37	34	78	36	1.2	31	39	37
3	37	36	47	61	39	35	49	36	1.0	32	39	37
4	37	38	47	51	36	35	43	37	.7	31	39	37
5	37	40	48	92	29	34	37	37	5.6	31	39	36
6	37	44	48	61	36	34	36	38	16	31	38	36
7	33	47	47	46	39	34	36	38	18	31	38	36
8	19	48	46	36	38	34	34	38	18	31	38	36
9	21	48	46	19	38	34	33	38	18	31	38	36
10	21	49	46	28	39	34	32	38	19	31	38	35
11	12	49	48	38	40	34	34	38	24	31	38	35
12	4.3	49	47	40	32	34	41	38	24	31	38	35
13	2.8	49	47	40	25	35	41	38	25	31	38	35
14	2.0	49	47	40	8.1	35	41	37	25	31	38	35
15	1.5	50	45	40	31	34	41	38	25	30	38	35
16	1.1	50	37	40	33	34	41	38	25	30	37	35
17	1.0	50	39	40	32	34	40	38	25	31	37	35
18	1.0	50	41	40	32	34	40	38	25	32	37	34
19	.7	49	40	40	33	38	40	38	26	35	37	34
20	.6	49	41	40	33	42	39	38	26	35	37	34
21	.5	49	41	39	32	31	39	38	26	38	37	34
22	.4	49	186	39	32	27	39	38	26	39	37	34
23	.4	49	331	39	32	36	38	38	26	40	37	34
24	.3	49	60	39	32	36	38	38	25	40	37	33
25	.2	49	34	38	32	35	38	38	25	40	37	33
26	.3	48	26	38	34	36	37	38	26	40	37	33
27	.4	48	14	38	34	39	37	37	26	39	37	33
28	.4	48	11	38	34	38	36	10	26	40	37	33
29	.4	48	10	38	-	27	36	4.1	26	39	37	32
30	.3	48	22	38	-	26	36	2.6	26	39	37	33
31	.4	-	26	38	-	49	-	2.0	-	39	37	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	347.0	37	0.2	11.2	688
November.....	1,369	50	10	45.6	2,720
December.....	1,664	331	10	53.7	3,500
Calendar year 1945.....	11,746.2	331	.2	32.2	25,290
January.....	1,290	92	19	41.6	2,560
February.....	1,930.1	40	8.1	33.2	1,840
March.....	1,076	49	26	34.7	2,130
April.....	1,186	78	32	39.5	2,350
May.....	1,034.7	38	2.0	33.4	2,050
June.....	607.0	26	.7	20.2	1,200
July.....	1,056	40	26	34.1	2,090
August.....	1,167	39	37	37.6	2,310
September.....	1,042	37	32	34.7	2,070
Water year 1945-46.....	12,768.8	331	.2	35.0	25,310

OTAY RIVER BASIN

Otay River at Savage Dam, Calif.

Location.- Lat. 32°36'40", long. 116°55'40", in NW $\frac{1}{4}$ sec. 18, T. 18 S., R. 1 E., at Savage Dam, at Lower Otay Reservoir. Altitude of top of spillway gates, 491 feet. Datum of gage is 347.20 feet above mean sea level.

Drainage area.- 98 square miles.

Records available.- October 1936 to September 1946.

Average discharge.- 10 years, 22.8 second-feet.

Remarks.- Records of discharge represent flow into Lower Otay Reservoir (capacity, 56,324 acre-feet), computed on basis of records of storage, release, leakage, spill, imported water from Cottonwood Creek, evaporation, and rainfall. Original dam destroyed Jan. 27, 1916; present structure placed in operation Mar. 13, 1922.

Cooperation.- Records computed in cooperation with city of San Diego.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	0	0
November.....	0	0
December.....	45.9	2,820
Calendar year 1945.....	12.0	8,670
January.....	15.4	948
February.....	5.80	311
March.....	10.7	656
April.....	11.7	698
May.....	11.10	6.1
June.....	0	0
July.....	.05	3.0
August.....	0	0
September.....	0	0
Water year 1945-46.....	7.52	5,440

SWEETWATER RIVER BASIN

Sweetwater River at Loveland Dam, near Alpine, Calif.

Location.- Water-stage recorder, lat. 32°47'00", long. 116°47'30", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 16 S., R. 2 E., at Loveland Dam, 4 miles southeast of Alpine. Altitude of spillway crest, 1,355 feet.

Drainage area.- 100 square miles.

Records available.- October 1944 to September 1946.

Remarks.- Records of discharge represent flow into Loveland Reservoir (capacity, 25,387 acre-feet), computed on basis of storage, release, leakage, spill, evaporation, and rainfall. Weekly water-stage recorder operated only during periods of flow over spillway.

Cooperation.- Records furnished by California Water & Telephone Co.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	0.52	32
November.....	1.85	110
December.....	28.3	1,740
Calendar year 1945.....	-	-
January.....	11.6	714
February.....	7.54	419
March.....	12.3	759
April.....	13.5	803
May.....	3.76	231
June.....	.20	12
July.....	.02	1
August.....	0	0
September.....	.13	8
Water year 1945-46.....	6.67	4,830

Sweetwater River at Sweetwater Dam, Calif.

Location.- Lat. 32°41'20", long. 117°00'35", at Sweetwater Dam in La Nacion Grant, 6 miles east of National City, San Diego County, and 8 miles upstream from mouth. Altitude of crest of dam, 241 feet.

Drainage area.- 181 square miles, of which 81 square miles is below Loveland Dam.

Records available.- October 1887 to September 1946; beginning October 1944, for runoff below Loveland Dam only (see preceding page for record of runoff above Loveland Dam.

Average discharge.- 59 years, 24.2 second-feet (combined flow above and below Loveland Dam.

Remarks.- Records of discharge represent flow into Sweetwater Reservoir (capacity, 29,065 acre-feet) from area below Loveland Dam, computed on basis of records of storage, release, leakage, spill, evaporation, rainfall, and release and spill from Loveland Dam. The combined discharge record for Sweetwater Dam and Loveland Dam is comparable to record for Sweetwater Dam prior to October 1944.

Cooperation.- Records furnished by California Water & Telephone Co.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	0.91	56
November.....	1.14	68
December.....	7.43	457
Calendar year 1945.....	5.59	4,050
January.....	3.53	217
February.....	3.53	196
March.....	1.55	95
April.....	6.66	396
May.....	0	0
June.....	0	0
July.....	0	0
August.....	0	0
September.....	.03	2
Water year 1945-46.....	2.05	1,490

SAN DIEGO RIVER BASIN

San Diego River at El Capitan Dam, Calif.

Location.- Water-stage recorder, lat. 32°53'00", long. 116°48'40", in NE¼ sec. 7, T. 15 S., R. 2 E., at El Capitan Dam, 1 mile downstream from Chocolate Creek and 7 miles east of Lakeside. Altitude of spillway crest, 750 feet.

Drainage area.- 190 square miles.

Records available.- October 1936 to September 1946.

Average discharge.- 10 years, 65.3 second-feet.

Remarks.- Flow partly regulated by Cuyamaca Reservoir. Records of discharge represent flow into El Capitan Reservoir (capacity, 116,500 acre-feet), computed on basis of records of storage, release, leakage, spill, evaporation, and rainfall.

Cooperation.- Records computed in cooperation with city of San Diego.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	3.56	219
November.....	3.22	192
December.....	74.3	4,570
Calendar year 1945.....	30.4	21,970
January.....	21.8	1,340
February.....	18.3	1,020
March.....	29.3	1,800
April.....	29.8	1,780
May.....	9.44	580
June.....	3.71	221
July.....	3.45	212
August.....	2.42	149
September.....	5.42	322
Water year 1945-46.....	17.1	12,400

San Diego River near Santee, Calif.

Location.- Water-stage recorder and unfinished rubble dam control, lat. 32°49'20", long. 117°03'25", in the Ex Mission San Diego Grant, in Mission Gorge, 6 miles west of Santee, San Diego County. Altitude of gage, about 205 feet.

Drainage area.- 380 square miles.

Records available.- May 1912 to September 1946 (incomplete prior to 1920).

Average discharge.- 31 years (1912-15, 1917-19, 1920-46), 37.6 second-feet.

Extremes.- Maximum discharge during year, 885 second-feet Dec. 23 (gage height, 2.63 feet); practically no flow at times.

1912-46: Maximum discharge, 70,200 second-feet Jan. 27, 1916 (gage height, 25.1 feet, site and datum then in use); practically no flow for several months each year except for a small amount of ground water that was forced to surface.

Remarks.- Records good above 10 second-feet and fair below. Storage and diversions above station for city of San Diego water supply and La Mesa, Lemon Grove, and Spring Valley Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.2	7.8	2.6	1.4	12	1.0	0.1			0
2			.2	7.8	2.6	1.4	7.8	1.0				0
3			.2	10	2.6	1.4	6.6	.8	e.03			0
4			.2	12	9.1	1.4	4.2	.8				0
5			.2	34	7.8	1.4	3.3	1.0		e0.01		0
6			.2	29	5.4	1.4	2.6	.8				0
7			.2	18	4.2	1.4	2.6	.4				0
8			.2	15	4.2	1.4	2.6	.4				0
9			.2	14	3.3	1.4	2.6	.4		0		0
10			.2	12	2.6	1.4	2.0	.4		0		0
11			.2	10	2.6	1.4	2.0	.8		0		0
12			.2	9.1	3.3	1.4	2.0	.8		0		0
13			.2	7.8	3.3	1.4	2.0	.8		0		0
14		e0.04	.2	6.6	2.6	1.4	2.0	.8		0		0
15	e0.01		.2	5.4	2.6	1.4	2.0	.8		0		0
16			.2	5.4	2.0	1.4	2.0	.8		0		0
17			.2	5.4	2.0	1.4	2.0	.8		0		0
18			.2	4.2	2.0	1.4	2.0	.4	e.01	0		0
19			.2	4.2	2.0	1.4	2.0	.4		0		0
20			.1	3.3	2.0	2.0	1.4	.4		0		0
21			.1	3.3	2.0	10	1.4	.4		0		
22			55	3.3	2.0	5.4	1.0	.4		0		
23			417	3.3	2.0	4.2	1.0	.3		0		
24			109	3.3	1.4	3.3	1.0	.3		0		
25			38	3.3	1.4	2.6	1.0	.3		0		
26			24	3.3	1.4	2.0	1.0	.3		0		e.01
27		.1	17	3.3	1.4	2.0	1.0	.3		0		
28		.1	14	3.3	1.4	2.0	1.0	.2		0		
29		.1	10	2.6	-	2.0	1.0	.2		0		
30		.2	9.1	2.6	-	2.6	1.0	.1		0		
31			7.8	2.6	-	21	-	.1		0		-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0.31	-	-	0.010	0.6
November.....	1.54	0.2	-	.051	3.1
December.....	704.9	417	0.1	22.7	1,400
Calendar year 1945	1,296.06	417	-	3.55	2,570
January.....	255.2	34	2.6	8.23	506
February.....	81.8	9.1	1.4	2.92	162
March.....	85.7	21	1.4	2.76	170
April.....	76.1	12	1.0	2.54	151
May.....	16.7	1.0	-1	.54	33
June.....	.47	-	-	.016	.9
July.....	.08	-	0	.003	.2
August.....	0	0	0	0	0
September.....	.10	-	-	.003	.2
Water year 1945-46	1,222.90	417	0	3.35	2,430

Peak discharge.- Dec. 23 (12:45 p.m.) 885 sec.-ft.; Jan. 5 (6 p.m.) 76 sec.-ft.

e Daily discharge less than 0.05 second-foot.

Boulder Creek at Cuyamaca Reservoir, near Julian, Calif.

Location.- Lat. 32°59'15", long. 116°35'10", in NE¼ sec. 8, T. 14 S., R. 4 E., at Cuyamaca Reservoir, 7 miles south of Julian. Altitude of spillway crest, 4,633 feet.

Drainage area.- 12.0 square miles.

Records available.- June 1912 to September 1926 (outflow from Cuyamaca Reservoir), October 1935 to September 1946 (inflow to Cuyama Reservoir).

Average discharge.- 11 years, 8.61 second-feet.

Remarks.- Discharge computed by Geological Survey from basic records of rainfall, evaporation, storage, overflow, and release from Cuyamaca Reservoir. Cuyamaca Reservoir was built in 1886 and enlarged in 1894. Its present capacity is 11,600 acre-feet.

Cooperation.- Basic data furnished by La Mesa, Lemon Grove, and Spring Valley Irrigation District.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	0	0
November.....	.57	34
December.....	19.4	1,195
Calendar year 1945.....	6.39	4,630
January.....	3.71	228
February.....	3.69	205
March.....	7.09	436
April.....	3.39	202
May.....	0	0
June.....	0	0
July.....	1.04	64
August.....	0	0
September.....	0	0
Water year 1945-46.....	3.27	2,360

San Vicente Creek at San Vicente Dam, at Foster, Calif.

Location.- Water-stage recorder, lat. 32°54'40", long. 116°55'35", in sec. 31, T. 14 S., R. 1 E., at San Vicente Dam, 0.5 mile north of Foster. Altitude of spillway crest, 650 feet.

Drainage area.- 75 square miles.

Records available.- October 1942 to September 1946. January to April 1915 and October 1936 to September 1941 at same site prior to construction of dam, published as San Vicente Creek at Foster. October 1941 to January 1943 at site 2 miles upstream (drainage area, 66 square miles), published as San Vicente Creek near Foster.

Remarks.- Records of discharge represent flow into San Vicente Reservoir (capacity, 90,000 acre-feet), computed on basis of records of storage, release, leakage, spill, evaporation, and rainfall.

Cooperation.- Records computed in cooperation with city of San Diego.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	0.54	33
November.....	.63	37
December.....	47.6	2,920
Calendar year 1945.....	8.02	5,800
January.....	5.73	352
February.....	4.10	226
March.....	6.45	396
April.....	5.80	345
May.....	1.13	70
June.....	.60	36
July.....	.82	51
August.....	.63	39
September.....	1.02	60
Water year 1945-46.....	6.31	4,570

SAN DIEGUITO RIVER BASIN

Santa Ysabel Creek near Mesa Grande, Calif.

Location (revised).- Water-stage recorder and broad-crested weir, lat. 33°07'25", long. 116°47'45", about on line between secs. 17 and 20, T. 12 S., R. 2 E., 0.5 mile upstream from Black Canyon Creek, 1 mile downstream from the unfinished Sutherland Dam, and 4 miles southwest of Mesa Grande. Altitude of gage, about 1,700 feet.

Drainage area.- 58 square miles.

Records available.- October 1936 to September 1946. December 1912 to September 1928 at site 1 mile upstream.

Average discharge.- 25 years (1913-28, 1936-46), 31.8 second-feet.

Extremes.- Maximum discharge during year, 2,500 second-feet Dec. 23 (gage height, 4.40 feet from high-water marks); no flow June 17 to Sept. 29.
1912-24, 1936-46: Maximum discharge, 21,000 second-feet Jan. 27, 1916, by slope-area method; no flow at times.

Remarks.- Records good except those for periods of fragmentary or no gage-height record, which are poor. Small diversions above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	1.3	2.4	13	9.2	6.9	31	6.9	2.4			0
2	.3	1.1	2.4	11	9.2	6.4	36	6.4	2.0			0
3	.3	1.0	2.1	23	11	6.9	28	6.4	2.2			0
4	.3	.8	2.0	16	28	6.9	21	6.4	1.5			0
5	.4	.9	2.1	57	13	6.9	20	5.9	1.0			0
6	.6	1.5	2.3	32	11	6.9	21	5.5	.6			0
7	.8	2.7	2.4	23	11	6.9	24	4.8	.3			0
8	1.1	2.5	2.4	21	11	6.4	23	4.8	.7			0
9	1.2	2.2	2.2	20	9.2	6.9	17	4.8	1.3			0
10	1.1	1.9	2.0	18	9.2	6.9	15	5.9	1.5			0
11	1.1	2.0	2.2	17	11	6.9	13	9.2	.5			0
12	1.1	2.4	4.0	16	12	7.4	12	7.9	.3			0
13	1.3	2.2	3.6	15	11	7.9	12	6.9	.3			0
14	1.2	1.8	3.2	15	10	16	12	6.4	.2			0
15	1.1	1.9	3.1	14	9.2	11	12	5.9	.2			0
16	1.1	2.2	2.9	14	11	9.2	11	5.5	.1			0
17	1.3	2.4	2.8	13	10	8.5	11	5.5	0			0
18	1.3	2.2	2.7	13	9.2	7.9	11	5.1	0			0
19	1.3	2.1	2.5	12	8.5	13	11	5.5	0			0
20	1.2	1.7	2.4	13	8.5	36	10	4.8	0			0
21	1.1	1.6	2.7	12	8.5	40	10	4.2	0			0
22	1.0	1.5	651	11	8.5	23	9.2	4.5	0			0
23	1.1	1.5	f799	11	8.5	17	7.9	4.5	0			0
24	.7	1.3	a55	11	8.5	15	7.9	4.0	0			0
25	.5	1.6	a31	11	8.5	14	7.9	3.6	0			0
26	.6	1.9	a25	10	7.9	12	7.4	4.2	0			0
27	.7	1.7	a23	10	7.9	11	7.4	5.1	0			0
28	.8	1.6	f21	11	7.4	15	7.4	5.1	0			0
29	1.0	1.9	18	11	-	15	7.4	4.5	0			0
30	1.1	2.5	15	11	-	14	6.9	3.8	0			11
31	1.3	-	14	9.2	-	52	-	3.2	-			-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	28.5	1.3	0.3	0.92	57
November.....	54.1	2.7	.8	1.80	107
December.....	1,706.4	799	2.0	55.0	3,380
Calendar year 1945.....	6,242.8	799	.1	17.1	12,380
January.....	494.2	57	9.2	15.9	980
February.....	287.9	28	7.4	10.3	571
March.....	419.8	52	6.4	13.5	833
April.....	430.4	36	6.9	14.3	854
May.....	167.2	9.2	3.2	5.39	332
June.....	15.1	2.4	0	.50	30
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	11	11	0	.4	22
Water year 1945-46.....	3,614.6	799	0	9.90	7,170

Peak discharge.- Dec. 23 (11 a.m.) 2,500 sec.-ft.; Jan. 5 (2 p.m.) 113 sec.-ft.; Mar. 31 (10:15 a.m.) 89 sec.-ft.

a No gage-height record; discharge computed on basis of probable discharge recession curve.

f Computed on basis of partly estimated gage-height record.

Santa Ysabel Creek near Ramona, Calif.

Location.- Water-stage recorder, lat. 33°06'20", long. 116°51'30", in NE $\frac{1}{4}$ sec. 27, T. 12 S., R. 1 E., 1.5 miles downstream from Temescal Creek and 4.5 miles north of Ramona. Datum of gage is 847.88 feet above mean sea level (levels by city of San Diego Water Dept.)

Drainage area.- 110 square miles.

Records available.- February 1912 to February 1923, October 1943 to September 1946.

Average discharge.- 13 years (1912-22, 1943-46), 43.8 second-feet.

Extremes.- Maximum discharge during year, 4,200 second-feet Dec. 23 (gage height, 8.35 feet); no flow June 24 to Sept. 30.
1912-23, 1943-46: Maximum discharge, 28,400 second-feet Jan. 27, 1916 (gage height, 14.0 feet); no flow during several months 1921, 1946.

Remarks.- Records good except those above 1,000 second-feet and those for days of no gage-height record, which are fair. Small diversions above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	1.7	3.0	17	11	9.7	46	9.2	3.8			
2	.4	1.7	2.8	15	11	9.2	52	6.5	3.3			
3	.3	1.3	2.6	30	12	9.7	39	8.1	3.5			
4	.2	1.0	2.2	28	40	10	33	9.2	2.9			
5	.2	.9	2.4	77	24	9.7	30	8.5	2.4			
6	.2	1.6	2.8	58	18	9.7	31	8.1	1.9			
7	.5	2.8	3.0	35	17	9.7	36	7.7	1.6			
8	.8	3.5	3.0	28	15	9.2	37	7.4	1.4			
9	1.1	2.8	3.0	26	13	8.9	29	7.0	1.6			
10	1.3	2.6	3.3	23	12	8.9	26	7.4	1.9			
11	1.1	2.6	3.8	23	14	9.2	23	10	1.4			
12	1.0	2.6	5.8	21	17	9.2	22	9.7	1.0			
13	1.1	2.6	5.5	19	15	9.7	21	9.2	.7			
14	1.1	2.2	4.0	18	14	19	19	8.9	.6			
15	1.1	2.0	3.5	18	13	14	19	8.5	.5			
16	1.0	2.4	3.5	17	15	13	18	8.5	.3			
17	1.3	2.8	3.5	16	15	11	16	8.5	.2			
18	1.4	2.6	3.5	15	13	11	15	8.5	.1			
19	1.6	2.2	3.5	15	13	13	15	8.5	.1			
20	1.4	2.0	3.3	15	12	32	14	8.5	.1			
21	1.1	1.7	3.8	14	12	52	14	7.2	.1			
22	1.0	1.6	1,060	13	11	32	13	7.0	.1			
23	1.0	1.6	1,260	13	11	25	13	7.4	.1			
24	.8	1.7	a75	12	11	22	12	6.3	0			
25	.5	1.9	a40	12	11	21	12	5.7	0			
26	.4	2.0	a54	12	11	18	11	6.0	0			
27	.4	2.0	a30	11	10	18	11	7.7	0			
28	.7	2.0	a28	11	10	21	10	7.7	0			
29	.9	2.4	24	11	-	23	10	6.0	0			
30	1.1	2.8	20	11	-	22	9.7	4.8	0			
31	1.4	-	19	11	-	93	-	4.5	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	26.8	1.6	0.2	0.86	53
November.....	63.6	3.5	2.9	2.12	126
December.....	2,661.8	1,260	2.2	85.9	5,280
Calendar year 1945.....	9,333.0	1,260	.1	25.6	18,500
January.....	645	77	11	20.8	1,280
February.....	401	40	10	14.3	795
March.....	582.8	93	8.9	18.8	1,160
April.....	656.7	52	9.7	21.9	1,300
May.....	240.2	10	4.5	7.75	476
June.....	29.6	3.8	0	.99	59
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	5,307.5	1,260	0	14.5	10,530

Peak discharge.- Dec. 22 (5:30 p.m.) 3,800 sec.-ft.; Dec. 23 (11:45 a.m.) 4,200 sec.-ft.; Jan. 5 (5 p.m.) 137 sec.-ft.; Mar. 31 (1 p.m.) 145 sec.-ft.

a No gage-height record; discharge computed on basis of probable discharge recession curve and records for station at Mesa Grande.

SAN DIEGUITO RIVER BASIN

San Dieguito River at Lake Hodges, Calif.

Location.- Water-stage recorder, lat. 33°02'55", long. 117°07'25", in NW $\frac{1}{4}$ sec. 18, T. 13 S., R. 2 W., at Lake Hodges Dam, 5.5 miles southwest of Escondido. Altitude of spillway crest, 315 feet.

Drainage area.- 303 square miles.

Records available.- January 1916 to September 1946.

Average discharge.- 30 years, 54.9 second-feet.

Remarks.- Diversions for irrigation in San Pasqual Valley, above Lake Hodges. Some pumping from wells along river. Gaging station formerly maintained at dam site was discontinued in 1919, when Lake Hodges Dam was completed. Records of discharge represent flow into Lake Hodges (capacity, 37,530 acre-feet), computed on basis of records of storage, release, leakage, spill, evaporation, and rainfall.

Cooperation.- Records computed in cooperation with city of San Diego.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	0	0
November.....	0	0
December.....	161.4	9,920
Calendar year 1945.....	36.2	26,220
January.....	29.7	1,830
February.....	22.1	1,230
March.....	28.4	1,750
April.....	27.8	1,650
May.....	0	0
June.....	0	0
July.....	0	0
August.....	0	0
September.....	.95	57
Water year 1945-46.....	22.7	16,440

SAN LUIS REY RIVER BASIN

San Luis Rey River at Lake Henshaw, near Mesa Grande, Calif.

Location.- Lat. 33°14'16", long. 116°45'50", in NW $\frac{1}{4}$ sec. 10, T. 11 S., R. 2 E., at Henshaw Dam, 5 miles north of Mesa Grande. Altitude of spillway crest, 2,727 feet.

Drainage area.- 209 square miles.

Records available.- October 1911 to September 1946.

Average discharge.- 35 years, 45.3 second-feet.

Remarks.- No diversions above station. Lake Henshaw (capacity, 203,600 acre-feet) was completed in 1923, and gaging station formerly maintained 1 mile below dam was abandoned. Records of discharge represent flow into Lake Henshaw, computed on basis of records of storage, draft, leakage, evaporation, and rainfall.

Cooperation.- Records furnished by Vista Irrigation District.

Monthly discharge, water year October 1945 to September 1946

Month	Mean (second-feet)	Runoff (acre-feet)
October.....	9.15	562
November.....	5.23	311
December.....	106	6,500
Calendar year 1945.....	39.6	28,690
January.....	22.1	1,360
February.....	24.3	1,350
March.....	49.8	3,060
April.....	40.4	2,400
May.....	13.6	839
June.....	12.6	747
July.....	22.5	1,390
August.....	18.3	1,120
September.....	12.5	745
Water year 1945-46.....	28.2	20,380

San Luis Rey River below Pala diversion dam, near Pala, Calif.

Location.- Water-stage recorder, lat. 33°21'30" (corrected), long. 117°02'50", in SW¹₄ sec. 25, T. 9 S., R. 2 W., below Pala diversion dam, 1.8 miles east of Pala. Altitude of gage, about 500 feet (from topographic map).

Drainage area.- 326 square miles.

Records available.- May 1944 to December 1946 (irrigation seasons only).

Extremes.- Maximum discharge during period, 185 second-feet Nov. 23 (gage height, 1.77 feet, from rating curve extended logarithmically above 30 second-feet; minimum daily, 0.1 second-foot on many days.

1944-46: Maximum discharge, that of Nov. 23, 1946; practically no flow at times.

Remarks.- Records good except those for Apr. 1, 2, Nov. 23, 24, which are fair. Flow regulated by Lake Henshaw. Diversion above station, mainly by Escondido Mutual Water Co. U. S. Indian Irrigation Service diverted about 1,100 acre-feet during period May 1 to Nov. 30 at Pala diversion dam. In the accompanying table are shown discharge measurements of San Luis Rey River above Pala diversion dam made during 1946.

Discharge measurements of San Luis Rey River above Pala diversion dam,
near Pala, Calif., in 1946

Date	Discharge sec.-ft.	Date	Discharge sec.-ft.	Date	Discharge sec.-ft.	Date	Discharge sec.-ft.
Mar. 28	12.8	May 6	6.2	July 2	3.28	Sept. 6	2.11
Apr. 4	29.9	20	4.86	15	2.91	Oct. 7	2.96
15	14.3	5	4.08	7	2.34	Nov. 8	4.01
26	8.3	17	3.85	16	1.95	Dec. 6	5.6

Discharge, in second-feet, March to December 1946

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		61	3.5	1.0	0.5	0.2	0.1	0.2	0.4	3.5
2		43	3.2	1.0	.4	.1	.1	.1	.4	3.2
3		34	3.0	1.0	.4	.1	.1	.1	.4	3.0
4		30	2.9	1.0	.5	.2	.1	.1	.6	2.9
5		28	2.7	1.0	.5	.1	.1	.2	.2	2.9
6		28	2.4	.9	.3	.1	.2	.2	.2	f3.0
7		31	2.2	.9	.4	.3	.2	.1	.3	-
8		30	2.1	.9	.4	.2	.2	.1	.6	-
9		24	2.1	.8	1.6	.1	.2	.1	.4	-
10		21	2.1	.9	2.4	.1	.2	.1	.4	-
11		18	2.4	1.0	1.4	.1	.2	.2	.6	-
12		17	2.5	1.0	.3	.1	.2	.1	.4	-
13		16	2.4	.8	.3	.1	.2	.1	7.9	-
14		15	2.9	.9	.3	.1	.2	.2	23	-
15		14	3.5	.7	.3	.1	.2	.5	8.5	-
16		14	2.5	.7	.2	.1	.2	.6	4.3	-
17		14	2.2	.7	.2	.1	.2	.2	3.2	-
18		13	2.1	.7	.2	.2	.2	.2	2.9	-
19		13	1.8	.7	.1	.3	.2	.2	2.7	-
20		12	1.8	.7	.1	.1	.2	.2	3.8	-
21		11	1.8	.7	.2	.1	.2	.2	9.0	-
22		9.0	2.1	.6	.2	.1	.2	.1	4.6	-
23		8.0	1.8	.6	.1	.2	.2	.1	39	-
24		7.0	1.7	.6	.1	.1	.2	.1	50	-
25		5.7	1.8	.6	.1	.1	.2	.1	16	-
26		5.2	1.8	.6	.1	.1	.2	.1	9.5	-
27		4.3	1.8	.6	.1	.1	.2	.2	6.0	-
28		4.3	1.7	.6	.2	.1	.2	.4	4.6	-
29	+10	4.0	1.4	.6	.2	.1	.2	.4	3.8	-
30		3.8	1.2	.6	.2	.1	.2	.3	3.8	-
31		-	1.0	-	.2	.1	-	.4	-	-

Month	'Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April	538.3	61	3.8	17.9	1,070
May	68.4	3.5	1.0	2.21	136
June	23.4	1.0	.6	.78	46
July	12.5	2.4	.1	.40	25
August	4.0	.3	.1	.13	7.9
September	5.5	.2	.1	.18	11
October	6.2	.6	.1	.20	12
November	207.5	50	.2	6.92	412
December 1-6	18.5	-	-	-	37
The period.....	-	-	-	-	1,760

† Result of discharge measurement.

‡ Computed on basis of partly estimated gage-height record.

SAN LUIS REY RIVER BASIN

San Luis Rey River near Bonsall, Calif.

Location.- Water-stage recorder, lat. 33°15'05", long. 117°14'55", in NE $\frac{1}{4}$ sec. 1, T. 11 S., R. 4 W., 0.8 mile downstream from bridge on Fall Brook-Escondido road and 3 miles southwest of Bonsall. Altitude of gage, about 120 feet. Prior to Nov. 16, 1945, at datum 2.00 feet higher.

Drainage area.- 514 square miles.

Records available.- October 1929 to September 1946. July 1916 to September 1918 (gage heights and discharge measurements only) at site 0.8 mile upstream. April 1912 to January 1916 at site at Bonsall (records not equivalent).

Average discharge.- 17 years (1929-46), 40.0 second-feet.

Extremes.- Maximum discharge during year, 2,230 second-feet Dec. 23 (gage height, 6.20 feet); no flow during several months.

1929-46: Maximum discharge, 18,100 second-feet Mar. 3, 1938 (gage height, 12.60 feet, datum then in use), from rating curve extended above 2,400 second-feet; no flow during part of each year.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Regulation at Lake Henshaw; several diversions above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	39	17	16	66	7.1	0.5			
2			0	37	16	15	66	6.8	.3			
3			0	39	27	14	59	6.4	.2			
4			0	36	37	13	52	6.1	.2			
5			0	37	22	12	47	5.8	.2			
6			0	34	19	11	44	5.4	.2			
7			0	30	18	11	47	5.2	.2			
8			0	29	18	14	48	4.9	.2			
9			0	27	17	13	42	4.7	.2			
10			0	27	17	13	38	4.4	.2			
11			0	26	19	12	34	4.2	.1			
12			0	25	18	12	29	3.9	.1			
13			0	23	18	13	27	3.7	.1			
14			0	22	18	14	26	3.5	.1			
15			0	22	18	13	24	3.2	.1			
16			0	21	18	11	23	3.0	.1			
17			0	22	18	11	20	2.7	.1			
18			0	22	17	11	18	2.5	.1			
19			0	21	17	14	16	2.2	.1			
20			0	21	17	28	14	2.0	.1			
21			.6	20	17	32	13	2.0	.1			
22			460	19	17	26	17	1.5	.1			
23			1,810	19	17	23	16	1.3	.1			
24			700	19	17	23	15	1.0	.1			
25			128	18	17	23	12	.9	0			
26			84	18	17	21	10	.9	0			
27			70	18	17	21	8.4	.7	0			
28			60	18	17	24	8.1	.5	0			
29			52	17	-	26	7.8	.4	0			
30			47	17	-	31	7.4	.5	0			
31			42	17	-	78	-	.6	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						3,453.6	1,810	0	111	6,850		
Calendar year 1945.....						9,104.2	1,810	0	24.9	18,070		
January.....						760	39	17	24.5	1,510		
February.....						522	37	16	18.6	1,040		
March.....						599	78	11	19.3	1,190		
April.....						874.7	66	7.4	29.2	1,730		
May.....						98.0	7.1	.4	3.16	194		
June.....						3.8	.5	0	.13	7.5		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1945-46.....						6,311.1	1,810	0	17.3	12,520		

Peak discharge.- Dec. 22 (1:30 p.m.) 776 sec.-ft.; Dec. 23 (2 a.m.) 2,230 sec.-ft.; Mar. 31 (4:30 p.m.) 107 sec.-ft.

Note.- No gage-height record Jan. 30 to Feb. 3, Feb. 7-27, Mar. 2-8, Apr. 27 to May 20, June 1 to Aug. 7; discharge computed on basis of 6 discharge measurements, fragmentary gage-height graph, interpolation, and records for station below Pala diversion dam.

Temecula Creek at Nigger Canyon, near Temecula, Calif.

Location.- Water-stage recorder, lat. 33°29'40", long. 116°59'00", in Pauba Grant, at upper end of Nigger Canyon, 0.2 mile downstream from Arroyo Seco and 10 miles east of Temecula, Riverside County. Altitude of gage, about 1,350 feet.

Drainage area.- 319 square miles.

Records available.- January 1923 to September 1946.

Average discharge.- 23 years, 15.5 second-feet.

Extremes.- Maximum discharge during year, 1,000 second-feet July 24 (gage height, 3.50 feet); minimum daily, 0.7 second-foot Aug. 18.

1923-46: Maximum discharge, 17,100 second-feet Feb. 16, 1927 (gage height, 19.5 feet), by slope-area method; minimum, 0.6 second-foot Aug. 17, 1934.

Remarks.- Records fair below 50 second-feet and poor above. No diversion above station.

Cooperation.- Gage-height record and 155 discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	3.7	4.4	6.8	5.9	4.7	70	4.3	2.3	1.9	1.5	1.2
2	2.5	3.7	4.7	7.3	5.9	5.5	50	4.3	2.1	1.9	1.5	1.2
3	2.6	3.5	4.4	6.8	11	6.4	32	4.3	2.1	1.9	1.0	1.2
4	2.6	3.2	4.2	7.3	16	6.8	26	4.0	2.1	1.9	1.7	1.2
5	2.6	3.2	4.2	7.8	10	6.4	22	3.6	2.1	1.9	1.9	1.2
6	2.6	3.5	4.2	6.8	7.8	5.9	21	3.0	2.1	1.9	1.9	1.2
7	2.6	3.7	4.2	7.3	7.3	5.5	24	3.0	2.1	1.7	2.1	1.3
8	2.8	3.7	4.2	6.8	6.8	5.1	24	2.8	2.1	1.7	1.5	1.2
9	2.8	3.7	4.2	6.4	6.4	4.3	19	3.0	2.3	1.9	1.3	1.3
10	2.8	3.9	4.2	6.4	7.3	4.7	18	3.6	2.3	1.9	1.2	1.5
11	2.8	3.7	4.7	7.3	7.8	4.7	14	3.6	2.5	1.9	1.3	1.7
12	2.8	3.7	4.9	7.3	7.8	5.1	12	4.0	2.3	1.9	1.3	1.3
13	2.8	3.7	5.5	7.3	7.3	5.5	12	4.0	2.3	1.9	1.2	1.2
14	2.8	3.5	4.4	7.3	7.3	6.8	12	3.6	2.1	1.7	1.2	1.2
15	2.8	3.7	4.4	7.3	7.3	6.8	12	3.3	2.1	1.7	1.0	1.0
16	2.8	3.9	4.7	7.3	6.4	5.9	11	3.6	1.9	1.5	1.0	1.2
17	2.8	4.2	4.7	6.8	5.5	5.9	10	3.6	1.9	1.7	.8	1.2
18	3.0	3.9	4.7	5.9	5.5	5.9	10	3.6	1.9	1.9	.7	1.2
19	3.0	3.9	4.7	5.9	5.1	7.8	10	3.3	1.9	1.9	.8	1.3
20	3.0	3.9	4.7	5.9	5.1	15	9.6	3.3	2.1	1.7	11	1.5
21	3.0	3.9	4.8	6.4	5.9	18	8.4	3.3	2.3	1.7	6.0	1.3
22	3.0	4.2	a100	6.4	6.8	15	6.8	3.3	2.1	1.7	2.5	1.3
23	3.0	4.2	a170	6.4	6.8	13	5.5	3.0	2.1	a38	2.3	1.2
24	2.8	4.2	a50	5.9	6.8	12	5.1	3.0	2.1	a80	2.1	1.0
25	2.8	4.2	20	5.9	6.8	11	4.3	3.3	2.1	a7.5	1.5	1.0
26	2.8	4.4	13	6.4	5.9	9.6	4.0	3.6	2.0	4.3	1.3	1.2
27	3.0	4.2	12	4.7	5.5	8.4	4.0	3.6	2.1	2.5	1.5	1.3
28	3.2	4.2	11	5.5	5.1	15	4.0	3.6	2.2	1.9	1.5	1.5
29	3.2	4.2	8.4	5.9	-	14	4.0	3.6	1.9	1.9	1.3	1.5
30	3.5	4.4	7.8	6.4	-	32	4.0	3.0	1.9	1.7	1.2	2.8
31	3.5	-	6.4	6.4	-	175	-	2.5	-	1.5	1.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	89.0	3.5	2.5	2.87	177
November.....	116.0	4.4	3.2	3.87	230
December.....	493.7	170	4.2	15.9	979
Calendar year 1945.....	3,719.2	170	2.1	10.2	7,380
January.....	204.3	7.8	4.7	6.59	405
February.....	199.1	16	5.1	7.11	395
March.....	447.7	175	4.3	14.4	888
April.....	468.7	70	4.0	15.6	930
May.....	107.6	4.3	2.5	3.47	213
June.....	63.4	2.5	1.9	2.11	126
July.....	179.1	80	1.5	5.78	355
August.....	58.3	11	1.7	1.66	116
September.....	39.4	2.8	1.0	1.31	78
Water year 1945-46.....	2,466.3	175	.7	6.76	4,890

Peak discharge, Dec. 22 (10:45 p.m.) 300 sec.-ft.; Dec. 23 (11:15 a.m.) 500 sec.-ft.; Mar. 31 (5:30 a.m.) 400 sec.-ft.; July 23 (6:30 p.m.) 500 sec.-ft.; July 24 (5 p.m.) 1,000 sec.-ft.; Aug. 20 (1 p.m.) 300 sec.-ft.

a Gage-height record incomplete and stage-discharge relation uncertain; discharge computed on basis of partial gage-height record, discharge measurements, normal recession curves, and records for downstream stations.

Temecula Creek at Railroad Canyon, near Temecula, Calif.

Location.- Water-stage recorder, lat. 33°28'25", long. 117°08'35", in Temecula Grant, at upper end of Temecula or Railroad Canyon, 0.1 mile downstream from Murrieta Creek and 1.5 miles south of Temecula, Riverside County. Altitude of gage, about 950 feet.

Drainage area.- 592 square miles.

Records available.- January 1923 to September 1946.

Average discharge.- 23 years, 29.8 second-feet.

Extremes.- Maximum discharge during year, 1,100 second-feet Dec. 22 (gage height, 2.84 feet); minimum daily discharge, 5.0 second-feet Aug. 19.

1923-46: Maximum discharge, 25,000 second-feet Feb. 16, 1927 (gage height, 14.6 feet); minimum, 0.4 second-foot July 16, 1925.

Remarks.- Records fair. Pumping diversions affect flow during irrigation season.

Cooperation.- Gage-height record and 278 discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	10	11	15	15	12	f60	11	7.0	6.6	7.0	7.0
2	8.0	11	11	13	12	11	43	f8.5	7.0	6.6	6.2	6.2
3	8.0	10	11	26	29	13	31	11	7.0	6.2	7.5	5.8
4	8.0	9.6	11	20	35	14	25	11	7.5	6.2	7.0	6.6
5	7.5	9.6	12	21	17	14	20	9.0	7.5	6.6	6.6	5.8
6	11	8.5	12	18	17	13	22	8.5	7.0	7.0	7.0	5.8
7	9.6	10	13	16	16	13	24	8.0	7.0	6.2	7.0	6.6
8	8.0	10	13	16	15	13	19	7.5	8.0	5.8	7.0	7.5
9	8.5	11	12	14	15	11	19	9.0	8.0	6.6	6.2	6.6
10	8.5	9.6	12	14	15	11	19	10	7.5	5.8	5.8	6.6
11	9.0	11	13	13	16	11	17	11	5.8	5.8	5.4	7.0
12	9.0	11	13	16	16	f12	16	8.5	7.0	5.8	5.4	7.5
13	11	11	13	16	15	f11	15	9.6	6.2	6.2	7.0	5.4
14	11	10	13	15	13	f11	a14	11	7.0	5.8	6.8	7.0
15	10	11	13	14	13	f12	f13	9.0	7.0	5.8	6.6	6.6
16	10	f11	12	13	14	f12	f16	10	7.0	5.8	6.2	6.6
17	10	f10	12	13	f14	f12	15	13	7.0	6.2	5.8	6.6
18	9.6	f11	11	13	f14	f12	15	9.6	6.2	5.8	5.4	7.0
19	8.0	f11	11	13	13	f15	15	10	7.0	5.8	5.0	7.5
20	9.6	11	11	13	11	16	12	11	7.0	7.0	8.3	7.0
21	9.6	10	12	12	12	19	12	8.0	6.6	6.6	8.0	8.0
22	9.6	11	350	13	13	16	12	11	6.2	6.2	8.2	7.0
23	8.5	12	f300	12	13	13	12	9.6	5.8	14	6.6	6.2
24	7.5	11	f58	13	14	12	11	8.0	5.8	85	8.0	8.0
25	9.0	11	31	13	13	13	12	12	7.0	23	7.0	6.6
26	8.5	12	24	13	12	15	11	9.6	7.5	8.0	f6.2	7.5
27	8.5	12	21	14	13	11	11	8.0	6.6	7.5	f7.0	6.6
28	9.0	11	16	14	13	20	10	11	6.2	7.5	8.0	8.0
29	9.0	14	18	14	-	16	9.0	8.0	7.0	7.0	8.5	7.5
30	9.0	12	16	14	-	150	10	7.5	6.6	6.2	7.5	8.0
31	9.6	-	16	14	-	420	-	7.5	-	7.0	6.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	279.6	11	7.5	9.02	555
November.....	323.3	14	8.5	10.8	641
December.....	1,102	350	11	35.5	2,190
Calendar year 1945.....	6,331.4	350	5.8	17.3	12,570
January.....	458	26	12	14.8	908
February.....	428	35	11	15.3	849
March.....	954	420	11	30.8	1,890
April.....	540.0	60	9.0	18.0	1,070
May.....	298.4	13	7.5	9.56	588
June.....	206.0	8.0	5.8	6.87	409
July.....	301.6	85	5.8	9.73	598
August.....	210.4	8.5	5.0	6.79	417
September.....	206.1	8.0	5.4	6.87	409
Water year 1945-46.....	5,305.4	420	5.0	14.5	10,520

Peak discharge.- Dec. 22 (3:45 p.m.) 1,100 sec.-ft.; Dec. 23 (2:30 p.m.) 730 sec.-ft.; Mar. 30 (6:15 p.m.) 600 sec.-ft.; Mar. 31 (4 a.m.) 750 sec.-ft.; July 23 (11:30 p.m.) 150 sec.-ft.; July 24 (9:30 p.m.) 525 sec.-ft.

a No gage-height record; discharge interpolated.

f Computed on basis of partly estimated gage-height record.

Santa Margarita River near Fall Brook, Calif.

Location.- Water-stage recorder, lat. 33°24'35", long. 117°14'50", in NE $\frac{1}{4}$ sec. 12, T. 9 S., R. 4 W., 2 miles north of Fall Brook. Altitude of gage, about 290 feet. Auxiliary water-stage recorder on opposite bank about 2,000 feet downstream.

Drainage area.- 645 square miles.

Records available.- November 1924 to September 1946.

Average discharge.- 21 years (1925-46), 39.2 second-feet.

Extremes. Maximum discharge during year, 1,300 second-feet Dec. 22 (gage height, 3.05 feet); minimum daily, 2.5 second-feet Aug. 17-19.

1924-46: Maximum discharge, 33,100 second-feet Feb. 16, 1927 (gage height, 15.6 feet) by slope-area method; minimum, 0.1 second-foot Aug. 30, 1925, Sept. 4, 1926, Sept. 6, 1928, and at times during July and August 1929.

Remarks.- Records fair. Several diversions above station for irrigation.

Cooperation.- Gage-height record and 289 discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	9.0	14	16	12	11	100	9.5	8.0	6.6	5.0	3.7
2	6.2	8.5	14	17	12	11	55	9.0	8.0	6.2	4.0	3.4
3	7.0	8.5	12	21	42	12	40	11	8.5	5.8	4.0	3.1
4	6.6	8.5	11	26	53	13	a33	9.5	6.6	5.0	3.7	3.4
5	7.0	9.5	11	20	20	12	f27	11	6.2	5.0	3.4	2.8
6	7.5	10	14	16	18	11	24	12	5.4	5.0	4.3	f2.8
7	7.5	12	13	15	16	12	28	10	6.2	6.6	4.7	3.1
8	7.0	11	13	14	15	12	25	9.0	6.6	5.4	4.3	4.3
9	7.5	10	12	14	14	12	25	8.5	6.6	5.8	3.7	4.7
10	8.5	12	12	14	14	12	20	9.5	6.6	5.8	3.4	3.1
11	8.5	11	13	14	14	12	20	10	5.8	4.8	3.4	2.8
12	8.5	10	14	15	15	12	18	9.0	6.2	4.7	3.4	3.4
13	8.0	10	13	14	14	14	18	8.5	5.4	4.6	2.8	3.4
14	8.5	11	12	14	14	14	17	9.5	5.4	4.3	3.4	3.7
15	9.0	10	11	12	12	14	17	9.5	5.4	4.6	3.4	3.7
16	8.0	11	11	13	14	12	14	10	5.8	4.2	3.1	3.9
17	7.5	10	12	13	14	12	14	10	5.8	4.0	2.5	4.1
18	f8.5	10	12	13	15	12	15	9.0	5.0	4.3	2.5	4.7
19	f8.5	12	12	14	13	15	15	10	5.8	5.0	2.5	4.3
20	f9.0	11	12	13	13	35	14	11	6.2	5.0	3.1	3.7
21	f9.0	10	16	12	13	a25	13	11	6.2	4.7	5.0	3.4
22	f9.0	10	550	13	12	f21	12	10	6.6	4.8	5.0	4.0
23	7.5	10	430	11	f13	15	12	9.0	6.6	4.7	a4.0	5.0
24	8.0	11	f90	12	f13	14	11	8.0	5.8	21	a3.0	5.4
25	7.5	11	a40	14	f12	14	13	9.0	5.0	73	a3.0	4.3
26	8.5	10	f30	12	12	13	14	9.0	5.8	a12	a3.0	4.0
27	8.5	11	25	11	12	11	12	8.5	5.8	a10	f3.2	3.4
28	8.5	12	22	11	12	55	12	8.5	5.8	a8.0	3.4	4.3
29	8.5	13	19	12	-	f22	12	8.5	5.8	a7.0	3.4	4.3
30	9.5	14	f17	11	-	100	10	8.5	6.2	a6.0	3.0	5.8
31	9.5	-	f15	11	-	480	-	8.0	-	a5.0	3.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	248.6	9.5	5.8	8.02	493
November.....	317.0	14	8.5	10.6	629
December.....	1,502	550	11	48.5	2,980
Calendar year 1945.....	7,585.4	550	3.4	20.8	15,050
January.....	436	26	11	14.1	865
February.....	453	53	12	16.2	899
March.....	1,040	480	11	33.5	2,050
April.....	660	100	10	22.0	1,310
May.....	293.5	12	8.0	9.47	582
June.....	185.1	8.5	5.0	6.17	367
July.....	258.9	73	4.0	8.35	514
August.....	109.7	5.0	2.5	3.54	218
September.....	116.0	5.8	2.8	3.87	230
Water year 1945-46.....	5,619.8	550	2.5	15.4	11,150

Peak discharge.- Dec. 22 (5:15 p.m.) 1,300 sec.-ft.; Dec. 23 (5:30 p.m.) 750 sec.-ft.; Mar. 30 (11 p.m.) 550 sec.-ft.; Mar. 31 (8 a.m.) 800 sec.-ft.; July 24 (7 a.m.) 100 sec.-ft.; July 25 (2:30 a.m.) 350 sec.-ft.

No gage-height record; discharge computed on basis of normal recession curves.

f Computed on basis of partly estimated gage-height record.

SANTA MARGARITA RIVER BASIN

Santa Margarita River at Ysidora, Calif.

Location.- Water-stage recorder, lat. 33°14'40", long. 117°22'50", in Santa Margarita Y Las Flores Grant, 1 mile downstream from Ysidora, San Diego County, and about 2 miles upstream from mouth. Altitude of gage, about 15 feet.

Drainage area.- 740 square miles.

Records available.- February 1923 to September 1929, October 1930 to September 1946.

Average discharge.- 18 years (1927-29, 1930-46), 49.0 second-feet.

Extremes.- Maximum discharge during year, 2,000 second-feet Dec. 22 (gage height, 8.33 feet); no flow for several months.

1923-29, 1930-46: Maximum discharge, 33,600 second-feet Feb. 16, 1927, by slope-area method; no flow during parts of most years.

Remarks.- Records good. Diversions above station for irrigation on Santa Margarita Ranch and Pauba Ranch. (See p. 36 for records of O'Neill ditch near Ysidora.)

Cooperation.- Gage-height record and 112 discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	25	12	10	300	7.7		0		
2			0	22	13	12	150	6.7		0		
3			0	28	21	12	110	6.2		0		
4			0	33	81	12	89	7.2		0		
5			0	41	44	12	66	7.2		0		
6			0	28	26	13	53	7.2		0		
7			0	21	21	11	60	5.2		0		
8			0	22	17	12	55	4.4		0		
9			0	17	16	8.9	49	4.1		0		
10			0	18	15	8.9	40	4.8		0		
11			0	19	17	8.9	38	6.2		0		
12			0	17	19	7.2	30	5.2		0		
13			0	15	15	8.3	30	2.8		0		
14			0	14	14	11	27	1.6		0		
15			0	16	13	8.6	23	1.1		0		
16			0	16	15	8.9	25	.4		0		
17			0	14	14	7.7	23	0		0		
18			0	15	13	8.9	23	0		0		
19			0	15	14	15	23	0		0		
20			0	15	14	25	21	0		0		
21			0	14	14	45	18	0		0		
22			425	14	14	34	16	0		0		
23			850	14	14	22	15	0		0		
24			390	14	14	19	15	0		0		
25			120	14	15	17	15	0		6.8		
26			65	13	14	16	13	0		9.5		
27			47	12	13	11	12	0		1.4		
28			41	13	12	45	12	0		0		
29			38	13	-	75	12	0		0		
30			33	12	-	100	8.9	0		0		
31			27	11	-	700	-	0		0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	2,036	850	0	85.7	4,040
Calendar year 1945	9,749.2	850	0	26.7	19,330
January.....	555	41	11	17.9	1,100
February.....	524	81	12	18.7	1,040
March.....	1,303.3	700	6.9	42.0	2,590
April.....	1,371.9	300	8.9	45.7	2,720
May.....	76.0	7.7	0	2.52	155
June.....	0	0	0	0	0
July.....	17.7	9.5	0	.57	35
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	5,885.9	850	0	16.1	11,680

Peak discharge.- Dec. 22 (9:30 p.m.) 2,000 sec.-ft.; Dec. 23 (4:30 p.m.) 1,220 sec.-ft.; Dec. 24 (2 a.m.) 720 sec.-ft.; Mar. 31 (12:30 a.m.) 650 sec.-ft.; Mar. 31 (4 p.m.) 900 sec.-ft.

Murrieta Creek at Temecula, Calif.

Location.- Water-stage recorder, lat. 33°29'00", long. 117°08'50", in Temecula Grant, 0.6 mile upstream from Temecula Creek and 0.5 mile south of Temecula, Riverside County. Altitude of gage, about 1,050 feet.

Drainage area.- 220 square miles.

Records available.- October 1930 to September 1946.

Average discharge.- 16 years, 14.4 second-feet.

Extremes.- Maximum discharge during year, 650 second-feet Dec. 22 (gage height, 3.48 feet); minimum daily, 0.4 second-foot many days in July, August, and September. 1930-46: Maximum discharge, 17,500 second-feet Jan. 23, 1943 (gage height, 13.82 feet); minimum, 0.2 second-foot at times during 1931, 1933, 1934, 1935.

Remarks.- Records good. No appreciable diversion above station.

Cooperation.- Gage-height record and 278 discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	0.9	1.5	3.1	2.1	2.2	32	1.2	0.7	0.6	0.4	0.5
2	.7	.9	1.4	2.9	2.1	2.5	25	1.2	.7	.6	.4	.4
3	.6	.9	1.4	15	16	2.8	15	1.0	.7	.5	.5	.4
4	.7	.9	1.2	7.3	15	2.6	12	1.2	.7	.5	.4	.4
5	.8	1.0	1.0	4.5	4.3	2.5	9.3	1.1	.6	.5	.4	.4
6	.9	1.0	1.4	3.2	3.5	2.2	8.5	1.0	.6	.5	.4	.4
7	.8	1.1	1.4	2.8	3.5	2.3	12	1.0	.6	.5	.4	.5
8	1.1	1.1	1.3	2.6	3.1	2.3	9.2	1.0	.6	.5	.5	.5
9	1.1	1.1	1.3	2.5	2.8	2.2	7.0	1.0	.6	.5	.5	.5
10	.9	1.1	1.3	2.6	2.8	2.2	6.5	1.0	.6	.5	.5	.5
11	.9	1.2	1.4	2.5	3.7	2.2	5.5	1.2	.6	.5	.4	.5
12	.9	1.2	1.5	2.3	2.9	1.9	5.1	1.2	.7	.5	.4	.4
13	.9	1.2	1.5	2.3	2.6	2.1	4.3	1.1	.6	.4	.4	.4
14	.9	1.2	1.4	2.3	2.6	2.6	4.2	1.1	.6	.4	.5	.4
15	.9	1.2	1.4	2.3	2.6	2.3	4.0	1.0	.6	.4	.5	.4
16	.9	1.2	1.4	2.3	2.6	2.2	3.8	1.0	.5	.4	.4	.4
17	.9	1.2	1.4	2.5	2.6	2.2	3.5	1.1	.5	.4	.4	.4
18	.7	1.3	1.5	2.5	2.6	2.3	3.2	.9	.5	.4	.4	.4
19	.8	1.3	1.5	2.5	2.6	3.0	3.1	1.0	.5	.4	.4	.4
20	.8	1.3	1.4	2.5	2.5	6.1	3.1	1.0	.6	.7	.4	.4
21	.8	1.3	2.2	2.5	2.5	11	2.5	1.0	.6	.6	.4	.4
22	.8	1.1	200	2.1	2.5	5.0	2.2	1.0	.6	.5	.4	.4
23	.8	1.0	155	2.1	2.5	3.4	2.0	.9	.6	.5	.4	.4
24	.9	1.1	28	2.2	2.8	2.9	1.9	.6	.6	.5	.4	.4
25	.7	1.1	10	2.2	2.8	2.8	1.8	.8	.5	.6	.4	.4
26	.9	1.2	5.5	2.2	3.1	2.2	1.6	.8	.5	.5	.4	.5
27	.9	1.2	4.3	2.1	2.5	2.2	1.7	.8	.5	.4	.4	.5
28	.9	1.3	3.9	2.1	2.3	6.0	1.6	.8	.5	.4	.4	.4
29	.9	1.3	3.7	2.1	-	5.0	1.4	.8	.5	.4	.4	.4
30	.9	1.5	3.2	2.0	-	105	1.4	.6	.5	.4	.4	.7
31	.9	-	3.1	1.9	-	240	-	.8	-	.4	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	26.3	1.1	0.6	0.85	52
November.....	34.4	1.5	.9	1.15	68
December.....	446.5	200	1.0	14.4	886
Calendar year 1945.....	1,980.1	200	.4	5.42	3,930
January.....	94.0	15	1.9	3.03	186
February.....	105.5	18	2.1	3.77	209
March.....	436.2	240	1.9	14.1	865
April.....	194.4	32	1.4	6.48	386
May.....	30.6	1.2	.8	.99	61
June.....	17.5	.7	.5	.58	35
July.....	14.9	.7	.4	.48	30
August.....	13.0	.5	.4	.42	26
September.....	13.1	.7	.4	.44	26
Water year 1945-46.....	1,426.4	240	.4	3.91	2,830

Peak discharge.- Dec. 22 (2:45 p.m.) 650 sec.-ft.; Dec. 23 (1:45 p.m.) 300 sec.-ft.; Mar. 30 (5:45 p.m.) 420 sec.-ft.; Mar. 31 (3:30 a.m.) 500 sec.-ft.

SANTA MARGARITA RIVER BASIN

O'Neill ditch near Ysidora, Calif.

Location.- Water-stage recorder, lat. 33°19'40", long. 117°19'45", 100 feet upstream from point of discharge into O'Neill Reservoir and 6 miles northeast of Ysidora, San Diego County.

Records available.- October 1930 to September 1946.

Average discharge.- 16 years, 3.25 second-feet.

Extremes.- Maximum daily discharge during year, 32 second-feet Dec. 22; no flow Dec. 25 to Mar. 27, Mar. 29, Apr. 1 to May 8.
1930-46: Maximum daily discharge, 35 second-feet May 24, 1937; no flow during parts of each year.

Remarks.- Records good. Ditch diverts water from left side of Santa Margarita River about 6 miles above station on Santa Margarita River at Ysidora.

Cooperation.- Gage-height record and 174 discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	8.5	13			0		0	8.2	3.8	1.4	4.4
2	2.6	7.7	13			0		0	7.4	4.4	2.6	4.8
3	4.5	7.4	13			0		0	6.4	4.4	4.6	3.7
4	9.6	5.4	12			0		0	5.9	4.5	4.5	3.1
5	6.6	4.8	12			0		0	4.1	4.2	4.2	3.2
6	3.2	12	12			0		0	4.7	4.4	3.8	3.1
7	1.1	11	13			0		0	4.2	4.3	4.0	2.3
8	11	9.8	12			0		0	5.4	3.9	4.0	4.5
9	7.3	10	13			0		4.6	5.5	4.0	4.2	5.4
10	6.2	9.7	13			0		10	4.8	3.2	4.4	5.0
11	6.4	10	13			0		11	4.3	3.0	4.1	4.0
12	6.4	10	14			0		10	3.8	2.8	3.3	3.6
13	6.7	10	12			0		9.0	4.4	2.8	2.7	3.6
14	6.7	11	13			0		9.7	4.1	2.4	2.6	2.9
15	6.8	9.8	12			0		9.3	4.8	2.0	2.9	3.8
16	7.4	10	13			0		8.5	4.6	1.4	2.9	4.3
17	7.6	11	13			0		9.2	3.4	2.2	3.1	4.2
18	7.6	11	12			0		9.3	2.7	3.1	3.4	4.2
19	7.1	11	13			0		9.3	3.5	3.3	3.0	4.9
20	7.4	10	14			0		9.2	3.9	3.8	2.8	5.4
21	7.3	10	13			0		3.4	4.2	4.0	5.6	5.1
22	7.0	10	32			0		.8	4.3	3.4	5.4	5.5
23	7.4	10	26			0		.5	3.5	3.2	5.4	5.5
24	5.8	10	4.1			0		3.5	3.0	6.4	3.9	5.9
25	5.0	11	0			0		9.0	3.3	6.8	3.9	6.0
26	6.1	11	0			0		9.0	3.6	2.8	4.0	5.2
27	6.5	11	0			0		8.7	3.8	1.8	4.0	4.8
28	7.4	11	0			.1		8.2	4.0	2.0	4.0	4.5
29	7.6	13	0			0		8.0	4.3	1.7	3.7	4.5
30	8.4	15	0			6.1		7.8	4.4	1.6	3.6	5.5
31	8.7	-	0			19		7.0	-	1.7	3.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	200.0	11	0.6	6.45	397
November.....	302.1	15	4.8	10.1	599
December.....	330.1	32	0	10.6	655
Calendar year 1945	1,786.8	32	0	4.90	3,540
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	25.2	19	0	.81	50
April.....	0	0	0	0	0
May.....	175.0	11	0	5.65	347
June.....	135.6	8.2	2.7	4.52	269
July.....	103.2	6.8	1.4	3.33	205
August.....	116.1	5.6	1.4	3.75	230
September.....	132.9	6.0	2.3	4.43	264
Water year 1945-46	1,520.2	32	0	4.16	3,020

San Juan Creek near San Juan Capistrano, Calif.

Location.- Water-stage recorder, lat. 33°30'50", long. 117°37'40", in Mission Viejo Grant at Ortega State Highway bridge, 2.5 miles east of San Juan Capistrano, Orange County. Altitude of gage, about 150 feet.

Drainage area.- 110 square miles.

Records available.- October 1928 to September 1946.

Average discharge.- 18 years, 17.4 second-feet.

Extremes.- Maximum discharge during year, 350 second-feet Dec. 23 (gage height, 3.13 feet); minimum daily, 0.1 second-foot July 20-22, 25, 27, Sept. 29, 30.
1929-46: Maximum discharge, 13,000 second-feet Mar. 2, 1938, by slope-area method, determined by Corps of Engineers, War Department; no flow at times during most summers.

Remarks.- Records fair except those above 50 second-feet or below 1 second-foot, which are poor. San Juan Mutual Water Co. diverts water about 500 feet upstream from gage.

Cooperation.- Fifty-five discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer, and twenty-three discharge measurements furnished by Santa Margarita Ranch (U. S. Navy) and Fauba Ranch.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.3	1.3	86.7	3.5	3.2	25	4.8	1.1	0.5	0.3	0.5
2	.7	1.3	1.3	85.7	3.5	3.2	21	4.8	1.5	.4	.3	.4
3	.7	1.1	1.1	6.2	4.7	3.3	15	4.6	1.5	.4	.3	.4
4	.8	.8	1.0	5.2	4.8	3.2	11	4.6	1.4	.4	.3	.4
5	.8	.5	1.0	5.0	4.2	2.2	9.9	4.6	1.0	.5	.3	.3
6	1.1	.7	.8	4.8	4.0	1.5	8.8	4.6	.9	.6	.3	.2
7	1.1	1.0	.8	4.4	4.0	1.4	8.5	5.8	.9	.4	.3	.3
8	1.1	1.1	.8	4.2	4.0	1.2	8.0	2.3	1.0	.3	.3	.4
9	1.0	1.1	.8	4.2	4.0	1.2	7.7	2.3	1.1	.3	.3	.4
10	.7	1.3	.8	4.0	4.0	1.4	7.5	2.1	.9	.4	.3	.3
11	.8	1.5	.7	4.0	4.2	1.4	7.5	2.7	.9	.3	.3	.3
12	.8	1.3	.7	3.8	4.2	1.2	7.2	2.7	.9	.3	.3	.3
13	.8	1.1	.7	3.7	4.2	1.4	6.9	2.5	.8	.3	.3	.3
14	1.0	.8	.7	3.7	4.2	1.4	6.7	3.0	.7	.6	.3	.2
15	1.0	.8	.7	3.7	4.0	1.4	6.4	3.7	.7	.5	.3	.3
16	1.1	1.3	.7	3.7	3.8	1.4	6.2	3.7	.9	.3	.3	.3
17	1.1	1.1	.7	3.5	3.7	1.4	5.9	3.5	.8	.4	.3	.3
18	1.1	1.1	.7	3.5	3.7	1.2	5.9	3.3	.5	.2	.4	.2
19	1.1	1.0	.7	3.5	3.7	1.5	5.7	3.5	.4	.2	.5	.2
20	1.0	1.0	.6	3.7	3.7	3.6	5.4	3.5	.4	.1	.4	.2
21	1.0	1.0	1.0	3.7	3.7	4.4	5.2	3.5	.4	.1	.5	.2
22	1.0	.7	28	3.7	3.5	3.8	4.8	2.6	.4	.1	.5	.4
23	.8	.6	111	3.7	3.5	3.7	4.6	2.0	.4	.2	.5	.4
24	.6	.6	52	3.7	3.5	3.5	4.6	1.6	.4	.2	.5	.3
25	.4	.7	f21	3.7	3.3	3.3	4.8	1.6	.4	.1	.6	.3
26	.4	1.0	f10	3.7	3.2	3.0	4.8	1.6	.4	.2	.5	.2
27	.6	1.1	f7.7	3.5	3.3	2.5	4.6	1.6	.4	.1	.5	.2
28	.8	1.3	6.9	3.5	3.3	3.0	5.0	1.6	.4	.2	.5	.2
29	1.0	1.7	6.7	3.5	-	3.3	5.2	1.5	.4	.2	.5	.1
30	1.3	1.3	6.7	3.5	-	15	5.0	1.2	.4	.2	.5	.1
31	1.1	-	f7.7	3.5	-	55	-	1.2	-	.2	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	27.6	1.3	0.4	0.89	55
November.....	31.2	1.7	.5	1.04	62
December.....	275.3	111	.6	8.88	546
Calendar year 1945	4,613.3	242	.1	12.6	9,150
January.....	126.9	6.7	3.5	4.09	252
February.....	107.4	4.8	3.2	3.84	213
March.....	138.2	55	1.2	4.46	274
April.....	234.8	25	4.6	7.83	486
May.....	90.4	4.8	1.2	2.92	179
June.....	22.3	1.5	.4	.74	44
July.....	9.2	.6	.1	.30	18
August.....	12.0	.6	.3	.39	24
September.....	8.6	.5	.1	.29	17
Water year 1945-46	1,083.9	111	.1	2.97	2,150

Peak discharge.- Dec. 22 (1:30 p.m.) 55 sec.-ft.; Dec. 23 (2:30 p.m.) 350 sec.-ft.; Mar. 31 (7:15 a.m.) 75 sec.-ft.

a No gage-height record; discharge computed on basis of probable discharge recession curve.

f Computed on basis of partly estimated gage-height record.

SAN JUAN CREEK BASIN

Trabuco Creek near San Juan Capistrano, Calif.

Location.- Water-stage recorder, lat. 33°31'30", long. 117°40'15", in SW $\frac{1}{4}$ sec. 25, T. 7 S., R. 8 W., on State highway bridge, 1.5 miles north of San Juan Capistrano.

Drainage area.- 36.5 square miles.

Records available.- October 1930 to September 1946.

Average discharge.- 16 years, 7.52 second-feet.

Extremes.- Maximum discharge during year, 133 second-feet Dec. 23 (gage height, 1.94 feet); no flow during most of year.

1930-46: Maximum discharge, 9,240 second-feet Feb. 6, 1937; no flow during part of each year.

Cooperation.- Records furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0			0	0					
2		0	0			0	5.9					
3		0	0			0	0					
4		0	0			0	0					
5		0	0			0	0					
6		0	0			0	0					
7		0	0			0	0					
8		0	0			0	0					
9		0	0			0	0					
10		0	0			0	0					
11		0	0			0	0					
12		0	0			0	0					
13		0	0			0	0					
14		0	0			0	0					
15		0	0			0	0					
16		0	0			0	0					
17		0	0			0	0					
18		0	0			0	0					
19		0	0			0	0					
20		0	0			0	0					
21		0	0			0	0					
22		0	20			0	0					
23		0	58			0	0					
24		0	1.4			0	0					
25		0	0			0	0					
26		0	0			0	0					
27		.2	0			0	0					
28		0	0			0	0					
29		0	0			0	0					
30		0	0			.2	20					
31		-	0			0	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	.2	.2	0	.01	.4
December.....	79.4	58	0	2.56	157
Calendar year 1945	2,096.3	111	0	5.74	4,160
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	.2	.2	0	.01	.4
April.....	5.9	5.9	0	.20	12
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	85.7	58	0	.23	170

Aliso Creek at El Toro, Calif.

Location.- Water-stage recorder, lat. 33°37'15", long. 117°41'20", in Canada de los Alisos Grant, on Second Street Bridge, at El Toro, Orange County. Altitude of gage, about 440 feet.

Drainage area.- 8.5 square miles.

Records available.- October 1930 to September 1946.

Average discharge.- 16 years, 1.04 second-feet.

Extremes.- Maximum discharge during year, 183 second-feet Dec. 22 (gage height, 7.25 feet); no flow during most of year.

1930-46: Maximum discharge, 1,950 second-feet Feb. 6, 1937; no flow during most of each year.

Cooperation.- Records furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0	0.2					
2			0			0	.2					
3			0			0						
4			0			0						
5			0			0	0					
6			0			0	0					
7			0			0	0					
8			0			0	0					
9			0			0	0					
10			0			0	0					
11			0			0	0					
12			0			0	0					
13			0			0	0					
14			0			0	0					
15			0			0	0					
16			0			0	0					
17			0			0	0					
18			0			0	0					
19			0			0	0					
20			0			0	0					
21			0			0	0					
22			24			0	0					
23			11			0	0					
24			0			0	0					
25			0			0	0					
26			0			0	0					
27			0			0	0					
28			0			0	0					
29			0			0	0					
30			0			21	0					
31			0			.2	-					
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						35	24	0	1.1	69		
Calendar year 1945.....						111.1	44	0	.30	219		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						21.2	21	0	.68	42		
April.....						.4	.2	0	.01	.8		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1945-46.....						56.6	24	0	.16	112		

Santa Ana River near Mentone, Calif.

Location.- Water-stage recorder, lat. 34°06'40", long. 117°06'00", in SW¹/₄ sec. 4, T. 1 S., R. 2 W., near mouth of canyon, 0.4 mile upstream from Southern California Edison Co.'s Mentone power plant, 2 miles upstream from Mill Creek, and 3.5 miles northeast of Mentone. Altitude of gage, about 2,000 feet. Auxiliary water-stage recorder at Greenspot Bridge, about 1 mile downstream. Altitude of gage, about 1,850 feet (from topographic map).

Drainage area.- 189 square miles.

Records available.- July 1896 to September 1946.

Average discharge.- 48 years (1896-1909, 1910-15, 1916-46), 38.1 second-feet. Average combined discharge of Santa Ana River and canals, 45 years (1896-98, 1902-15, 1916-46), 92.0 second-feet.

Extremes (river only).- Maximum discharge during year, 4,000 second-feet Dec. 23 (gage height, 8.80 feet); no flow Sept. 2-30.
1896-1946: Maximum discharge, 52,300 second-feet Mar. 2, 1938, by slope-area method (gage height, 14.3 feet); no flow at times in some years.

Remarks.- Records fair except those for periods of faulty gage-height record, which are poor. Storage at Bear Valley Reservoir and diversions above station. Sum of discharge of river, Southern California Edison Co.'s canal, Greenspot pipe line near Mentone, and bypassed flow, is given in table on following page.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	2.4	1.4	30	3.3	1.5	90	1.1	0.6	0.1	20	0.1
2	4.5	1.9	2.1	30	3.0	1.3	40	1.0	.5	.1	12	0
3	3.7	2.6	2.5	32	20	1.3	19	.8	.4	.1	12	0
4	3.0	2.7	1.7	28	19	1.3	10	.7	.4	.1	15	0
5	4.0	2.4	1.9	30	9.4	1.3	3.7	.7	.3	.1	10	0
6	4.0	3.2	1.8	30	7.2	1.1	7.2	.7	.3	.2	4.5	0
7	14	7.2	1.4	28	5.5	1.1	44	.7	.3	.2	4.1	0
8	37	3.2	1.1	19	5.0	1.1	11	.8	.4	.2	5.0	0
9	42	2.7	1.3	12	4.5	1.0	2.3	.8	.5	.2	7.6	0
10	38	3.4	1.9	5.0	5.0	1.0	5.0	.7	.3	.2	7.2	0
11	24	3.0	1.6	4.0	6.6	1.0	4.0	.7	.4	.2	3.3	0
12	26	3.4	5.6	15	6.0	1.0	2.0	.6	.5	.1	4.1	0
13	2.0	2.0	2.4	14	5.5	1.3	3.0	.6	.4	.1	3.7	0
14	10	1.5	3.4	7.0	5.5	1.9	6.0	.8	.5	.1	1.9	0
15	1.5	1.4	2.6	6.6	5.0	1.3	6.6	1.1	.4	.1	3.7	0
16	1.5	2.2	1.8	6.6	4.5	1.1	33	1.1	.5	.1	1.1	0
17	1.4	1.7	1.0	6.6	4.1	1.0	32	1.1	.4	.1	.2	0
18	1.9	1.5	.9	5.5	3.7	.8	6.0	1.3	.4	.1	.2	0
19	2.5	2.6	.9	5.0	3.1	2.6	5.0	1.3	.3	50	.2	0
20	5.0	1.7	1.3	6.0	3.0	5.4	4.5	1.3	.3	3.0	1.0	0
21	20	1.7	5.0	2.6	17	12	3.7	1.1	.3	2.8	.9	0
22	30	2.3	1,120	3.0	7.2	12	2.3	.8	.2	2.6	.2	0
23	30	1.9	1,600	3.3	5.0	12	2.3	.7	.2	22	.3	0
24	30	1.8	300	2.6	2.3	9.8	2.3	.7	.4	40	.1	0
25	40	2.5	170	3.3	1.9	3.0	1.7	.8	.3	48	.1	0
26	50	2.6	100	3.7	1.7	2.3	1.5	.7	.2	34	.1	0
27	25	1.9	45	3.0	1.3	2.6	1.3	.6	.2	32	.1	0
28	20	2.7	15	3.0	1.3	7.6	1.3	.6	.2	30	.1	0
29	27	2.3	15	3.0	-	5.5	1.3	.6	.2	27	.1	0
30	26	2.5	30	3.0	-	185	1.1	.5	.1	26	.2	0
31	18	-	30	3.7	-	385	-	.5	-	23	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	546.2	50	1.4	17.6	1,080
November	74.9	7.2	1.4	2.50	149
December	3,468.6	1,600	.9	112	6,880
Calendar year 1945	10,272.0	1,600	.9	28.1	20,380
January	354.5	32	2.6	11.4	703
February	166.6	20	1.3	5.95	330
March	666.2	385	.8	21.5	1,320
April	353.1	90	1.1	11.8	703
May	25.5	1.3	.5	.82	51
June	10.4	.6	.1	.35	21
July	342.8	50	.1	11.1	680
August	119.1	20	.1	3.84	236
September	.1	.1	0	.003	.2
Water year 1945-46	6,128.0	1,600	0	16.8	12,150

Peak discharge.- Dec. 22 (10 p.m.) 2,200 sec.-ft.; Dec. 23 (9 a.m.) 4,000 sec.-ft.; Mar. 31 (2 a.m.) 580 sec.-ft.; July 19 (3 p.m.) 500 sec.-ft.

Note.- Doubtful, incomplete, or no gage-height record Oct. 3, 11-16, 20, 21, 23-29, Dec. 16, 23-28, Jan. 8-14, Mar. 31, Apr. 1, 10-15, June 5-7, June 26 to July 28, Aug. 1-6; discharge computed on basis of fragmentary gage-height record, staff-gage readings, 18 discharge measurements, upstream reservoir operation records, diversion records, probable discharge recession curves, weather records, and interpolation.

Combined discharge, in second-feet, of Santa Ana River and canals near Mentone, Calif.,
water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	53	50	62	42	48	158	67	60	69	96	63
2	80	47	48	58	43	49	118	70	54	71	91	68
3	76	62	48	64	56	49	99	65	57	70	85	67
4	74	56	50	61	62	47	88	63	58	71	80	67
5	72	61	55	58	47	48	79	61	61	71	74	72
6	75	59	54	56	49	47	79	62	61	70	70	71
7	87	73	53	52	44	44	124	64	64	71	71	72
8	106	56	54	52	45	48	91	70	64	71	72	72
9	114	56	56	51	44	45	80	84	70	72	75	75
10	113	53	55	51	45	48	80	77	74	75	72	69
11	101	52	54	50	48	48	80	72	73	75	68	73
12	101	50	57	49	50	47	80	64	70	78	70	77
13	84	53	e56	49	48	49	81	66	68	77	73	84
14	77	56	e54	48	50	52	81	62	76	73	72	75
15	66	52	52	47	49	51	81	70	73	71	75	75
16	70	46	46	46	48	49	71	72	74	71	72	71
17	69	45	43	45	45	47	76	67	73	73	71	67
18	62	42	43	44	48	49	81	64	72	76	71	55
19	58	38	39	44	47	57	81	60	68	115	70	61
20	56	46	38	43	45	55	76	62	67	73	69	53
21	70	55	53	41	58	62	76	63	69	70	69	53
22	83	54	1,120	37	51	62	71	64	68	66	69	53
23	89	53	1,600	37	51	61	68	61	67	77	69	53
24	89	51	300	38	48	60	68	64	65	100	69	60
25	e89	52	170	38	46	54	72	72	69	114	71	73
26	89	52	121	40	46	52	77	64	71	108	73	69
27	91	51	105	39	47	54	78	66	71	111	74	71
28	83	54	88	41	47	58	74	64	73	107	71	67
29	84	55	65	41	-	56	71	68	70	102	67	69
30	85	52	66	36	-	227	65	68	70	99	68	75
31	80	-	62	37	-	400	-	66	-	94	70	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,555	114	56	82.4	5,070
November.....	1,585	73	38	52.8	3,140
December.....	4,755	1,600	38	153	9,430
Calendar year 1945	32,966	1,600	31	90.3	65,380
January.....	1,455	64	36	46.9	2,890
February.....	1,349	62	42	48.2	2,680
March.....	2,123	400	44	68.5	4,210
April.....	2,506	158	65	83.5	4,970
May.....	2,062	84	60	36.5	4,090
June.....	2,030	76	54	67.7	4,030
July.....	2,541	115	66	82.0	5,040
August.....	2,267	96	67	73.1	4,500
September.....	2,030	84	53	67.7	4,030
Water year 1945-46	27,258	1,600	36	74.7	54,080

e All or part of discharge normally diverted by Southern California Edison Co.'s canal bypassed canal and stream gaging station and was not measured; combined discharge including bypassed flow computed on basis of interpolation.

SANTA ANA RIVER BASIN

Santa Ana River at E Street Bridge, near San Bernardino, Calif.

Location.- Water-stage recorder, lat. 34°04'00", long. 117°17'45", in San Bernardino Grant, at E Street Bridge, 0.8 mile downstream from San Timoteo Creek, 1 mile upstream from Warm Creek, and 3 miles south of San Bernardino, San Bernardino County. Altitude of gage, about 970 feet.

Records available.- March 1939 to September 1946.

Extremes.- Maximum stage during year, 6.25 feet Dec. 23 (discharge not determined); no flow during parts of June to September.

1939-46: Maximum stage recorded, 6.50 feet Jan. 23, 1943; maximum discharge uncertain; no flow on many days each year.

Remarks.- Records poor. Many diversions above station.

Discharge, in sscond-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	6.0	4.5	7	4	6	14	1.0	3.0	0		
2	.6	1.8	5.0	6	4	6	18	.8	3.0	0		
3	1.2	1.5	5.0	6	8	6	18	.8	3.0	0		
4	.3	1.0	3.5	6	6	6	18	.6	2.1	0		
5	.1	1.2	4.5	5	6	6	18	.4	1.0	0		11.8
6	.2	2.5	6.0	5	6	6	14	.1	.4	0		
7	3.6	4.5	6.0	5	6	6	12	.2	.1	0		
8	8.4	4.0	5.0	5	6	6	10	.8	0	0		
9	3.5	3.5	7.0	4	6	6	9	1.2	0	0		
10	4.5	4.0	5.0	4	7	6	8	2.1	0	0		
11	8.0	5.0	5.0	4	7	6	7	2.5	0	0		
12	5.0	4.0	5.0	4	7	6	7	2.5	0	0		
13	4.0	2.5	4.5	4	7	6	7	2.5	0	0		
14	3.0	3.5	7.0	4	7	6	7	3.5	0	0		
15	2.1	2.5	10	4	7	6	5	3.5	0	0		
16	4.0	2.5	9.0	4	7	5	3	4.0	0	0		
17	3.5	3.5	5.0	4	7	6	3	4.5	0	0		
18	4.0	2.5	4.5	4	7	7	6	4.5	0	0		
19	1.8	2.5	6.0	4	7	10	7	4.5	0	23		
20	1.5	4.0	4.5	4	6	16	6	4.5	0	8		
21	1.0	4.0	14	4	6	16	5	3.5	0	7		
22	1.8	2.5	1,300	4	7	14	4.5	3.0	0	6		
23	1.8	1.8	2,000	4	8	12	4.0	2.5	0	7		
24	3.0	3.0	75	4	9	10	3.5	2.5	0	8.5		
25	3.5	3.5	50	4	9	10	3.0	3.0	0	5		
26	5.0	4.0	30	4	8	9	3.0	3.5	0	2		
27	3.0	2.5	20	4	7	9	2.5	3.5	0	1		
28	3.5	3.5	12	4	6	9	2.1	3.0	0	0		
29	4.0	4.0	10	4	-	9	1.8	3.0	0	0		
30	5.0	8.0	8	4	-	18	1.2	2.5	0	0		
31	3.0	-	7	4	-	25	-	2.5	0	0		-
Month					Second-foot-days		Maximum	Minimum	Mean		Runoff in acre-feet	
October.....					94.4		8.4	0.1	3.05		187	
November.....					99.5		8.0	1.0	3.31		197	
December.....					3,638.0		2,000	3.5	117		7,220	
Calendar year 1945.....					7,429.0		2,000	0	20.4		14,740	
January.....					157		7	4	4.4		272	
February.....					198		9	4	6.7		373	
March.....					275		25	5	8.9		545	
April.....					225.6		18	1.2	7.52		447	
May.....					77.0		4.5	.1	2.48		153	
June.....					12.6		3.0	0	.42		25	
July.....					67.5		23	0	2.18		134	
August.....					2.5		-	-	.08		5	
September.....					5.0		-	-	.17		10	
Water year 1945-46.....					4,821.9		2,000	0	13.2		9,570	

† Result of discharge measurement.

e Stage-discharge relation uncertain during part of day; discharge computed on basis of records of discharge of Santa Ana River at Riverside Narrows and of main river and tributaries in basin above.

Note.- No gage-height record, or stage-discharge relation uncertain Dec. 29 to Jan. 10, Jan. 18 to Feb. 2, Feb. 5-14, 16-18, Mar. 1-13, July 20 to Sept. 30; discharge computed on basis of discharge measurements, general trends of gage height, and general information. During August and September only occasional slight flow.

Santa Ana River at Riverside Narrows, near Arlington, Calif.

Location.- Water-stage recorder, lat. 33°57'55", long. 117°27'55", in Jurupa (Stearns) Grant, at Pedley Road Bridge, 3.3 miles northwest of Arlington, Riverside County.
Datum of gage, 669.87 feet above mean sea level (levels by Riverside County engineer).
Auxiliary high-water gage at site 1.2 miles upstream.

Records available.- January 1929 to September 1946.

Average discharge.- 16 years (1929-37, 1938-46), 63.8 second-feet.

Extremes.- Maximum discharge during year, 6,000 second-feet Dec. 23 (gage height, 5.12 feet); minimum daily, 22 second-feet Sept. 28.
1929-46: Maximum discharge, 100,000 second-feet Mar. 2, 1938, by slope-area method; minimum, 20 second-feet Aug. 3, 1937.

Remarks.- Records in general are fair except those for Dec. 19 to Jan. 25, Mar. 30, 31, which are poor. Records poor for many individual days. Considerable diurnal fluctuation occurs throughout season of low flow, but it is unlikely that variation in discharge from day to day is as great as that indicated by daily figures. Many diversions above station for irrigation and power development.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	e45	41	132	73	85	180	47	39	35	26	28
2	26	e42	41	127	85	101	193	45	37	35	26	24
3	25	e40	37	146	103	97	183	47	37	31	31	25
4	26	e42	37	137	101	93	160	47	35	29	31	25
5	25	e44	41	150	81	81	186	47	32	29	29	25
6	26	e45	f39	118	89	73	170	47	29	29	28	28
7	35	43	f39	123	113	69	165	47	29	29	28	a28
8	e37	37	f43	118	101	69	170	45	28	28	28	a30
9	e38	37	f39	97	101	59	165	47	29	28	28	a32
10	e35	41	f43	114	109	56	155	49	31	28	28	a31
11	e32	37	f41	101	118	59	150	47	31	26	25	a25
12	e34	41	f41	101	137	56	141	47	32	26	28	24
13	e36	35	f39	109	132	56	127	43	32	26	26	25
14	e35	34	f45	97	141	59	114	59	32	26	24	26
15	e34	35	f45	109	132	52	97	41	34	26	24	28
16	e34	39	f45	105	155	52	73	37	32	31	24	26
17	34	41	f45	101	146	49	69	40	31	28	25	26
18	35	41	f47	109	146	52	58	41	34	29	25	28
19	35	39	f53	118	137	49	55	39	34	28	25	28
20	37	47	60	123	141	62	60	41	34	28	25	26
21	41	45	68	101	141	66	55	43	34	26	24	25
22	41	47	1,500	93	127	59	47	39	34	28	24	28
23	37	47	3,000	89	118	59	45	37	32	29	25	25
24	37	49	350	89	109	59	43	37	32	29	26	26
25	37	47	110	101	109	52	43	37	31	29	25	25
26	37	47	101	77	101	52	41	35	31	31	26	26
27	35	47	101	81	93	46	41	35	31	31	28	24
28	35	49	114	69	89	66	43	41	29	29	26	22
29	40	45	137	77	-	56	43	43	32	28	25	28
30	42	43	127	77	-	350	45	41	32	25	25	34
31	e43	-	132	69	-	450	-	37	-	25	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,070	43	25	34.5	2,120
November.....	1,271	49	34	42.4	2,520
December.....	6,601	3,000	37	213	13,080
Calendar year 1945.....	32,563	3,000	21	89.2	64,590
January.....	3,258	150	69	105	6,460
February.....	3,228	155	73	115	6,400
March.....	2,644	450	46	85.3	5,240
April.....	3,117	193	41	104	6,180
May.....	1,306	49	35	42.2	2,590
June.....	970	39	28	32.3	1,920
July.....	887	35	25	28.6	1,760
August.....	812	31	24	26.2	1,610
September.....	801	34	22	26.7	1,590
Water year 1945-46.....	25,967	3,000	22	71.1	51,490

Peak discharge.- Dec. 23 (12:15 p.m.) 6,000 sec.-ft.; Mar. 30 (3:30 p.m.) 1,500 sec.-ft.

a No gage-height record; discharge computed on basis of records for related stations.

e Stage-discharge relation uncertain; discharge computed on basis of records for related stations.

f Computed on basis of partly estimated gage-height record.

SANTA ANA RIVER BASIN

Santa Ana River at Hamner Avenue, near Corona, Calif.

Location.- Water-stage recorder, lat. 33°56'50", long. 117°33'30", in Jurupa Grant, at Hamner Avenue Bridge, 5 miles north of Corona, Riverside County. Altitude of gage, about 570 feet (from topographic map).

Records available.- May 1930 to November 1946 (irrigation seasons only).

Remarks.- Records fair except those above 150 second-feet, which are poor.

Cooperation.- Twenty discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, January to December 1946

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				-	48	39	34	30	31	51	46	100
2				-	48	41	34	27	31	44	42	†109
3				-	51	41	36	26	30	44	42	-
4				-	51	41	36	28	31	46	44	-
5				-	51	42	39	29	34	48	46	-
6				-	48	41	39	29	34	44	44	-
7				-	51	37	36	29	36	42	41	-
8				-	51	33	36	30	37	41	120	-
9				-	53	36	36	31	37	41	a50	-
10				-	60	37	36	28	36	39	a50	-
11				-	60	37	34	26	33	37	f53	-
12				-	58	36	36	24	30	37	e125	-
13				-	58	34	f34	24	29	36	e550	†127
14				-	53	37	f33	26	26	34	e400	-
15		†112	†68	-	51	36	f31	25	29	37	e110	-
16				-	48	39	30	27	30	44	86	-
17				-	46	37	30	27	30	48	78	-
18	†126			-	51	36	28	29	29	46	f75	-
19				†110	55	33	30	27	28	41	78	-
20				-	60	36	34	27	30	39	e175	-
21				-	58	34	28	24	31	37	e200	-
22				-	55	34	28	23	31	37	100	-
23				-	51	34	31	23	33	34	e500	-
24				-	51	31	34	24	31	34	e325	-
25				-	48	30	34	26	31	33	e140	-
26				-	53	31	33	28	31	34	135	-
27				-	46	34	33	29	33	42	125	-
28				-	48	36	29	29	30	44	120	-
29				f53	f42	36	30	30	31	44	f115	-
30				53	f44	36	30	28	37	43	110	-
31				-	f41	-	31	27	-	44	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
May.....	1,589	60	41	51.3	3,150
June.....	1,085	42	30	36.2	2,150
July.....	1,023	39	28	33.0	2,030
August.....	840	31	23	27.1	1,670
September.....	950	37	26	31.7	1,880
October.....	1,265	51	33	40.8	2,510
November.....	4,135	550	41	138	8,200
The period.....	-	-	-	-	21,590

† Result of discharge measurement.

a No gage-height record; discharge computed on basis of records for stations at Riverside Narrows, Auburndale Bridge, and below Prado Dam.

e Stage-discharge relation uncertain; discharge adjusted on basis of data for stations at Riverside Narrows, Auburndale Bridge, and below Prado Dam.

f Computed on basis of partly estimated gage-height record.

Santa Ana River at Auburndale Bridge, near Corona, Calif.

Location.- Water-stage recorder, lat. 33°55'30", long. 117°35'40", in Jurupa Grant, at Auburndale Bridge, 2 miles upstream from Temescal Creek and 4 miles northwest of Corona, Riverside County.

Records available.- May 1930 to November 1946 (irrigation seasons only).

Remarks.- Records fair except those above 175 second-feet, which are poor.

Cooperation.- Twenty discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, January to December 1946

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				-	59	49	45	42	42	59	65	120
2				-	59	53	42	44	44	39	55	†127
3				-	63	57	44	45	44	53	53	-
4				-	59	55	48	42	38	52	55	-
5				-	57	53	48	44	38	55	57	-
6				-	55	55	45	44	36	51	55	-
7				-	57	51	45	42	38	49	61	-
8				-	57	55	44	42	42	49	130	-
9				-	55	53	44	44	44	51	70	-
10				-	63	53	44	41	46	49	61	-
11				-	63	59	42	38	44	46	63	-
12				-	68	51	41	35	40	45	155	-
13				-	65	45	42	37	44	44	e600	†142
14				-	63	48	44	37	40	46	e475	-
15		†142	†85	-	59	46	45	36	40	55	150	-
16				-	57	49	44	36	44	59	120	-
17	†152			-	57	49	42	36	44	63	105	-
18				-	61	51	42	39	42	61	95	-
19				†118	68	49	42	40	40	57	100	-
20				-	76	48	41	41	40	53	e200	-
21				-	73	45	40	40	41	51	e225	-
22				-	76	44	40	37	41	49	a125	-
23				-	70	41	41	37	39	61	95	-
24				-	68	39	42	38	39	53	a500	-
25				-	68	36	44	39	41	51	a375	-
26				-	63	38	42	40	41	51	160	-
27				-	65	41	42	42	39	57	140	-
28				-	68	42	40	44	40	61	140	-
29				f60	61	42	39	42	42	63	135	-
30				57	57	46	40	42	45	63	130	-
31				-	53	-	42	40	-	63	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
May.....	1,943	76	53	62.7	3,850
June.....	1,443	59	36	48.1	2,860
July.....	1,326	48	39	42.8	2,630
August.....	1,246	45	35	40.2	2,470
September.....	1,238	46	36	41.3	2,460
October.....	1,669	63	44	53.8	3,310
November.....	4,815	600	53	160	9,550
The period.....	-	-	-	-	27,130

† Result of discharge measurement.

a No gage-height record; discharge computed on basis of records for stations at Riverside Narrows, Hammer Avenue, and below Prado Dam.

e Stage-discharge relation uncertain; discharge adjusted on basis of data for stations at Riverside Narrows, Hammer Avenue, and below Prado Dam.

f Computed on basis of partly estimated gage-height record.

Santa Ana River below Prado Dam, near Prado, Calif.

Location.- Water-stage recorder, lat. 33°53'00", long. 117°38'30", in La Sierra Grant, 1,750 feet downstream from Prado Dam and 1 mile southwest of Prado, Riverside County. Datum of gage is approximately 449 feet above mean sea level (Corps of Engineers, War Department, survey).

Records available.- March 1940 to September 1946. January 1919 to November 1940, and for irrigation seasons, May to November 1941, 1942, 1945, 1946 at site 3 miles downstream, published as Santa Ana River near Prado (see following page).

Average discharge.- 27 years (1919-46), 149 second-feet.

Extremes.- Maximum discharge during year, 1,500 second-feet Dec. 23 (gage height, 4.27 feet); minimum daily, 43 second-feet Aug. 12; 16.
1940-46: Maximum discharge, 2,260 second-feet (regulated) Dec. 24, 1940 (gage height, 3.20 feet); minimum daily, 38 second-feet July 24-26, Aug. 7, 8, 11, 12, 1940.

Remarks.- Records good below 100 second-feet and fair above. Many diversions above station for irrigation. Flow regulated by Prado flood-control dam.

Cooperation.- Twenty-seven discharge measurements furnished by Corps of Engineers, War Department; twenty furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	101	101	186	148	148	283	92	70	61	45	50
2	64	101	103	193	154	148	368	92	68	63	45	50
3	64	84	106	196	192	145	228	94	66	61	44	50
4	64	92	106	193	296	140	210	94	66	63	45	50
5	64	99	106	196	193	134	196	88	66	64	48	47
6	70	113	108	186	190	126	210	84	64	63	50	45
7	80	111	111	173	186	129	242	88	64	61	48	47
8	74	108	108	180	180	126	210	86	63	58	50	53
9	88	90	106	170	180	118	200	86	63	53	50	54
10	80	86	101	170	190	113	193	92	63	53	45	54
11	78	90	106	176	193	111	180	92	66	53	44	54
12	78	94	113	154	196	108	190	90	68	51	43	48
13	78	99	118	151	186	118	176	92	66	53	45	47
14	80	96	113	157	186	124	157	90	64	53	47	44
15	80	96	113	166	176	113	180	90	64	51	44	47
16	80	101	113	170	186	108	145	88	63	47	43	51
17	82	101	113	170	176	111	154	96	61	50	44	51
18	82	99	116	163	173	111	143	90	63	50	44	48
19	f86	94	116	166	173	126	145	90	61	53	48	48
20	a85	101	113	170	168	145	129	94	64	50	47	48
21	a85	101	153	157	170	151	111	94	68	48	48	50
22	f84	99	910	160	170	129	108	88	64	48	47	51
23	84	99	1,460	157	173	121	106	86	63	47	47	54
24	74	101	1,420	160	166	124	99	80	63	50	45	53
25	78	99	1,320	157	163	121	94	80	59	50	44	53
26	78	101	880	151	166	113	94	82	56	44	47	51
27	82	103	220	140	163	108	92	84	61	45	48	51
28	82	103	200	151	151	129	90	84	61	48	50	48
29	86	103	186	160	-	151	90	80	59	51	50	54
30	106	103	183	157	-	352	90	76	63	48	47	118
31	96	-	183	137	-	715	-	72	-	48	45	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,451	106	59	79.1	4,860
November.....	2,968	113	84	98.8	5,880
December.....	9,305	1,460	101	300	18,460
Calendar year 1945.....	54,408	1,460	48	149	107,900
January.....	5,173	196	137	167	10,260
February.....	5,044	296	148	180	10,000
March.....	4,716	715	108	152	9,350
April.....	4,893	368	90	163	9,710
May.....	2,714	96	72	87.5	5,380
June.....	1,910	70	56	63.7	3,780
July.....	1,638	64	44	52.8	3,250
August.....	1,437	50	43	46.4	2,850
September.....	1,569	118	44	52.3	3,110
Water year 1945-46.....	43,818	1,460	43	120	86,900

a No gage-height record; discharge interpolated.

f Computed on basis of partly estimated gage-height record.

Santa Ana River near Prado, Calif.

Location.- Water-stage recorder, lat. 33°52'05", long. 117°40'20", in Lomas de Santiago Grant, at Riverside-Orange county line, in lower Santa Ana Canyon, 3 miles downstream from Prado Dam and 3 miles southwest of Prado, Riverside County. Altitude of gage, about 400 feet.

Records available.- January 1919 to November 1940; irrigation seasons, May to November, 1941, 1942, 1945, 1946.

Average discharge.- 21 years (1919-40), 145 second-feet.

Extremes.- 1919-46: Maximum discharge, 100,000 second-feet (estimated) Mar. 3, 1938 (gage height, 17.3 feet, site and datum then in use, from floodmarks in gage well); minimum, 25 second-feet Aug. 18, 1929, Aug. 24, 1936.

Remarks.- Records good. Diversions above station for irrigation. Flow regulated by Prado flood-control dam.

Cooperation.- Twenty discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, January to December 1946

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					94	72	62	51	50	75	80	152
2					93	71	61	53	52	75	81	146
3					94	69	61	49	48	72	77	-
4					93	69	63	52	51	78	77	-
5					90	68	62	52	50	69	84	-
6					88	68	63	54	52	66	89	-
7					91	68	65	53	51	84	92	-
8					88	67	61	54	55	64	152	-
9					89	69	62	53	57	85	133	-
10					94	69	61	52	57	63	97	-
11					94	71	58	49	56	61	106	-
12					91	74	57	49	53	61	205	-
13					91	69	57	50	53	62	314	†164
14					90	67	58	53	48	64	618	-
15			†173	†114	89	67	55	52	50	68	568	-
16					88	67	57	50	56	70	298	-
17					91	65	60	48	56	78	158	-
18		†161			88	65	59	52	50	78	149	-
19					88	64	62	52	48	75	152	-
20				†160	93	64	61	53	48	75	184	-
21					94	65	58	50	52	71	376	-
22					89	65	54	46	52	72	186	-
23					85	67	59	46	54	69	239	-
24					81	67	59	46	53	65	532	-
25					80	63	59	45	51	64	410	-
26					81	60	52	43	52	70	200	-
27					81	65	52	46	54	80	180	-
28					81	64	52	51	52	89	171	-
29					80	64	54	51	55	89	163	-
30					81	65	52	50	114	85	158	-
31					77	-	51	47	-	82	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
May.....	2,727	94	77	88.0	5,410
June.....	2,008	74	60	66.9	3,980
July.....	1,805	63	51	58.2	3,580
August.....	1,552	54	43	50.1	3,080
September.....	1,630	114	48	54.3	3,230
October.....	2,219	89	61	71.6	4,400
November.....	6,329	618	77	211	12,550
The period.....	-	-	-	-	36,230

† Result of discharge measurement.

Santa Ana River at Santa Ana, Calif.

Location.- Water-stage recorder, lat. 33°45'00", long. 117°54'20", in Las Bolsas Grant, 0.1 mile upstream from Fifth Street Bridge in Santa Ana, Orange County, and 2 miles downstream from Santiago Creek. Altitude of gage, about 80 feet. Auxiliary water-stage recorder on opposite bank.

Records available.- January 1923 to September 1946.

Average discharge.- 23 years, 27.7 second-feet.

Extremes.- Maximum discharge during year, 810 second-feet Dec. 22 (gage height, 2.20 feet); no flow for several months.

1923-46: Maximum discharge, 46,300 second-feet Mar. 3, 1938 (gage height, 10.20 feet), by slope-area method; no flow for several months each year.

Remarks.- Records poor. During irrigation season canal of Anaheim Union Water Co. and canal of Santa Ana Valley Irrigation Co. divert entire flow of river at points near Atwood, 19 and 16 miles, respectively, above station. Regulation by Prado flood-control dam 23 miles upstream. At times there are small amounts of return irrigation water from Santa Ana Valley Irrigation Co.'s drain at Ninth Street.

Cooperation.- Twenty-seven discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.1	0.2	1.0	36					
2			0	1.1	.1	.4	30					
3			0	1.1	2.2	f.1	a.4					
4			0	2.0	3.2	f.1	a.8					
5			0	.9	3.9	.1	a.8					
6			.3	2.4	f.9	.1	a.5					
7			.4	.4	0	0	a.2					
8			.4	1.4	f.1	.4	a.1					
9			.1	1.7	.2	.3	0					
10			.1	.7	.1	.3	0					
11			.4	.3	.2	.4	0					
12			.4	.8	0	.2	.2					
13			.4	.4	0	.1	.1					
14			.5	.7	0	0	.4					
15			.3	.5	.7	0	.6					
16			0	.6	1.1	.1	0					
17			0	.6	.7	0	.1					
18			.1	.6	.4	0	.1					
19			.2	3.7	0	0	.1					
20			.1	9.0	0	1.8	0					
21			.5	8.1	.1	3.0	0					
22			257	7.3	0	0	0					
23			310	.1	0	0	0					
24			207	0	0	0	.1					
25			196	0	.1	1.5	0					
26			f125	0	.1	9.0	.1					
27			a18	0	.2	7.3	0					
28			a2.0	0	.2	8.7	0					
29			f.6	.1	-	.1	.1					
30			.4	.2	-	16	0					
31			.4	1.1	-	106	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	1,120.6	310	0	36.1	2,220
Calendar year 1945.....	3,783.33	436	0	10.4	7,510
January.....	46.9	9.0	0	1.51	93
February.....	15.0	3.9	0	.54	30
March.....	157.0	106	0	5.06	311
April.....	74.3	36	0	2.48	147
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	1,413.8	310	0	3.87	2,800

a No gage-height record; discharge computed on basis of 3 discharge measurements, 1 observation of no flow, probable discharge recession curve, and interpolation.

f Computed on basis of partly estimated gage-height record.

Southern California Edison Co.'s canal and Greenspot pipe line near Mentone, Calif.

Location.- At Southern California Edison Co.'s power plant at mouth of canyon, lat. 34°08'20", long. 117°05'55", in SW $\frac{1}{4}$ sec. 4, T. 1 S., R. 2 W., 3 miles northeast of Mentone.

Records available.- 1896 to September 1946.

Average discharge.- Southern California Edison Co.'s canal, 44 years (1896-98, 1904-46), 51.9 second-feet. Greenspot pipe line, 35 years (1911-46), 5.94 second-feet.

Extremes.- Maximum daily canal discharge during year, 75 second-feet Sept. 13; no flow Oct. 25, Dec. 22-25.

1896-1946: Maximum daily canal discharge, 97 second-feet Mar. 16, 1905; no flow during short periods in nearly every year.

Remarks.- Intake of canal is in sec. 34, T. 1 N., R. 2 W., at Southern California Edison Co.'s power plant 2, which is 2.8 miles above the Mentone plant. Water is diverted from forebay of Mentone plant by Greenspot pipe line. As given in following tables, records for canal represent flow below forebay as computed from record of kilowatt output of power plant; records for pipe line represent diversion from forebay as computed from weir record at forebay. Sum of records represents total flow of canal above forebay.

Cooperation.- Records furnished by Southern California Edison Co.

Discharge, in second-feet, of Southern California Edison Co.'s canal near Mentone, Calif., water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	42	40	26	33	41	62	57	50	60	67	54
2	67	36	37	22	34	42	72	60	45	62	70	59
3	63	50	36	26	30	42	74	55	48	61	64	58
4	62	44	39	27	37	40	72	53	49	62	56	58
5	59	50	44	22	32	41	69	51	52	62	55	63
6	62	47	43	20	36	40	66	52	52	61	56	62
7	64	57	45	18	32	37	74	54	55	62	58	63
8	60	44	44	27	34	41	74	60	55	62	58	63
9	63	44	46	33	34	38	72	74	60	63	58	66
10	66	41	44	40	34	41	69	67	65	66	56	60
11	68	40	43	40	35	41	70	62	64	66	56	64
12	66	38	42	28	38	40	72	54	61	69	57	68
13	73	42	25	29	37	42	72	56	59	68	60	75
14	58	45	34	35	38	44	69	52	67	64	61	66
15	56	42	42	34	38	44	68	60	64	62	62	66
16	60	35	38	33	38	42	32	62	64	62	62	62
17	59	34	36	32	35	40	40	57	64	64	62	58
18	51	32	36	33	38	42	69	54	63	67	62	46
19	46	26	32	33	38	48	70	50	59	56	61	52
20	42	35	31	31	36	44	66	52	58	61	59	44
21	41	44	44	32	35	44	66	53	60	58	59	44
22	44	43	0	28	38	44	63	54	59	54	60	44
23	50	42	0	28	40	46	60	51	58	46	60	44
24	50	40	0	29	40	50	60	54	56	51	60	51
25	0	41	0	29	38	51	64	62	60	57	62	64
26	30	40	19	30	38	50	68	54	62	65	64	60
27	57	40	54	30	40	48	68	56	62	70	65	62
28	54	42	67	32	40	44	64	54	64	68	62	58
29	48	44	44	32	-	44	65	58	61	66	58	60
30	50	41	30	27	-	36	64	58	61	64	59	66
31	53	-	26	27	-	14	-	56	-	62	61	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,691	73	0	54.5	3,350
November.....	1,241	57	26	41.4	2,460
December.....	1,059	67	0	34.2	2,100
Calendar year 1945	19,989	84	0	54.8	39,640
January.....	913	40	18	29.5	1,810
February.....	1,016	40	30	36.3	2,020
March.....	1,301	51	14	42.0	2,580
April.....	1,974	74	32	65.8	3,920
May.....	1,752	74	50	56.5	3,480
June.....	1,757	67	45	58.6	3,480
July.....	1,921	70	46	62.0	3,810
August.....	1,870	70	55	60.3	3,710
September.....	1,760	75	44	58.7	3,490
Water year 1945-46	18,255	75	0	50.0	36,210

SANTA ANA RIVER BASIN

Discharge, in second-feet, of Greenspot pipe line near Mentone, Calif., water year October 1945
to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
2	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
3	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
4	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
5	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
6	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
7	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
8	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
9	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
10	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
11	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
12	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
13	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
14	9.0	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
15	9.0	9.0	7.4	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
16	9.0	9.0	6.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
17	9.0	9.0	6.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
18	9.0	9.0	6.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
19	9.0	9.0	6.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
20	9.0	9.0	6.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
21	9.0	9.0	4.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
22	9.0	9.0	0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0
23	9.0	9.0	0	6.0	6.0	3.0	6.0	9.0	9.0	9.0	9.0	9.0
24	9.0	9.0	0	6.0	6.0	0	6.0	9.0	9.0	9.0	9.0	9.0
25	9.0	9.0	0	6.0	6.0	0	6.0	9.0	9.0	9.0	9.0	9.0
26	9.0	9.0	2.2	6.0	6.0	0	7.5	9.0	9.0	9.0	9.0	9.0
27	9.0	9.0	6.0	6.0	6.0	3.0	9.0	9.0	9.0	9.0	9.0	9.0
28	9.0	9.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0	9.0
29	9.0	9.0	6.0	6.0	-	6.0	4.5	9.0	9.0	9.0	9.0	9.0
30	9.0	9.0	6.0	6.0	-	6.0	0	9.0	9.0	9.0	9.0	9.0
31	9.0	-	6.0	6.0	-	1.5	-	9.0	-	9.0	9.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	279.0	9.0	9.0	9.00	553
November.....	270.0	9.0	9.0	9.00	536
December.....	199.6	9.0	0	6.44	396
Calendar year 1945	2,643.6	9.0	0	7.24	5,240
January.....	186.0	6.0	6.0	6.00	369
February.....	168.0	6.0	6.0	6.00	333
March.....	157.5	6.0	0	5.08	312
April.....	180.0	9.0	0	6.00	357
May.....	279.0	9.0	9.0	9.00	553
June.....	270.0	9.0	9.0	9.00	536
July.....	279.0	9.0	9.0	9.00	553
August.....	279.0	9.0	9.0	9.00	553
September.....	270.0	9.0	9.0	9.00	536
Water year 1945-46	2,817.1	9.0	0	7.72	5,590

Mill Creek near Mentone, Calif.

Location.- Water-stage recorder and concrete broad-crested weir, lat. 34°05'10", long. 117°06'55", in SE¼NW¼ sec. 17, T. 1 S., R. 2 W., at Bear Valley pipe-line crossing, 0.2 mile upstream from mouth, 1.5 miles northeast of Mentone, and 5 miles southeast of East Highlands. Altitude of gage, about 1,780 feet.

Records available.- February 1939 to September 1946.

Extremes.- Maximum discharge during year, 1,500 second-feet Dec. 23, by slope-area method; no flow during several months.

1939-46: Maximum discharge, that of Dec. 23, 1945; no flow during several periods each year.

Remarks.- Records poor. Mill Creek power canals 1, 2 and 3 divert above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0.3	0.5	0.2	0	0	4.1	1.2	e0.03	0	0	
2	.3	.3	.4	.7	0	0	0	1.0		.1	0	
3	.4	.2	.3	3.5	.7	0	0	0.6		0	0	
4	.4	.3	.1	4.5	.4	0	0	.8		0	0	
5	.4	.3	.2	4.8	.5	0	0	.8		0	0	
6	.3	.4	.3	5.2	.2	0	.6	.4		0	0	
7	6.2	.5	.2	4.3	.1	0	6.4	.1		0	0	
8	5.0	.3	.2	1.4	.1	0	6.0	.1		0	0	
9	1.0	.2	.2	.8	.1	0	4.5	.1		0	0	
10	.8	.2	.2	.5	.1	0	1.1	.1		0	0	
11	.5	.2	.3	.4	0	0	.5	0	0	0		
12	.3	.1	.2	.3	0	0	.1	0	0	0		
13	.3	.1	.3	.2	0	0	0	0	0	0		
14	.3	.1	.2	.1	0	0	0	0	0	0		
15	.3	.2	.2	0	0	0	0	0	0	0		
16	.3	.5	.2	0	0	0	0	0	e0.03	0	0	
17	.3	.3	.5	0	0	0	0	0		0	0	
18	.3	.1	.2	0	0	0	0	0		0	0	
19	.3	.1	.1	6.6	0	0	0	0		0	0	
20	.3	.1	.1	4.6	0	0	0	0		0	0	3.0
21	.3	.3	13	.3	0	0	0	0	0	0	8.5	
22	.3	.3	380	.4	0	0	0	.6	0	0	8.5	
23	.3	.2	550	.6	0	0	0	.4	0	4.6	3.0	
24	.3	.1	40	.2	0	0	0	.2	0	20	0	
25	.3	.2	17	.1	0	0	.5	.1	0	13	0	
26	.5	.2	10	.1	0	0	3.6	0	0	11	0	
27	.3	.2	3.0	.1	0	0	2.6	0	0	10	0	
28	.3	.2	2.5	0	0	0	1.7	0	0	6.3	0	
29	.4	.2	2.0	0	-	0	1.6	0	0	0	0	
30	.4	.1	1.5	0	-	.4	1.2	0	0	.2	0	
31	.4	-	1.0	0	-	8.0	-	0	0	.1	0	
Month						Second-foot-days	Maximum	Minimum		Mean	Runoff in acre-feet	
October.....						19.9	6.2	0.3		0.64	39	
November.....						7.1	.5	.1		.24	14	
December.....						1,024.6	550	.1		33.1	2,030	
Calendar year 1945						1,618.4	550	0		4.43	3,210	
January.....						39.6	6.6	0		1.28	79	
February.....						2.2	.7	0		.08	4.4	
March.....						8.4	8.0	0		.27	17	
April.....						34.5	6.4	0		1.15	68	
May.....						6.5	1.2	0		.21	13	
June.....						.90	(e)	-		.03	1.8	
July.....						65.3	20	0		2.11	130	
August.....						23.0	8.5	0		.74	46	
September.....						0	0	0		0	0	
Water year 1945-46						1,232.00	550	0		3.38	2,440	

Peak discharge.- Dec. 23 (about 9:30 a.m.) 1,500 sec.-ft.; July 24 (3 p.m.) 60 sec.-ft.

e Maximum daily discharge during June less than 0.05 sec.-ft.

Note.- Doubtful or no gage-height record Oct. 8-29, Dec. 23 to Jan. 1, Apr. 2-5, 10-24, Apr. 30 to May 6, May 23 to June 30, July 29-31, Aug. 7-28; discharge computed on basis of interpolation, weather records, normal recession curves, recorded range in stage, and record of diversions to Mill Creek power canals 1, 2 and 3.

Mill Creek power canals 2 and 3 near Craftonville, Calif.

Location.- Weir in tailrace of Southern California Edison Co.'s power plant, lat. 34°05'10", long. 117°02'25", in NE 1/4 sec. 13, T. 1 S., R. 2 W., near Redlands-Bear Valley highway, 5 miles northeast of Craftonville.

Records available.- January 1919 to September 1946.

Average discharge.- 27 years, 21.9 second-feet.

Extremes.- Maximum daily discharge during year, 32 second-feet May 6, 7, 9-27, June 1-6 no flow Dec. 23-25.

1919-46: Maximum daily discharge, 36 second-feet Nov. 19, 1923, June 7, 1924; no flow at times during 1923, 1937-40, 1943, 1945, 1946.

Remarks.- Discharge computed from weir records at tailrace of power plant. Mill Creek power canal 2 diverts from Mill Creek in sec. 8, T. 1 S., R. 1 W.; power canal 3 diverts in sec. 13, T. 1 S., R. 1 W., 3 miles above intake for canal 2. The canals serve power plants 2 and 3, which discharge into a common tailrace. At times entire flow of tailrace is distributed for irrigation and domestic supply.

Cooperation.- Records furnished by Southern California Edison Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	22	21	15	23	21	23	27	32	27	28	24
2	22	22	21	15	23	21	24	29	32	27	26	24
3	21	22	21	17	23	21	22	29	32	27	26	23
4	21	22	20	19	23	21	24	29	32	26	26	24
5	21	22	20	22	24	21	22	31	32	27	25	23
6	21	22	20	20	24	21	24	32	32	27	25	23
7	22	22	20	21	23	20	25	32	31	26	26	22
8	21	22	20	20	23	20	28	31	31	26	24	23
9	23	22	20	21	23	22	28	32	31	26	24	22
10	22	22	20	22	23	24	28	32	31	26	25	22
11	22	22	20	22	23	24	29	32	31	26	24	22
12	22	22	20	23	23	24	28	32	31	29	25	22
13	22	22	20	23	23	24	29	32	31	29	25	22
14	22	22	20	23	23	23	30	32	31	29	25	22
15	22	22	20	23	23	26	28	32	30	28	24	22
16	23	22	20	22	23	25	28	32	30	27	24	22
17	23	22	20	23	23	24	27	32	30	26	25	22
18	22	22	20	23	22	25	26	32	30	26	25	22
19	22	22	20	23	22	25	27	32	30	28	24	22
20	22	22	20	23	22	24	29	32	30	31	27	21
21	22	22	27	23	21	24	29	32	30	28	26	21
22	22	22	2.8	23	21	22	29	32	28	29	9.2	19
23	22	22	0	23	21	22	29	32	28	16	9.0	18
24	23	22	0	23	21	22	28	32	28	3.1	21	21
25	22	21	0	23	21	22	28	32	28	8.0	25	21
26	22	21	4.2	23	21	24	28	32	27	6.9	25	19
27	22	21	8.4	23	21	25	27	32	29	6.2	24	20
28	22	21	8.8	23	21	25	27	29	29	16	24	20
29	22	21	12	23	-	25	27	31	28	29	24	17
30	25	21	13	23	-	23	27	31	28	28	23	26
31	23	-	13	23	-	12	-	31	-	27	24	-
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October.....				685		25	21	22.1	1,360			
November.....				654		22	21	21.8	1,300			
December.....				492.2		27	0	15.9	976			
Calendar year 1945.....				9,336.2		32	0	25.6	18,540			
January.....				673		23	15	21.7	1,330			
February.....				627		24	21	22.4	1,240			
March.....				702		26	12	22.6	1,390			
April.....				608		29	22	25.9	1,600			
May.....				970		30	27	31.3	1,920			
June.....				903		32	27	30.1	1,790			
July.....				741.2		31	3.1	23.9	1,470			
August.....				736.2		28	9.0	23.7	1,460			
September.....				651		26	17	21.7	1,290			
Water year 1945-46.....				8,642.6		32	0	23.7	17,130			

Mill Creek power canal 1 near Craftonville, Calif.

Location.- Water-stage recorder and weir control, lat. 34°05'10", long. 117°02'25", in NE $\frac{1}{4}$ sec. 13, T. 1 S., R. 2 W., 0.2 mile downstream from point of diversion from Mill Creek and 5 miles northeast of Craftonville.

Records available.- January 1919 to September 1946.

Average discharge.- 27 years, 3.01 second-feet.

Extremes.- Maximum daily discharge during year, 7.5 second-feet May 26; no flow for several days in many months.

1919-46: Maximum daily discharge, 29 second-feet Apr. 21, 22, 1932; no flow for several days in most years.

Remarks.- Records good. Discharge determined by weir formula. This canal diverts from Mill Creek in NE $\frac{1}{4}$ sec. 13, T. 1 S., R. 2 W., above station on Mill Creek near Montone. After passing through Mill Creek powerhouse 1, entire flow is at times distributed for irrigation and domestic supply.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	1.4	1.0	0	3.4	3.0	0	0	5.2	3.0	0	0.8
2	2.3	1.2	1.2	3.3	3.4	3.0	1.3	1.0	4.7	2.8	1.1	.5
3	2.2	1.0	1.0	7.3	3.5	3.1	3.5	1.0	4.7	2.8	2.2	.1
4	2.3	.9	.9	6.2	2.7	3.1	4.0	0	4.3	2.8	2.2	.1
5	2.5	1.0	1.0	6.0	4.0	3.1	3.4	0	4.3	3.1	2.2	.7
6	2.5	1.7	1.2	4.0	3.8	3.1	2.2	0	4.5	3.1	2.3	.8
7	1.6	2.8	1.0	4.5	3.8	3.0	1.9	0	4.5	3.0	2.1	.8
8	1.6	2.3	1.0	5.1	3.6	3.0	3.4	0	4.5	2.8	1.2	.7
9	3.8	2.1	1.2	4.5	3.8	3.1	3.4	0	4.1	2.8	1.2	.6
10	3.0	1.9	1.0	4.9	3.8	3.4	4.3	0	3.6	2.8	1.7	.6
11	1.5	1.9	1.3	4.3	4.0	3.6	3.1	0	3.6	2.1	2.2	.5
12	1.3	1.9	1.7	3.1	3.8	3.4	3.3	.8	3.6	2.4	2.1	.5
13	1.0	1.7	1.5	3.4	3.6	4.1	3.6	4.2	3.3	3.0	1.9	.5
14	.9	1.4	1.5	3.8	3.8	3.8	3.8	5.1	3.1	2.6	1.9	.5
15	.8	1.4	1.4	3.6	3.6	3.8	4.0	6.0	3.0	2.3	1.8	.5
16	1.0	1.4	1.3	3.4	3.8	3.6	5.2	6.6	2.8	2.3	1.5	.6
17	1.0	1.3	1.2	3.8	3.6	3.4	6.3	FS.2	2.8	2.3	1.4	.6
18	.9	1.0	.9	3.8	3.6	3.3	7.1	FS.6	2.8	3.4	1.2	.5
19	.9	.9	.9	4.0	3.6	5.1	2.4	FS.3	2.6	2.1	1.2	.5
20	.9	.8	.9	3.8	3.6	6.2	0	FS.2	2.6	2.5	.8	.5
21	.7	.7	.8	3.6	3.4	5.4	0	4.6	3.0	3.1	0	.5
22	.6	.7	.1	3.8	3.3	4.3	0	6.9	3.0	3.0	0	.5
23	.6	.6	0	3.6	3.1	3.6	FS.8	6.9	3.0	1.7	0	.3
24	.6	.6	0	3.6	3.1	3.6	2.6	7.1	3.1	0	0	.4
25	.7	.6	0	3.6	3.3	3.3	.3	6.6	3.1	0	0	.3
26	.7	.5	0	3.6	3.3	3.3	0	7.5	3.3	0	0	.3
27	1.0	.5	0	3.6	3.1	3.4	0	7.1	4.5	0	0	.3
28	1.3	.6	0	3.6	3.1	4.5	0	6.0	4.0	0	0	.3
29	1.4	.8	0	3.6	-	4.1	0	3.4	3.6	0	.1	.3
30	1.7	.9	0	3.6	-	1.8	0	4.9	3.1	.2	0	.2
31	1.5	-	0	3.4	-	0	-	5.1	-	0	-.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	44.1	3.0	0.6	1.42	87
November.....	36.5	2.8	.5	1.22	72
December.....	24.0	1.7	0	.77	48
Calendar year 1945.....	1,178.7	14	0	3.23	2,340
January.....	122.2	7.3	0	3.94	242
February.....	98.5	4.0	2.7	3.52	195
March.....	108.5	6.2	0	3.50	215
April.....	69.9	7.1	0	2.33	139
May.....	112.1	7.5	0	3.62	222
June.....	108.3	5.2	2.6	3.61	215
July.....	82.0	3.4	0	2.00	123
August.....	32.5	2.3	0	1.05	64
September.....	14.4	.8	.1	.48	29
Water year 1945-46.....	833.0	7.5	0	2.28	1,650

f Computed on basis of partly estimated gage-height record.

Plunge Creek near East Highlands, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°07'10", long. 117°08'30", in NE 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. Altitude of gage, about 1,625 feet.

Drainage area.- 16.9 square miles.

Records available.- January 1919 to September 1946.

Average discharge.- 27 years, 6.88 second-feet.

Extremes.- Maximum discharge during year, 1,200 second-feet Dec. 23 (gage height, 2.50 feet); no flow during several months.

1919-46: Maximum discharge, 5,340 second-feet Mar. 2, 1938, by slope-area method; no flow for long periods each year.

Remarks.- Records good below 100 second-feet and fair above. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	6.4	0	0.1	32	0.3				
2		0	0	5.8	0	.1	29	0				
3		0	0	6.7	2.8	.2	22	0				
4		0	0	5.5	4.6	.2	18	0				
5		0	0	5.3	2.6	0	16	0				
6		0	0	4.8	2.3	0	17	0				
7		.4	0	3.1	2.2	0	22	0				
8		0	.1	1.7	2.1	0	16	0				
9		0	.1	1.5	1.9	.4	15	0				
10		0	.1	1.4	1.9	1.2	13	0				
11		0	.1	1.5	2.3	1.3	11	0				
12		0	.8	1.8	2.2	1.3	11	0				
13		0	0	1.9	2.1	1.4	10	0				
14		0	0	1.7	1.5	.9	9.6	0				
15		0	.1	1.8	.6	0	9.1	0				
16		0	.1	2.0	.7	0	8.2	0				
17		0	.1	1.3	.7	0	7.8	0				
18		0	.1	1.2	.7	0	7.0	0				
19		0	0	1.2	.6	.7	6.4	0				
20		0	0	1.2	.6	1.8	6.1	0				
21		0	.3	1.1	.7	2.2	5.5	0				
22		0	320	1.0	.3	1.6	1.4	0				
23		0	400	.9	.2	1.8	1.4	0				
24		0	50	a.8	.1	1.9	.9	0				
25		0	19	a.7	.1	1.8	.6	0				
26		0	13	a.6	.1	1.6	.6	0				
27		0	11	a.5	.1	1.6	.6	0				
28		0	10	a.4	.1	2.9	.7	0				
29		0	9.1	a.3	-	4.1	.6	0				
30		0	7.8	a.2	-	98	.5	0				
31		-	7.0	.1	-	133	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	.4	.4	0	.01	.8
December.....	848.8	400	0	27.4	1,680
Calendar year 1945.....	3,033.5	400	0	8.31	6,020
January.....	64.4	6.7	.1	2.08	128
February.....	34.1	4.6	0	1.22	68
March.....	260.1	133	0	8.39	516
April.....	301.0	32	.5	10.0	597
May.....	.3	.3	0	.01	.6
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	1,509.1	400	0	4.13	2,990

Peak discharge.- Dec. 22 (9:30 p.m.) 860 sec.-ft.; Dec. 23 (9 a.m.) 1,200 sec.-ft.; Mar. 30 (5:30 p.m.) 340 sec.-ft.

a No gage-height record; discharge interpolated.

San Timoteo Creek near Redlands, Calif.

Location.- Water-stage recorder and concrete control, lat. 34°01'55", long. 117°12'30", in NW 1/4 sec. 4, T. 2 S., R. 3 W., 2 miles southwest of Redlands. Altitude of gage, about 1,260 feet.

Drainage area.- 123 square miles.

Records available.- October 1926 to September 1946.

Average discharge.- 20 years, 2.00 second-feet.

Extremes.- Maximum discharge during year, 1,100 second-feet Dec. 23 (gage height, 3.75 feet); no flow during most of year.
1926-46: Maximum discharge, 7,460 second-feet Mar. 2, 1938, by slope-area method; no flow during several months each year.

Remarks.- Records fair. Entire low flow normally diverted above station for irrigation. Occasionally slight amounts of unmeasured irrigation waste water flows past this station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0		0	0.1			0		0
2	0		0	.1		0	.5			0		0
3	0		0	.1		0	0			0		0
4	0		0	0		0	0			0		0
5	0		0	.2		0	0			0		0
6	0		0	0		0	.4			0		0
7	a.1		0	0		0	1.5			0		0
8	0		0	0		0	0			0		0
9	0		0	0		0	0			0		0
10	0		0	0		0	0			0		0
11	0		0	0		0	0			0		0
12	0		.1	0		0	0			0		0
13	0		.1	0		0	0			0		0
14	0		.3	0		0	0			0		0
15	0		.1	0		0	0			0		0
16	0		.1	0		0	0			0		0
17	0		0	0		0	0			0		0
18	0		0	0		0	0			0		0
19	0		0	0		0	0			0		0
20	0		0	0		0	0			0		0
21	0		0	0		0	0			0		0
22	0		130	0		0	0			0		0
23	0		175	0		0	0			.6		0
24	0		1	0		0	0			.1		0
25	0		0	0		0	0			0		0
26	0		0	0		0	0			.1		0
27	0		0	0		0	0			0		0
28	0		0	0		0	0			0		0
29	0		0	0		0	0			0		0
30	0		0	0		1.0	0			0		0
31	0		.1	0		7.0	-			0		.3
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0.1	0.1	0	0.003	0.2		
November.....						0	0	0	0	0		
December.....						306.8	175	0	9.90	609		
Calendar year 1945						493.9	175	0	1.35	980		
January.....						.4	.2	0	.01	.8		
February.....						0	0	0	0	0		
March.....						8.0	7.0	0	.26	16		
April.....						2.5	1.5	0	.08	5.0		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						.8	.6	0	.03	1.6		
August.....						0	0	0	0	0		
September.....						.3	.3	0	.01	.6		
Water year 1945-46						318.9	175	0	.87	633		

a No gage-height record except peak stage; discharge computed on basis of this and probable duration.

Warm Creek near Colton, Calif.

Location.- Water-stage recorder, lat. 34°04'00", long. 117°18'30", in San Bernardino Grant, at Colton Avenue Bridge, 0.4 mile upstream from mouth and 1.2 miles east of Colton, San Bernardino County. Altitude of gage, about 970 feet.

Records available.- August 1920 to September 1946.

Average discharge.- 26 years, 54.0 second-feet. Average combined discharge of Warm Creek and Meeks & Daley Canal: 26 years, 64.8 second-feet.

Extremes.- Maximum discharge during year, 2,900 second-feet Dec. 23; maximum gage height, 6.13 feet Dec. 22; minimum daily discharge, 36 second-feet Aug. 25.

1920-46: Maximum discharge, 27,500 second-feet Mar. 2, 1938 (gage height, 11.2 feet), by slope-area method; minimum, 2.0 second-feet Sept. 8, 1936.

Remarks.- Records fair except those for days of faulty gage-height record, which are poor. See p. 69 for records of Meeks & Daley Canal near Colton, which diverts above station, and pp. 57, 58 for records of combined flow of canal and Warm Creek. City of San Bernardino sewage disposal plant discharged 6,800 acre-feet into Warm Creek above station during year. In seasons of high water table there is flow in a depression about 500 feet east of and paralleling Warm Creek; based on 19 measurements (see p. 420). the amount of runoff during year is estimated to have been 530 acre-feet. During greater part of year low stage flow of Warm Creek passing this station is diverted into Riverside Water Co.'s canal (capacity, 100 second-feet) 0.3 mile downstream. Lytle Creek flood channel, completed in fall of 1945, flows into Warm Creek upstream from gaging station and includes any flow which formerly might have been recorded at station on Lytle Creek (west channel).

Revisions.- Revised figures of combined discharge of Warm Creek and Meeks & Daley Canal for water years 1944 and 1945, superseding those published in Water-Supply Papers 1011 and 1041, are given herein.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	70	45	81	62	81	95	65	56	145	45	37
2	51	75	42	84	64	81	120	67	55	45	46	37
3	50	62	43	88	118	90	93	71	55	45	44	38
4	50	50	45	84	83	80	95	71	55	45	42	38
5	51	41	47	81	81	78	93	68	53	44	41	37
6	50	45	48	72	78	74	94	66	53	44	42	38
7	51	50	48	73	78	72	97	68	53	44	44	37
8	52	50	50	73	78	71	89	68	52	44	43	37
9	53	50	48	72	78	71	85	68	52	45	43	38
10	55	50	51	72	76	61	81	71	51	42	42	40
11	56	50	53	70	74	62	80	71	51	43	41	42
12	56	50	56	70	72	62	78	73	50	43	42	38
13	56	50	53	70	69	70	76	71	50	41	41	38
14	53	47	53	72	70	72	74	70	50	41	41	38
15	52	46	52	70	70	69	74	68	48	41	40	37
16	48	45	51	72	73	81	72	66	49	41	38	37
17	50	43	51	73	65	83	72	66	48	41	37	38
18	51	43	50	72	71	83	71	65	49	43	37	37
19	50	46	48	73	69	91	71	63	48	49	38	37
20	48	47	47	73	69	97	71	66	48	49	38	37
21	48	46	1133	73	72	76	67	65	48	46	38	37
22	48	45	1850	72	71	64	67	68	48	46	38	38
23	45	45	1715	70	72	64	64	65	46	45	38	39
24	40	43	1120	69	74	61	61	63	46	46	37	39
25	41	42	108	67	81	61	61	62	46	45	36	39
26	40	45	99	66	81	57	61	62	46	42	37	40
27	40	43	90	64	83	61	61	60	45	41	37	40
28	40	46	81	63	83	78	61	59	46	40	41	39
29	52	45	80	62	-	61	61	59	46	41	39	39
30	47	45	80	60	-	327	62	57	46	42	39	52
31	68	-	81	60	-	161	-	56	-	43	39	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	Inflow in acre-feet†
October	1,535	68	40	49.5	3,040	570
November	1,453	73	41	48.4	2,880	546
December	3,418	850	42	110	6,780	578
Calendar year 1945	26,405	850	40	72.3	52,360	7,000
January	2,221	88	60	71.6	4,410	569
February	2,115	118	62	75.5	4,200	506
March	2,600	327	57	83.9	5,160	584
April	2,307	120	61	76.9	4,590	617
May	2,038	73	56	65.7	4,040	591
June	1,489	56	45	49.6	2,950	575
July	1,350	49	40	43.5	2,680	573
August	1,244	46	36	40.1	2,470	572
September	1,158	52	37	38.6	2,300	521
Water year 1945-46	22,928	850	36	62.8	45,490	6,800

Peak discharge.- Dec. 22 (about 4:30 a.m.) 1,800 sec.-ft.; Dec. 23 (8:30 a.m.) 2,900 sec.-ft.; Feb. 3 (5 p.m.) 385 sec.-ft.; Mar. 30 (12:30 p.m.) 1,200 sec.-ft.

† Discharge from sewage-disposal plant of city of San Bernardino; included in figures given in preceding columns. Records furnished by that city.

f Computed on basis of fragmentary gage-height record, recorded range in stage, 1 discharge measurement, gage-height record for San Bernardino County station at Mill Street, probable recession curve, and interpolation of combined flow of Warm Creek and Meeks & Daley Canal.

Note.- No gage-height record Feb. 7-14, July 2-11; doubtful gage-height record June 16-30; discharge computed on basis of 2 discharge measurements and interpolation of combined records of Warm Creek and Meeks & Daley Canal.

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Combined discharge, in second-feet, of Warm Creek and Weeks & Daley Canal near Colton, Calif., 1943-46
1943-44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	51	64	85	87	236	136	108	67	76	68	69
2	44	53	62	84	87	355	125	114	69	76	71	68
3	45	55	63	83	85	154	114	104	72	80	71	68
4	45	58	63	81	114	151	110	96	63	79	69	68
5	44	58	64	80	85	151	108	88	65	80	67	70
6	44	57	76	92	81	151	104	84	63	82	66	72
7	44	54	65	78	80	154	106	81	63	79	68	72
8	43	57	65	76	87	148	108	75	66	83	68	73
9	46	56	66	76	87	139	112	66	66	79	67	75
10	41	58	143	76	80	131	110	67	65	81	68	76
11	43	59	381	76	80	121	102	69	63	80	73	77
12	40	59	100	76	80	121	102	70	67	78	73	77
13	43	59	80	76	81	145	100	73	67	80	68	75
14	42	57	73	78	83	131	98	70	70	78	71	73
15	43	58	67	80	101	128	98	76	75	76	72	73
16	44	59	63	80	83	123	92	78	72	75	72	68
17	43	59	57	81	93	114	88	78	76	73	73	68
18	88	62	59	83	87	111	90	75	76	76	68	68
19	61	60	57	80	83	121	86	73	70	75	67	67
20	52	60	54	80	105	128	86	72	83	77	64	64
21	54	63	242	80	184	121	80	70	89	77	65	61
22	55	63	130	80	1,040	121	78	72	85	77	63	59
23	56	67	105	95	238	123	77	75	89	77	61	55
24	54	61	96	101	191	126	76	75	86	79	61	56
25	56	58	91	85	150	128	71	73	82	79	63	57
26	55	59	88	83	266	131	74	70	82	77	65	57
27	56	59	86	85	242	131	161	68	85	73	65	58
28	53	60	88	85	246	134	128	62	79	76	65	59
29	56	61	92	87	236	131	124	63	81	73	66	60
30	55	61	93	87	-	142	110	67	76	71	66	61
31	53	-	92	85	-	145	-	66	-	71	67	-

1944-45

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	61	74	73	160	88	105	86	76	79	76	75
2	59	59	87	79	333	83	100	85	78	81	76	73
3	59	57	73	76	150	81	102	85	76	79	75	75
4	58	55	71	77	120	140	107	85	80	76	75	87
5	61	124	70	76	110	116	113	92	83	72	73	76
6	59	92	69	78	104	109	111	87	82	70	75	75
7	58	81	70	76	98	103	109	89	82	70	73	75
8	59	81	71	76	92	101	106	88	82	75	71	82
9	59	84	70	76	84	95	134	90	82	76	73	75
10	59	148	69	75	79	89	132	90	82	79	73	76
11	59	176	71	75	78	83	130	86	83	78	73	74
12	60	160	69	75	77	83	129	85	81	76	72	71
13	59	140	66	72	76	89	128	82	81	78	70	71
14	60	120	63	75	75	99	124	82	81	76	71	71
15	61	91	65	77	75	300	120	78	81	75	71	72
16	56	81	68	78	78	147	119	75	82	75	70	71
17	54	77	69	75	81	140	110	74	79	76	72	75
18	54	77	70	76	84	116	107	72	80	75	115	75
19	56	76	70	87	86	97	102	71	80	76	84	77
20	53	73	67	75	88	91	96	71	83	75	82	80
21	56	68	70	72	86	160	89	70	88	74	82	77
22	56	70	71	73	86	141	90	71	88	71	90	77
23	56	73	77	72	92	171	89	69	85	72	76	77
24	58	73	77	75	94	121	85	70	84	74	74	75
25	57	74	80	75	88	113	84	70	82	75	74	67
26	59	76	80	72	84	126	87	67	81	75	71	66
27	55	77	80	71	90	121	84	67	82	75	74	64
28	54	76	100	69	102	118	78	71	81	72	76	61
29	56	74	102	72	-	116	78	73	82	70	76	60
30	60	79	77	70	-	114	82	75	82	71	74	59
31	59	-	76	75	-	112	-	77	-	75	75	-

Combined discharge, in second-feet, of Warm Creek and Meeks & Daley Canal near Colton, Calif.,
1943-46--Continued

1945-46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	78	64	82	69	81	95	84	75	64	61	56
2	71	77	61	85	71	81	120	86	74	64	62	57
3	70	87	82	89	124	90	93	90	74	64	60	58
4	70	80	84	85	83	80	95	90	74	64	58	57
5	70	80	65	82	81	78	93	87	72	63	57	56
6	69	64	65	73	78	78	94	85	72	63	58	58
7	71	69	65	74	78	77	97	87	72	63	60	56
8	71	69	67	74	78	78	89	87	71	63	59	56
9	72	69	64	73	78	84	85	87	71	62	59	58
10	75	69	67	74	78	80	61	90	71	62	58	60
11	75	68	70	73	77	81	80	90	70	62	56	62
12	75	68	72	73	77	81	78	92	69	62	57	57
13	75	68	69	71	77	89	77	90	69	60	56	57
14	72	65	69	73	77	90	76	89	69	60	56	57
15	71	64	68	72	77	87	75	87	68	60	58	56
16	68	63	67	74	80	100	75	85	68	60	57	56
17	70	61	67	74	72	101	75	85	68	61	56	57
18	71	61	67	72	78	100	73	84	68	63	56	56
19	69	64	66	73	76	108	73	83	67	69	58	56
20	67	55	65	73	76	115	73	85	67	68	57	56
21	67	64	141	73	77	93	69	84	67	65	57	56
22	63	65	850	72	73	61	87	87	67	65	57	57
23	64	63	715	71	74	82	74	84	66	64	58	58
24	59	61	120	72	75	80	80	82	66	66	56	58
25	60	61	108	72	81	79	80	81	66	64	55	58
26	59	63	100	74	81	76	81	81	66	61	56	59
27	59	62	91	71	83	80	81	79	65	60	57	59
28	59	62	92	70	83	97	80	78	65	60	61	58
29	71	64	81	69	-	80	77	81	65	61	58	58
30	66	64	81	67	-	334	61	75	65	62	58	71
31	86	-	82	67	-	161	-	74	-	60	59	-

Monthly discharge, in second-feet, of Warm Creek and Meeks & Daley Canal near Colton, Calif., 1943-46

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1943	1,543	88	40	49.8	3,063
November	1,761	67	51	58.7	3,490
December	2,925	381	54	94.4	5,800
Calendar year 1943	33,274	1,920	40	91.2	66,000
January 1944	2,554	101	76	82.4	5,070
February	4,542	1,040	80	162	9,010
March	4,446	355	111	143	8,820
April	3,054	161	71	102	6,060
May	2,376	114	62	76.6	4,710
June	2,210	89	53	73.7	4,380
July	2,393	83	71	77.2	4,750
August	2,091	73	61	67.5	4,150
September	2,004	77	55	66.8	3,970
Water year 1943-44	31,899	1,040	40	87.2	63,270
October 1944	1,790	61	53	57.7	3,550
November	2,653	176	55	88.4	5,260
December	2,292	102	63	73.9	4,550
Calendar year 1944	32,405	1,040	53	88.5	64,280
January 1945	2,323	87	69	74.9	4,610
February	2,850	333	75	102	5,650
March	3,663	300	81	118	7,270
April	3,130	134	78	104	6,210
May	2,433	92	67	78.5	4,850
June	2,449	88	76	81.6	4,860
July	2,321	81	70	74.9	4,600
August	2,352	115	70	75.9	4,670
September	2,189	87	59	73.0	4,340
Water year 1944-45	30,445	333	53	83.4	60,400
October 1945	2,132	86	59	68.8	4,230
November	1,959	78	60	65.3	3,890
December	3,775	850	61	122	7,490
Calendar year 1945	31,113	850	57	85.2	61,720
January 1946	2,297	89	67	74.1	4,560
February	2,212	124	69	79.0	4,390
March	3,002	334	76	96.8	5,950
April	2,473	120	69	82.4	4,910
May	2,625	92	74	84.7	5,210
June	2,067	75	65	68.9	4,100
July	1,945	69	60	62.7	3,860
August	1,791	62	55	57.8	3,550
September	1,734	71	56	57.8	3,440
Water year 1945-46	28,012	850	55	76.7	55,580

Strawberry Creek near Arrowhead Springs, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°10'45", long. 117°15'55", in SE $\frac{1}{4}$ sec. 11, T. 1 N., R. 4 W., upstream from Del Rosa Water Co.'s lower diversion dam and 0.5 mile south of Arrowhead Springs. Altitude of gage, about 1,650 feet.

Drainage area.- 8.6 square miles.

Records available.- December 1919 to September 1946.

Average discharge.- 26 years (1920-46), 5.16 second-feet.

Extremes.- Maximum discharge during year, 575 second-feet Dec. 23 (gage height, 4.28 feet); minimum daily discharge, 0.3 second-foot several days in August.

1919-46: Maximum discharge, 3,360 second-feet Mar. 2, 1938, by rainfall-runoff studies; practically no flow at times during 1929, 1931-35.

Remarks.- Records good below 10 second-feet and fair above. One small diversion above station for domestic supply.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	2.1	1.8	4.1	3.4	2.8	17	3.4	2.5	1.3		
2	1.2	1.7	1.8	4.1	3.6	2.6	18	3.4	2.6	1.2	0.3	0.6
3	1.2	1.5	1.6	5.6	7.3	2.6	14	3.4	2.3	1.1	.3	.5
4	1.2	1.5	f1.7	4.6	5.8	2.5	10	3.6	2.2	1.3	.3	.5
5	1.2	1.6	al.7	4.7	4.4	2.5	9.2	3.4	2.2	1.3	.5	.5
6	1.6	2.1	al.6	4.2	3.6	2.5	9.2	3.0	2.3	1.1	.4	.5
7	1.6	2.6	al.6	4.3	3.1	2.3	9.6	2.6	2.3	1.3	.5	.6
8	1.5	1.9	al.6	4.6	3.1	2.2	8.8	2.8	2.3	1.0	.5	.8
9	1.5	1.8	al.5	4.4	3.0	2.1	8.3	3.4	2.6	.9	.4	.8
10	1.4	1.7	f1.5	4.4	3.0	2.3	7.7	3.4	2.3	.8	.3	.7
11	1.4	2.1	2.5	4.4	3.6	2.5	7.6	3.8	2.3	.8	.3	.5
12	1.4	2.1	3.1	4.2	3.1	2.2	7.2	3.6	f2.1	.8	.4	.6
13	1.4	1.9	2.2	4.2	3.0	3.4	7.0	3.4	2.2	.6	.3	.5
14	1.3	1.8	2.3	3.8	3.0	3.3	7.0	3.3	2.3	.8	.3	.5
15	1.3	1.7	2.2	3.8	3.1	2.8	6.1	3.1	1.8	.8	.3	.5
16	1.3	1.8	1.9	3.8	3.6	2.3	5.7	3.1	1.8	.7	.3	.5
17	1.5	1.8	1.9	3.6	3.3	2.2	5.5	3.0	1.6	.6	.4	.5
18	1.5	1.8	2.1	3.4	3.1	2.1	5.5	3.0	f1.3	.8	.4	.5
19	1.4	1.8	2.1	3.4	3.1	3.8	5.5	3.1	f1.3	1.2	.4	.5
20	1.4	1.7	1.9	3.4	3.0	4.7	5.4	3.1	1.1	1.1	.5	.5
21	1.4	1.5	7.0	3.3	3.0	5.0	5.2	3.4	1.2	1.0	.4	.5
22	1.4	1.6	95	3.1	3.0	4.2	4.4	3.4	1.1	.8	.5	.5
23	1.4	1.6	140	3.1	3.0	3.9	4.4	3.4	1.3	.8	.5	.5
24	al.4	1.6	f24	3.1	3.0	3.6	4.6	2.8	1.2	.9	.5	.5
25	al.4	1.8	f15	3.1	3.0	3.3	4.4	3.0	1.1	.8	.5	.5
26	al.4	1.7	10	3.1	3.0	3.1	3.9	3.4	1.0	.6	.5	.5
27	al.4	1.6	7.0	3.1	3.0	2.5	3.9	3.8	1.2	.6	.5	.4
28	al.4	1.6	6.1	3.1	3.0	4.0	3.9	3.0	1.2	.5	.5	.5
29	f2.3	1.6	5.7	3.1	-	6.3	3.9	2.6	1.1	.5	.5	.5
30	2.8	1.8	4.3	3.1	-	31	3.6	2.2	1.3	.5	.4	.7
31	2.3	-	4.2	3.3	-	34	-	2.3	-	.4	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	46.1	2.8	1.2	1.49	91
November.....	53.4	2.6	1.5	1.78	106
December.....	358.7	140	1.5	11.5	708
Calendar year 1945.....	2,217.6	140	1.1	6.08	4,400
January.....	117.5	5.6	3.1	3.79	233
February.....	96.2	7.3	3.0	3.44	191
March.....	154.6	34	2.1	4.99	307
April.....	216.5	18	3.6	7.22	429
May.....	99.2	3.8	2.2	3.17	195
June.....	52.9	2.6	1.0	1.76	105
July.....	26.9	1.3	.4	.87	53
August.....	12.7	.5	.3	.41	25
September.....	16.2	.8	.4	.54	32
Water year 1945-46.....	1,247.9	140	.3	3.42	2,480

Peak discharge.- Dec. 23 (7:15 a.m.) 575 sec.-ft.; Mar. 30 (3 p.m.) 135 sec.-ft.

a No gage-height record; discharge computed on basis of records of discharge for nearby streams and interpolation.

f Computed on basis of partly estimated gage-height record.

Waterman Canyon Creek near Arrowhead Springs, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°11'35", long. 117°16'35", in SW 1/4 sec. 2, T. 1 N., R. 4 W., 1 mile northwest of Arrowhead Springs. Altitude of gage, about 2,125 feet.

Drainage area.- 4.55 square miles.

Records available.- November 1911 to October 1914, December 1919 to September 1946.

Average discharge.- 28 years (1912-14, 1920-46), 3.09 second-feet.

Extremes.- Maximum discharge during year, 240 second-feet Dec. 23 (gage height, 3.58 feet); minimum daily, 0.1 second-foot Sept. 14, 15.

1920-46: Maximum discharge, 2,350 second-feet Mar. 2, 1938, based on rainfall-runoff studies; no flow at times during summers of 1924-26, 1928, 1929, 1931, 1934.

Remarks.- Records good except those for period of no gage-height record, which are fair. One small diversion for domestic use above station.

Discharges, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	1.1	1.0	2.9	1.5	1.2	8.6	2.6	1.4	0.7	0.3	0.3
2	.5	1.0	.9	2.8	1.4	1.2	9.5	2.5	1.4	.7	.3	.2
3	.5	.9	.9	3.8	4.3	1.3	7.5	2.5	1.3	.7	.4	.2
4	.6	1.0	.9	3.1	2.7	1.4	6.4	2.3	1.3	.7	.4	.2
5	.7	.9	.9	3.0	2.3	1.4	5.4	2.1	1.2	.7	.4	.2
6	.8	1.1	.8	2.8	2.0	1.5	5.3	2.0	1.2	.7	.4	.2
7	.8	1.2	.8	2.7	2.0	1.5	5.0	1.9	1.2	.7	.4	.2
8	.6	1.0	.8	2.6	1.8	1.6	4.4	1.9	1.2	.7	.4	.3
9	.7	1.0	.7	2.7	1.7	1.6	4.2	2.2	1.3	.6	.4	.3
10	.7	1.0	.7	2.7	1.6	1.6	4.0	2.3	1.2	.6	.3	.2
11	.7	1.0	.7	2.5	1.8	1.7	3.8	2.2	1.0	.6	.3	.2
12	.7	.8	.7	2.2	1.7	1.7	3.8	2.1	1.0	.6	.3	.2
13	.7	.7	.7	2.1	1.6	2.7	3.8	2.1	1.0	.5	.3	.2
14	.7	.7	.7	2.1	1.7	2.3	3.8	2.0	.9	.5	.4	.1
15	.7	.9	.7	2.1	1.8	2.0	3.6	2.1	.9	.5	.3	.1
16	.7	1.0	.7	2.0	1.9	1.9	3.6	2.1	.9	.4	.3	.3
17	.9	1.0	.7	1.9	1.9	1.8	3.3	1.9	1.0	.5	.3	.4
18	1.0	1.0	.7	1.9	1.9	1.8	3.1	2.0	1.0	.6	.3	.3
19	1.0	1.0	.7	2.0	1.9	2.8	2.9	1.9	1.0	1.0	.3	.3
20	1.1	1.0	.7	1.9	1.8	3.3	2.8	1.9	1.0	.7	.3	.2
21	1.2	1.1	6.6	1.8	1.7	2.8	2.8	2.0	1.2	.6	.3	.2
22	1.2	1.1	4.4	1.7	1.6	2.5	2.6	2.0	1.2	.6	.3	.3
23	1.2	1.1	4.3	1.7	1.5	2.1	2.5	2.0	1.1	.7	.2	.2
24	1.1	1.1	7.7	1.7	1.4	2.0	2.4	1.9	1.1	.9	.3	.2
25	1.0	1.1	6.2	1.7	1.3	1.7	2.4	1.8	1.0	.7	.3	.2
26	1.0	1.1	4.7	1.6	1.3	1.6	2.5	2.0	1.0	.6	.3	.2
27	1.0	1.1	4.0	1.6	1.2	1.6	2.5	2.1	.9	.4	.2	.2
28	1.0	1.1	3.6	1.5	1.2	2.6	2.5	1.8	1.0	.4	.3	.2
29	1.3	1.0	3.4	1.5	-	4.3	2.6	1.6	1.0	.4	.2	.2
30	1.6	1.0	3.2	1.5	-	19	2.7	1.6	.8	.4	.2	.5
31	1.5	-	3.1	1.5	-	13	-	1.5	-	.3	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	27.8	1.6	0.5	0.90	55
November.....	30.1	1.2	.7	1.00	60
December.....	144.9	4.4	.7	4.67	287
Calendar year 1945	1,355.3	47	.3	3.71	2,690
January.....	67.6	3.8	1.5	2.18	154
February.....	50.5	4.3	1.2	1.80	100
March.....	89.5	19	1.2	2.89	178
April.....	120.3	9.5	2.4	4.01	239
May.....	62.9	2.6	1.5	2.03	125
June.....	32.7	1.4	.8	1.09	65
July.....	18.7	1.0	.3	.60	37
August.....	9.6	.4	.2	.31	19
September.....	7.0	.5	.1	.23	14
Water year 1945-46	661.6	44	.1	1.81	1,310

Peak discharge.- Dec. 21 (10:45 p.m.) 125 sec.-ft.; Dec. 22 (7:15 p.m.) 185 sec.-ft.; Dec. 23 (7:40 a.m.) 240 sec.-ft.; Mar. 30 (2:15 p.m.) 58 sec.-ft.

Note.- No gage-height record Nov. 25 to Dec. 16; discharge computed on basis of 4 discharge measurements and interpolation.

City Creek near Highland, Calif.

Location.- Water-stage recorder, lat. 34°08'35", long. 117°11'25", in SW¼NW¼ sec. 27, T. 1 N., R. 3 W., 1.5 miles northeast of Highland. Altitude of gage, about 1,550 feet.

Drainage area.- 19.8 square miles.

Records available.- October 1919 to September 1946.

Average discharge.- 27 years, 9.45 second-feet. Average combined discharge of City Creek and City Creek Water Co.'s canal, 22 years (1924-46), 11.3 second-feet.

Extremes.- Maximum discharge during year, 500 second-feet Dec. 23 (gage height, 4.33 feet); no flow for several periods.

1919-46: Maximum discharge, 6,900 second-feet Mar. 2, 1938, by slope-area method; no flow for several months of many years.

1924-46: Minimum combined daily discharge of City Creek and canal, 0.1 second-foot several days in 1929, 1931, 1934-37.

Remarks.- Records fair below 60 second-feet and poor above. For records of combined discharge of City Creek and City Creek Water Co.'s canal, which diverts above station, see following page; for records of City Creek Water Co.'s canal see p. 63. During period from July 25 to Sept. 30, 1946, a total of 5.9 acre-feet of water was pumped from creek and canal above gaging stations for use in highway construction.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	0.2	7.5	2.4	2.4	62	3.4	0.7	0	0.1	0
2	0	.1	.1	7.0	2.4	2.4	56	3.2	.6	0	.1	0
3	0	.1	.1	9.0	12	3.9	43	3.2	.6	0	.1	0
4	0	.1	.1	7.0	9.4	2.8	36	2.7	.6	0	.1	0
5	0	.1	.1	6.6	4.6	2.0	30	2.9	.5	0	.1	.1
6	0	.1	.1	5.8	4.3	1.6	29	2.7	.5	0	.1	.1
7	.1	1.0	.1	5.0	4.0	1.6	29	2.4	.3	0	.1	.1
8	.3	.1	.1	5.0	3.7	1.4	25	2.2	.3	0	.1	.1
9	.4	.1	.1	5.0	4.7	1.4	22	2.7	.4	0	.1	.1
10	.4	.1	.1	4.6	6.2	1.4	19	3.2	.3	0	.1	.1
11	.4	.2	.1	4.3	8.0	1.4	17	3.4	.3	0	.1	.1
12	.5	.3	2.3	4.6	7.5	1.4	15	2.9	.2	0	.1	.1
13	.1	.1	1.4	4.0	7.0	3.2	14	2.9	.2	0	.1	.1
14	.2	.1	1.3	4.0	4.4	3.4	14	2.9	.2	0	0	0
15	.3	.1	1.3	3.7	2.9	2.2	13	2.7	.2	0	0	0
16	.1	.1	1.3	3.7	4.0	2.0	11	2.7	.1	0	0	0
17	.1	.1	1.3	3.7	4.0	2.0	9.5	2.2	.1	0	0	0
18	.1	.1	1.3	3.7	3.2	2.4	9.5	2.2	.1	0	0	0
19	.1	.1	1.4	3.7	2.9	5.8	9.5	2.0	.1	0	0	0
20	.1	.1	1.4	3.7	2.9	7.0	9.5	2.0	.1	0	0	0
21	.1	.1	5.3	3.7	a2.9	7.0	9.0	2.2	.1	0	0	0
22	.1	.1	113	3.4	a2.9	8.6	8.5	2.0	.1	.1	0	0
23	.1	.1	205	3.2	a3.2	7.5	5.7	1.4	.1	.1	0	0
24	.1	.1	50	3.2	a3.0	7.5	4.0	1.2	.1	.1	0	0
25	.1	.1	33	3.2	a2.3	6.6	3.4	1.1	.1	.1	0	0
26	.1	.1	24	2.9	a2.3	5.8	3.4	1.1	.1	.1	0	0
27	.1	.1	20	2.7	a2.4	5.4	3.4	1.6	.1	.1	0	0
28	.1	.1	17	2.7	a2.4	7.0	3.7	1.1	.1	.1	0	0
29	.1	.1	13	2.7	-	13	4.0	.9	.1	.1	0	0
30	.1	.2	9.5	2.7	-	105	3.7	.8	0	.1	0	0
31	.1	-	8.0	2.4	-	116	-	.7	-	.1	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4.1	0.4	0	0.13	8.1
November.....	4.3	1.0	.1	.14	8.5
December.....	512.0	205	.1	16.5	1,020
Calendar year 1945	3,298.1	397	0	9.04	6,550
January.....	134.4	9.0	2.4	4.34	267
February.....	121.9	12	2.3	4.35	242
March.....	339.1	116	1.4	10.9	673
April.....	521.8	62	3.4	17.4	1,030
May.....	68.6	3.4	.7	2.21	138
June.....	7.3	.7	0	.24	14
July.....	1.0	.1	0	.03	2.0
August.....	1.3	.1	0	.04	2.6
September.....	.9	.1	0	.03	1.8
Water year 1945-46	1,716.7	205	0	4.70	3,400

Peak discharge.- Dec. 22 (9 p.m.) 280 sec.-ft.; Dec. 23 (8 a.m.) 500 sec.-ft.; Mar. 30 (4:20 p.m.) 230 sec.-ft.

a No gage-height record; discharge computed as difference between recorded discharge of City Creek Canal and total flow (combined discharge) of City Creek above canal heading estimated on basis of normal recession.

SANTA ANA RIVER BASIN

Combined discharge, in second-feet, of City Creek and canal near Highland, Calif., water year
October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	3.0	3.9	10	6.0	5.9	63	9.4	5.6	2.4	0.8	0.7
2	1.0	2.5	3.6	9.7	6.0	5.9	58	8.9	5.6	2.3	.6	.7
3	1.0	2.2	3.5	12	16	5.9	45	8.7	5.1	2.1	.7	.5
4	1.2	2.1	3.5	9.4	13	5.8	38	8.2	4.6	2.1	.7	.3
5	1.5	2.1	3.6	8.8	8.2	5.9	32	7.9	4.5	2.1	.8	.4
6	2.1	2.1	3.8	8.1	7.8	5.9	32	7.1	4.4	2.0	.8	.4
7	2.5	6.0	3.8	7.6	7.4	6.0	33	6.9	4.2	1.9	.9	.5
8	2.2	3.1	3.7	7.6	7.0	5.8	28	6.9	4.4	1.7	.9	.6
9	2.4	2.6	3.6	7.4	6.9	5.4	25	6.9	4.6	1.6	.9	.6
10	2.5	2.1	3.5	7.2	6.8	5.2	22	6.9	4.2	1.5	.9	.4
11	2.4	4.2	3.7	7.1	8.6	5.4	20	6.9	4.1	1.5	.6	.3
12	2.6	4.1	6.4	7.2	8.1	5.4	19	6.9	3.8	1.4	.6	.3
13	2.4	3.8	4.2	7.0	7.5	7.6	18	6.9	3.7	1.2	.7	.3
14	2.2	3.6	4.1	7.1	7.2	8.3	17	6.8	3.4	1.2	.6	.4
15	2.2	3.6	4.1	6.7	7.0	6.7	16	6.8	3.2	1.1	.6	.3
16	2.3	4.1	4.2	6.6	7.9	6.0	15	6.8	3.0	1.0	.6	.3
17	2.5	4.1	4.1	6.7	7.4	5.8	13	6.8	2.9	.9	.6	.5
18	2.6	3.9	4.1	6.6	7.2	5.8	13	6.8	2.8	1.5	.5	.5
19	2.2	3.7	4.1	6.6	6.8	9.7	13	6.8	2.6	2.7	.5	.4
20	2.0	3.7	4.1	6.6	6.6	11	13	6.8	2.6	3.0	.4	.4
21	2.0	3.7	8.5	6.6	6.5	11	13	6.9	2.9	1.7	.5	.4
22	2.1	3.6	113	6.3	6.4	11	12	6.9	3.0	1.3	.5	.5
23	2.1	3.6	205	6.1	6.3	12	11	6.8	3.0	1.8	.5	.4
24	2.1	3.6	50	5.9	6.2	12	10	6.2	3.0	2.4	.5	.3
25	2.1	3.6	33	5.6	6.1	11	9.6	6.0	2.8	2.4	.5	.3
26	2.1	3.6	24	5.7	6.1	9.6	9.6	6.4	2.7	1.6	.5	.2
27	2.1	3.5	20	6.1	6.0	9.0	9.6	7.6	2.7	1.3	.5	.3
28	2.1	3.5	17	6.2	6.0	11	9.9	6.5	2.9	1.3	.5	.4
29	2.8	3.6	14	6.2	-	17	10	5.7	2.9	1.3	.5	.4
30	3.9	3.9	12	6.3	-	108	9.9	5.2	2.5	1.3	.5	.8
31	3.7	-	11	6.0	-	116	-	5.0	-	.9	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	68.1	3.9	1.0	2.20	135
November.....	102.8	6.0	2.1	3.43	204
December.....	587.1	205	3.5	18.9	1,160
Calendar year 1945	4,496.8	397	.9	12.3	8,920
January.....	223.2	12	5.6	7.20	443
February.....	209.0	16	6.0	7.46	415
March.....	457.0	116	5.2	14.7	906
April.....	637.6	63	9.6	21.3	1,260
May.....	215.3	9.4	5.0	6.95	427
June.....	107.7	5.6	2.5	3.59	214
July.....	52.5	3.0	.9	1.69	104
August.....	19.2	.9	.4	.62	38
September.....	12.8	.8	.2	.43	25
Water year 1945-46	2,692.3	205	.2	7.38	5,330

City Creek Water Co.'s canal near Highland, Calif.

Location.- Water-stage recorder, lat. 34°08'35", long. 117°11'25", in NW¼ sec. 27, T. 1 N., R. 3 W., 1.5 miles northeast of Highland.

Records available.- May 1924 to September 1946.

Average discharge.- 22 years, 2.35 second-feet.

Extremes.- Maximum daily discharge during year, 6.2 second-feet Apr. 24-30; no flow Dec. 24-27, Mar. 31.

1924-46: Maximum discharge, 10 second-feet May 30, 1927; no flow at times.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. This canal diverts from City Creek, 0.2 mile above gage on that stream. (See preceding page for records of combined flow of City Creek and canal.)

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	2.9	3.7	2.8	3.6	3.5	1.2	6.0	4.9	2.4	0.7	0.7
2	1.0	2.4	3.5	2.7	3.6	3.5	2.1	5.7	5.0	2.3	.5	.7
3	1.0	f2.1	3.4	2.7	4.0	2.0	1.8	5.5	4.5	2.1	.6	.5
4	1.2	a2.0	3.4	2.4	4.0	3.0	1.7	5.5	4.0	2.1	.6	.3
5	1.5	a2.0	3.5	2.2	3.6	3.9	2.4	5.0	4.0	2.1	.7	.3
6	2.1	a2.0	3.7	2.3	3.5	4.3	3.3	4.4	3.9	2.0	.7	.3
7	2.4	a5.0	3.7	2.6	3.4	4.4	3.6	f4.5	3.9	1.9	.8	.4
8	1.9	a3.0	3.6	2.6	3.3	4.4	3.3	a4.7	4.1	1.7	.8	.5
9	2.0	a2.5	3.5	2.4	2.2	4.0	3.1	a4.2	4.2	1.6	.8	.5
10	2.1	a2.0	3.4	2.6	.6	3.8	3.4	a3.7	3.9	1.5	.8	.3
11	2.0	a4.0	3.6	2.8	.6	4.0	3.2	a3.5	3.8	1.5	.5	.2
12	2.3	a5.8	4.1	2.6	.6	4.0	4.2	a4.0	3.6	1.4	.5	.2
13	2.3	f3.7	2.8	3.0	.5	4.4	4.2	a4.0	3.5	1.2	.6	.2
14	2.0	3.5	2.8	3.1	2.8	4.9	3.2	a3.9	3.2	1.2	.6	.4
15	1.9	3.5	2.8	3.0	4.1	4.5	3.0	a4.1	3.0	1.1	.6	.3
16	2.2	4.0	2.9	3.1	3.9	4.0	3.9	a4.1	2.9	1.0	.6	.3
17	2.4	4.0	2.8	3.0	3.4	3.8	3.9	a4.6	2.8	.9	.6	.5
18	2.5	3.8	2.8	2.9	4.0	3.4	3.9	a4.6	2.7	1.5	.5	.5
19	2.1	3.6	2.7	2.9	3.9	3.9	3.7	a4.8	2.5	2.7	.5	.4
20	1.9	3.6	2.7	2.9	3.7	4.3	3.7	f4.8	2.5	3.0	.4	.4
21	1.9	3.6	3.2	2.9	3.6	4.4	3.6	4.7	2.8	1.7	.5	.4
22	f2.0	3.5	.2	2.9	3.5	4.3	3.3	4.9	2.9	1.2	.5	.5
23	a2.0	3.5	.1	2.9	3.1	4.6	5.0	5.4	2.9	1.7	.5	.4
24	a2.0	3.5	0	2.7	3.2	4.5	6.2	5.0	2.9	2.3	.5	.3
25	a2.0	3.5	0	2.4	3.8	4.0	6.2	4.9	2.7	2.3	.5	.3
26	a2.0	3.5	0	2.8	3.8	3.8	6.2	5.3	2.6	1.5	.5	.2
27	a2.0	3.4	0	3.4	3.6	3.6	6.2	6.0	2.6	1.2	.5	.3
28	a2.0	3.4	.3	3.5	3.6	3.8	6.2	5.4	2.8	1.2	.5	.4
29	f2.7	3.5	1.3	3.5	-	3.9	6.2	4.8	2.8	1.2	.5	.4
30	3.8	3.7	2.3	3.6	-	2.6	6.2	4.4	2.5	1.2	.5	.8
31	3.6	-	2.9	3.6	-	0	-	4.3	-	.8	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	64.0	3.8	1.0	2.06	127
November.....	98.5	5.0	2.0	3.28	195
December.....	75.7	4.1	0	2.44	150
Calendar year 1945.....	1,205.3	8.2	0	3.30	2,390
January.....	88.8	3.6	2.2	2.86	176
February.....	87.5	4.1	.5	3.12	174
March.....	117.5	4.9	0	3.75	233
April.....	118.1	6.2	1.2	3.94	234
May.....	146.7	6.0	3.5	4.73	291
June.....	100.4	5.0	2.5	3.35	199
July.....	51.5	3.0	.8	1.66	102
August.....	17.9	.8	.4	.58	36
September.....	11.9	.8	.2	.40	24
Water year 1945-46.....	978.5	6.2	0	2.68	1,940

a No gage-height record; discharge computed on basis of weather records, records for City Creek near Highland, and records for stations on nearby streams.

f Computed on basis of partly estimated gage-height record.

SANTA ANA RIVER BASIN

Devil Canyon Creek near San Bernardino, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°12'05", long. 117°20'10", in Muscupiabe Grant, 7.3 miles northwest of San Bernardino, San Bernardino County.
Altitude of gage, about 1,800 feet.

Drainage area.- 6.16 square miles.

Records available.- November 1911 to September 1912, October 1913 to September 1914, and December 1919 to September 1946.

Average discharge.- 27 years (1913-14, 1920-46), 2.14 second-feet.

Extremes.- Maximum discharge during year, 90 second-feet Dec. 23 (gage height, 2.78 feet); no flow for several months.
1913-14, 1919-46: Maximum discharge, 3,320 second-feet Mar. 2, 1938, by rainfall-runoff studies; no flow for periods in most years.

Remarks.- Records good. City of San Bernardino diverted 1,640 acre-feet above station during year for municipal supply.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	0.1	7.9	0.1				
2			0		0	.1	7.3	.1				
3			0		.2	.1	5.0	.1				
4			0		.2	.1	3.1	.1				
5			0		.1	.1	1.5	.1				
6			0			.1	1.3	.1	0.02			
7			0			.1	1.5	.1				
8			0			.1	1.2	.1				
9			0			.1	.9	.1				
10			0			.1	.6	.1				
11			0		.02	.1	.6					
12			0			.1	.6					
13			0			.1	.5	.06				
14			0				.4					
15			0				.4					
16			0			.05	.4					
17			0				.3					
18			0				.2	.05	.01			
19			0				.2					
20			0				.2					
21			0		.07		.2					
22			20				.3					
23			26				.3	.04				
24			5.8			.02	.3					
25			4.3				.3					
26												
27			1.5		.1		.2					
28			0		.1		.1					
29			0		.1		.1	.03	0			
30			0		-	.7	.1					
31			0		-	26 18	.1 -					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	Diversion in acre-feet†
October.....	0	0	0	0	0	113
November.....	0	0	0	0	0	117
December.....	57.6	26	0	1.86	114	129
Calendar year 1945.....	437.20	51	0	1.20	867	2,330
January.....	0	0	0	0	0	190
February.....	1.70	.2	0	.061	3.4	156
March.....	46.51	26	-	1.50	92	158
April.....	36.3	7.9	.1	1.21	72	200
May.....	1.93	.1	-	.062	3.8	195
June.....	.35	-	0	.012	.7	140
July.....	0	0	0	0	0	100
August.....	0	0	0	0	0	77
September.....	0	0	0	0	0	66
Water year 1945-46.....	144.39	26	0	.396	286	1,640

Peak discharge.- Dec. 22 (8:15 p.m.) 53 sec.-ft.; Dec. 23 (7:30 a.m.) 90 sec.-ft.; Mar. 30 (2 p.m.) 75 sec.-ft.

† Diversion by city of San Bernardino; record furnished by that city.

Lytle Creek near Fontana, Calif.

Location.- At intake of Fontana pipe line, lat. 34°12'05", long. 117°27'05", in NW $\frac{1}{4}$ sec. 6, T. 1 N., R. 5 W., unsurveyed, just downstream from Lytle Creek power plant of Southern California Edison Co. and 8 miles north of Fontana. Altitude of gage, about 2,200 feet.

Drainage area.- 47.9 square miles.

Records available.- October 1918 to September 1921, October 1922 to September 1946.

Average discharge.- 27 years, 9.93 second-feet. Average combined discharge of creek and Fontana pipe line, 27 years, 41.8 second-feet.

Extremes.- Maximum discharge during year not determined; no flow during parts of year.

1918-21, 1922-46: Maximum discharge, 25,200 second-feet Mar. 2, 1938, by slope-area method; no flow during most of each year.

Remarks.- Records for Lytle Creek poor. Records for Fontana pipe line good; they include Breda pipe line and other minor diversions in addition to main pipe line flow which passes through Fontana powerhouse and is then used for irrigation and domestic supply. Table on following page shows combined flow of Lytle Creek and Fontana pipe line, which is total flow of Lytle Creek.

Cooperation.- Records furnished by Fontana Union Water Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.1	0.4	0	0	85	0	0			
2	0	0	0	.6	0	0	45	0	0			
3	0	0	0	3.5	42	0	20	0	0			
4	0	0	0	1.8	12	0	10	0	0			
5	0	0	0	1.6	0	0	4.9	0	0	.8		
6	0	0	0	0	1.1	0	1.1	0	0			
7	0	0	0	0	0	0	4.0	0	0	.1		
8	0	0	0	0	0	0	12	0	0	0		
9	0	0	0	.6	0	0	20	0	0	0		
10	0	0	0	.4	0	0	19	.8	0	0		
11	0	0	0	0	0	0	17	0	0	0		
12	0	0	0	1.0	.5	0	16	0	0	0		
13	0	0	0	0	0	2.4	16	0	0	0		
14	0	0	0	0	0	.4	16	0	0	0		
15	0	0	0	.5	0	0	17	0	0	0		
16	0	0	0	0	0	0	20	0	0	0		
17	0	0	0	0	0	0	14	0	0	0		
18	0	0	0	0	0	0	.4	0	0	0		
19	0	0	0	0	0	1.5	1.4	0	0	0		
20	0	0	0	0	0	1.2	1.7	0	0	0		
21	0	0	55	0	0	1.8	1.1	0	0	0		
22	0	0	451	0	0	1.6	.2	0	0	.0		
23	0	0	368	0	0	1.4	0	0	0	0		
24	0	0	102	0	0	1.2	0	0	0	0		
25	0	0	45	.1	0	1.0	0	.3	0	0		
26	0	0	41	0	0	.7	0	0	0	0		
27	0	0	22	0	0	0	0	0	0	0		
28	0	0	28	0	0	1.3	0	0	0	0		
29	0	0	20	.7	-	19	0	1.0	0	0		
30	1.4	.3	8.6	0	-	562	0	0	0	0		
31	0	-	4.9	0	-	193	-	0	0	-		
Month				Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		Diversion (acre-feet)†		
October				1.4	1.4	0	0.05	2.8		2,050		
November				.3	.3	0	.01	.6		1,890		
December				1,145.6	451	0	37.0	2,270		1,470		
Calendar year 1945				1,666.7	451	0	4.57	3,300		28,000		
January				11.2	3.5	0	.36	22		2,540		
February				55.8	42	0	1.99	110		1,710		
March				788.5	562	0	25.4	1,560		1,750		
April				341.8	85	0	11.4	878		3,150		
May				2.1	1.0	0	.07	4.2		2,830		
June				.9	.8	0	.03	1.8		2,060		
July				0	0	0	0	0		2,050		
August				0	0	0	0	0		2,070		
September				0	0	0	0	0		1,950		
Water year 1945-46				2,347.4	562	0	6.43	4,650		25,510		

† Diversion through Fontana pipe line.

SANTA ANA RIVER BASIN

Combined discharge, in second-feet, of Lytle Creek and Fontana pipe line near Fontana, Calif.,
water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	36	28	46	37	32	101	53	38	33	34	33
2	34	35	28	45	37	32	86	53	38	33	34	33
3	34	34	28	48	67	32	71	52	37	33	34	33
4	34	34	28	46	35	32	64	51	38	32	34	33
5	34	34	28	44	31	32	61	51	40	32	35	33
6	34	34	28	44	27	31	61	50	39	32	35	33
7	34	34	28	43	30	30	62	49	36	32	35	33
8	34	33	27	43	31	30	63	49	34	32	35	33
9	34	33	27	43	31	30	63	49	35	32	34	33
10	34	33	27	41	31	29	62	50	35	31	34	33
11	35	33	27	42	31	30	61	50	34	31	34	32
12	34	32	27	43	30	30	60	48	34	31	34	32
13	34	32	27	43	30	32	61	46	34	31	34	32
14	34	32	27	42	31	30	61	46	34	31	34	33
15	33	32	27	42	30	29	61	46	34	31	34	33
16	33	32	27	43	31	29	62	45	34	31	34	33
17	33	32	27	42	31	28	63	45	34	32	34	33
18	33	31	26	42	30	28	66	45	34	35	34	32
19	32	31	26	41	30	31	68	44	34	35	34	32
20	33	31	26	41	31	30	69	44	33	35	33	32
21	32	30	75	41	32	31	67	44	33	35	33	33
22	32	30	454	40	32	30	65	44	33	36	33	33
23	32	30	371	39	32	30	63	44	33	36	33	33
24	32	29	108	39	32	31	62	42	33	36	33	33
25	32	29	50	39	33	31	61	43	33	35	33	33
26	32	29	46	39	33	31	60	43	33	35	33	33
27	32	29	48	39	32	30	57	42	32	35	33	33
28	30	29	49	38	32	32	58	41	32	35	33	32
29	30	28	47	38	-	49	57	41	34	35	33	32
30	37	28	48	38	-	571	55	40	34	35	33	33
31	38	-	48	38	-	195	-	39	-	35	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,033	38	30	33.3	2,050
November.....	949	36	28	31.6	1,880
December.....	1,888	454	26	60.9	5,740
Calendar year 1945	15,782	454	26	43.2	31,300
January.....	1,292	48	38	41.7	2,560
February.....	920	67	27	32.9	1,820
March.....	1,868	571	28	53.8	3,310
April.....	1,931	101	55	64.4	3,830
May.....	1,429	53	39	46.1	2,830
June.....	1,039	40	32	34.6	2,080
July.....	1,033	36	31	33.3	2,050
August.....	1,046	35	33	33.7	2,070
September.....	982	33	32	32.7	1,950
Water year 1945-46	15,210	571	26	41.7	30,150

Lytle Creek (east channel) at San Bernardino, Calif.

Location.- Water-stage recorder, lat. 34°05'45", long. 117°19'50", in San Bernardino Grant, at Mount Vernon Avenue Bridge in San Bernardino, San Bernardino County. Altitude of gage, about 1,050 feet.

Records available.- January 1929 to September 1946.

Extremes.- Maximum discharge during year, 15 second-feet Dec. 22 (gage height, 1.38 feet); minimum daily, 0.1 second-foot Sept. 22.

1929-46: Maximum discharge, 21,500 second-feet Mar. 2, 1938, by computation of flow through contracted opening; no flow during parts of many years.

Maximum total discharge of Lytle Creek (east and west channels combined), 29,400 second-feet Mar. 2, 1938.

Remarks.- Records fair. Water diverted from Lytle Creek above station by Fontana pipe line and minor diversions for irrigation, and to debris cone for ground-water recharge. Since 1945, Lytle Creek flood-control dam, 1.5 miles upstream, diverts flood flow away from this channel and carries it direct to Warm Creek. Capacity of flood-control channel, 30,000 second-feet. A maximum of 300 second-feet of low-stage flow can be diverted to east channel at dam when desired.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		d1.2	1.0	0.6	1.2	1.0	0.7	1.1	0.7		0.5	0.4
2		d1.1	.7	.8	1.1	1.0	1.1	1.2	.6		.5	.3
3		d1.0	.8	.8	1.0	1.0	.9	1.5	.6			.5
4		d.9	1.2	.9	1.4	.9	.8	1.6	.6			.6
5		.9	1.2	.8	1.2	1.0	.8	1.3	.6			.5
6		ao.5	.8	1.2	.8	1.3	1.1	1.4	.6	d0.4		.6
7		.7	1.2	.8	1.3	1.1	1.4	1.5	.6		d.5	.6
8		.6	1.0	.8	1.2	.9	1.1	1.3	.5			.5
9		.6	1.4	.6	1.3	1.0	.8	1.5	.4			.7
10		.5	1.5	.7	1.2	1.0	.9	1.3	.9			.7
11		.5	1.0	.7	1.3	1.2	.9	1.1	.4	.4		.4
12	.5	.7	1.0	.8	1.2	1.2	1.0	1.0	.5	.4	.5	.4
13	.5	.8	.8	.9	1.2	1.2	1.1	1.2	.5	.4	.5	.4
14	.5	.5	.8	1.0	1.2	1.2	.8	1.2	.4	.4	.4	.5
15	.5	.6	.8	.9	1.3	.8	1.0	1.8	.4	.4	.5	.2
16	.7	1.1	.8	1.0	1.2	.8	1.1	1.4	.4	.4	.5	.3
17	.8	1.4	1.2	1.0	1.0	1.4	1.4	.4	.5	.5	.5	.5
18	.8	.6	1.7	1.1	1.2	1.7	1.6	.9	.5	.7	.3	.3
19	.8	1.4	1.1	1.1	1.4	1.5	1.5	1.1	.5	.8	.4	.8
20	.7	1.6	1.5	.8	1.4	1.1	1.1	1.5	.5	1.1	.5	.3
21	.6	1.7	2.2	1.0	1.4	1.0	1.3	1.2	.6	.7	.5	.3
22	.6	1.4	4.5	.9	1.1	1.8	1.2	1.3	.6	.6	.5	.1
23	.6	.8	3.0	1.5	1.1	1.4	.9	1.1	.5	.8	.7	.2
24	.7	.8	1.3	1.5	1.2	.8	.8	1.3	.4	1.0	.5	.2
25	1.0	.8	.8	1.3	1.5	1.2	.8	.9	.4	.8	.4	.2
26	1.2	1.6	.7	1.3	1.3	1.5	.8	.7	.5	.8	.5	.2
27	1.4	1.5	.7	1.0	1.3	1.1	.9	.6	.5	.7	.4	.3
28	1.3	1.5	.7	1.1	1.1	1.0	1.0	1.1	.3	.6	.5	.3
29	1.2	1.4	.8	1.2	-	1.0	.9	1.0	.3	.5	.5	.3
30	1.4	1.0	.8	1.3	-	1.8	1.2	.6	.4	.6	.5	.4
31	d1.3	-	.7	1.0	-	1.0	-	.6	-	.5	.6	-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						17.6	1.4	-	0.57	35		
November.....						30.0	1.7	0.5	1.00	60		
December.....						38.1	4.5	.7	1.23	76		
Calendar year 1945.....						1,613.5	85	-	4.42	3,200		
January.....						30.0	1.5	.6	.97	60		
February.....						35.4	1.8	1.0	1.26	70		
March.....						35.3	1.8	.8	1.14	70		
April.....						30.9	1.6	.7	1.03	61		
May.....						36.7	1.8	.6	1.18	73		
June.....						15.1	.9	.3	.50	30		
July.....						17.1	1.1	-	.55	34		
August.....						15.2	.7	.3	.49	30		
September.....						12.0	.8	.1	.40	24		
Water year 1945-46.....						313.4	4.5	.1	.86	623		

a No gage-height record; discharge computed on basis of records for station near Fontana.

d Gage-height record doubtful; discharge interpolated.

Cajon Creek near Keenbrook, Calif.

Location.- Water-stage recorder, lat. 34°16'00", long. 117°27'35", in SW¹/₄SE¹/₄ sec. 12, T. 2 N., R. 6 W., 1,800 feet upstream from Lone Pine Creek and 1.5 miles north of Keenbrook. Altitude of gage, about 2,630 feet.

Drainage area.- 40.9 square miles.

Records available.- December 1919 to September 1946.

Average discharge.- 26 years, (1920-46), 10.5 second-feet.

Extremes.- Maximum discharge during year, 2,800 second-feet Mar. 30 (gage height, 8.67 feet); minimum daily, 3.0 second-feet Sept. 19-26.

1919-46: Maximum discharge, 14,500 second-feet Mar. 2, 1938 (gage height, 19.3 feet), by slope-area method; minimum, 0.05 second-foot June 25, 1920.

Remarks.- Records fair except those above 10 second-feet, which are poor. No diversion or regulation above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.1	5.1	5.1	8.0	e5.5	5.7	a50	8.3	5.7	3.7	3.4	3.7
2	5.1	4.7	5.1	7.8	e5.5	5.7	a50	8.3	5.0	3.7	3.5	3.5
3	5.1	4.7	5.1	7.9	e50	5.7	a40	8.3	4.3	4.3	3.5	3.5
4	5.1	4.7	5.1	7.6	10	5.7	a30	8.3	4.3	4.3	3.5	3.5
5	5.1	4.7	5.1	7.5	9.2	6.1	a25	8.3	5.0	4.3	3.5	3.5
6	5.1	5.1	5.1	7.4	8.6	6.1	a20	8.3	5.0	4.3	3.4	3.7
7	5.1	5.1	5.1	7.4	8.3	6.1	a20	8.3	5.0	4.3	3.4	3.7
8	5.1	5.1	5.1	7.4	8.0	6.1	a18	8.3	5.0	4.3	3.4	3.7
9	5.1	5.1	5.1	7.1	7.5	6.1	a15	8.3	5.0	4.3	3.4	3.9
10	5.1	5.1	5.1	7.2	7.5	6.5	a14	7.7	5.0	4.3	3.5	4.1
11	5.1	5.1	5.1	a7.2	7.5	6.5	a13	7.4	5.0	4.3	3.7	3.9
12	5.1	5.1	5.1	a7.1	7.5	6.5	a12	7.4	5.0	4.3	3.7	3.7
13	4.7	5.1	5.1	a7.1	7.0	6.5	a11	7.4	5.0	4.3	3.9	3.4
14	4.7	5.1	5.1	a7.0	6.1	7.0	a10	7.4	5.0	4.3	4.1	3.2
15	4.7	5.1	5.1	a7.0	5.3	6.5	a9.0	7.4	5.0	4.3	4.1	3.2
16	4.7	5.1	5.1	a7.0	5.3	6.1	a8.5	7.4	5.0	4.3	4.4	3.2
17	5.1	5.1	5.1	a7.0	5.0	7.0	8.3	6.5	5.0	4.3	4.5	3.2
18	5.1	5.1	5.1	a7.0	5.7	7.0	8.3	6.5	5.0	8.0	4.7	3.2
19	4.7	5.1	5.1	e7.0	5.3	9.2	9.3	6.5	4.3	4.8	3.7	3.0
20	4.7	5.1	5.1	e7.0	6.1	9.8	9.3	6.5	4.3	5.0	3.5	3.0
21	4.7	5.1	e63	e7.0	6.0	9.8	8.3	6.5	4.3	4.1	3.5	3.0
22	4.7	5.1	e230	e7.0	6.5	8.0	8.3	6.5	4.3	4.3	3.5	3.0
23	5.1	5.1	a150	e7.0	6.5	7.5	7.4	6.5	4.3	4.1	3.5	3.0
24	4.7	5.1	a18	e7.0	7.0	6.5	7.4	6.5	3.7	3.5	3.5	3.0
25	4.7	5.1	a12	e6.5	7.0	7.0	7.4	6.5	3.7	3.4	3.5	3.0
26	4.7	5.1	a10	e6.5	7.0	7.0	7.4	6.5	3.7	3.9	3.5	3.0
27	4.7	5.1	8.6	e6.0	6.5	6.5	8.3	6.5	3.7	3.5	3.5	3.1
28	5.1	5.1	8.5	e6.0	6.3	7.5	9.3	6.5	4.3	3.5	3.5	3.1
29	5.1	5.1	8.4	e5.5	-	18	9.3	6.5	4.3	3.5	3.6	3.2
30	5.1	5.1	8.1	e5.5	-	e1,050	8.5	6.5	3.7	3.4	3.7	3.4
31	5.1	-	8.0	e5.5	-	e160	-	5.7	-	3.2	3.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	153.3	5.1	4.7	4.95	304
November.....	151.4	5.1	4.7	5.05	300
December.....	626.6	250	5.1	20.2	1,240
Calendar year 1945.....	3,097.8	230	3.8	8.49	6,140
January.....	215.2	8.0	5.5	6.94	427
February.....	233.7	50	5.0	8.35	464
March.....	1,419.7	1,050.	5.7	45.8	2,820
April.....	470.3	60	7.4	15.7	933
May.....	223.5	8.3	5.7	7.21	445
June.....	137.9	5.7	3.7	4.60	274
July.....	130.1	8.0	3.2	4.20	258
August.....	113.8	4.7	3.4	3.67	226
September.....	100.6	4.1	3.0	3.35	200
Water year 1945-46.....	3,976.1	1,050	3.0	10.9	7,890

a No gage-height record; discharge computed on basis of frequent discharge measurements, interpolation, weather records, and records of discharge at other stations in general vicinity.

e Stage-discharge relation uncertain; discharge computed as explained in footnote a.

Meeks & Daley Canal near Colton, Calif.

Location.- Water-stage recorder and sharp-crested weir, lat. 34°04'45", long. 117°18'00", in San Bernardino Grant, at point of diversion from Warm Creek and 1.6 miles northeast of Colton, San Bernardino County. Altitude of gage, 965 feet (from topographic map).

Records available.- September 1920 to September 1946.

Average discharge.- 26 years, 10.8 second-feet.

Extremes.- Maximum daily discharge during year, 20.4 second-feet Apr. 26; no flow during several periods.

1943-45 (revised): Maximum daily discharge, 20 second-feet many days each year; no flow during several periods.

1920-46: Maximum daily discharge, 25 second-feet Mar. 2, 1938; no flow at times.

Remarks.- Records excellent. Canal diverts water from right bank of Warm Creek, 1.6 miles northeast of Colton, for irrigation in vicinity of Colton, Riverside, and Corona.

Revisions.- Revised figures of discharge for water years 1944 and 1945, superseding those published in Water-Supply Papers 1011 and 1041, are given herein.

Discharge, in second-feet, 1943-46

1943-44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	15	18				0	0	6.3	19	19	20
2	16	16	17				0	3.9	6.3	19	20	19
3	16	18	18				0	3.9	6.3	19	20	20
4	16	17	18				0	4.0	6.3	19	20	19
5	16	16	17				0	6.6	6.3	19	19	19
6	9	15	17				0	5.9	6.3	19	19	20
7	14	15	17				0	5.6	6.3	19	20	19
8	16	16	18				0	5.2	6.3	20	20	19
9	16	16	18				0	4.9	6.3	19	19	20
10	15	18	11				0	5.6	6.3	20	19	20
11	17	20	1.2				0	5.6	6.3	20	20	20
12	16	20	0				0	5.6	6.3	19	20	20
13	17	20	0				0	5.6	6.3	19	19	19
14	17	19	0				0	5.9	6.3	19	19	19
15	17	20	0				0	5.9	6.3	19	20	20
16	16	20	0				0	5.6	6.3	19	19	19
17	16	20	0				0	5.9	9.2	19	20	20
18	16	20	0				4.6	5.9	9.6	20	19	20
19	15	20	0				5.2	5.9	7.4	19	19	20
20	16	19	0				5.9	5.9	19	20	19	19
21	16	18	0				5.2	5.9	19	20	20	19
22	15	20	0				6.3	5.9	19	20	19	20
23	16	20	0				6.6	5.9	20	19	19	20
24	16	19	0				6.9	5.9	19	20	19	20
25	16	19	0				6.9	5.9	19	20	20	20
26	16	18	0				6.6	5.9	19	20	20	19
27	16	18	0				3.9	5.9	19	19	20	19
28	16	19	0				0	5.9	19	20	20	19
29	17	18	0				0	5.9	20	19	20	19
30	16	18	0				0	5.9	19	20	20	19
31	15	-	0				-	5.9	-	19	20	-

Discharge, in second-feet, of Meeks & Daley Canal near Colton, Calif., 1943-46--Continued

1944-45

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	20	0	8.9	10	0	0	20	19	19	20	19
2	18	19	0	11	3.3	0	1.5	19	19	19	20	20
3	18	19	0	12	.2	0	2.5	19	20	19	19	19
4	18	19	0	12	.1	.1	3.6	19	20	19	19	20
5	19	14	0	11	.1	0	3.6	19	20	19	20	19
6	18	2.7	0	11	.1	0	3.6	19	20	20	20	20
7	18	2.7	1.7	11	.1	0	3.6	19	19	19	20	20
8	19	2.7	3.7	12	.1	0	3.5	20	19	20	19	20
9	18	2.7	4.0	12	0	0	4.2	20	19	20	20	19
10	18	2.9	4.0	11	0	0	3.8	20	20	19	20	19
11	18	1.2	4.0	11	0	0	3.7	20	20	19	20	19
12	19	0	4.0	11	0	0	4.3	20	19	19	20	19
13	19	0	4.0	10	0	0	4.4	19	19	19	20	20
14	19	0	4.0	7.2	0	0	4.0	19	19	19	20	20
15	20	0	4.3	6.9	0	.1	9.7	19	19	20	20	20
16	19	0	6.9	8.0	0	0	19	19	20	19	19	20
17	20	0	8.3	11	0	0	18	19	19	19	20	20
18	19	0	8.3	15	0	0	19	19	20	19	19	20
19	19	0	8.3	14	0	0	19	19	20	20	20	20
20	19	0	7.9	14	.1	0	18	20	20	19	20	20
21	19	0	7.9	14	.1	.2	19	19	20	19	20	20
22	20	0	8.7	14	.1	.6	20	19	20	19	20	20
23	20	0	13.0	14	.1	1.3	19	19	19	20	19	20
24	20	0	13.0	14	0	1.0	19	20	19	19	19	19
25	20	0	13.0	14	0	.7	19	20	19	19	19	19
26	20	0	13.0	13	0	.7	19	19	19	19	19	19
27	19	0	13.0	13	2.6	.6	19	19	20	19	19	19
28	19	0	12.0	13	2.3	.4	19	20	19	19	20	19
29	19	0	11.0	14	-	.3	19	20	19	19	20	19
30	20	0	9.8	14	-	.1	19	20	19	19	19	19
31	20	-	8.7	15	-	0	-	20	-	20	19	-

1945-46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19.8	7.9	18.9	f1.1	6.6	0	0	19.1	18.9	19.4	15.7	19.5
2	19.6	4.3	18.1	f1.1	6.6	0	.1	18.9	19.1	19.2	15.7	19.6
3	19.6	5.3	19.1	1.2	5.9	0	0	19.3	19.4	19.4	15.9	19.9
4	19.6	10.4	19.1	1.1	0	0	0	19.0	19.4	19.3	16.0	19.4
5	19.3	19.2	18.1	1.1	0	.2	0	19.3	19.2	19.4	15.9	19.4
6	19.4	18.9	17.2	1.0	0	4.0	0	19.0	19.2	19.5	16.0	19.5
7	19.8	18.6	16.7	1.0	0	5.3	0	18.7	19.1	19.1	15.8	19.4
8	19.4	19.0	16.6	.9	0	7.1	0	19.0	19.4	19.3	15.7	19.4
9	19.4	19.0	16.2	1.4	0	12.9	0	19.2	19.4	19.3	15.7	19.7
10	19.8	19.2	16.2	2.5	1.5	18.8	0	19.4	19.6	19.5	15.6	19.7
11	19.4	18.3	16.5	f2.6	2.8	19.0	0	19.4	19.4	19.4	15.3	19.6
12	19.4	18.4	16.1	f2.6	4.8	19.0	0	19.4	19.3	19.5	15.1	19.4
13	19.4	18.5	16.2	1.0	7.6	18.7	.8	19.4	19.2	19.3	15.5	19.2
14	19.3	18.4	16.2	1.2	7.4	18.1	2.4	19.3	19.2	19.4	15.5	19.2
15	19.4	18.4	16.2	1.7	7.3	18.4	1.4	19.2	19.5	19.4	17.9	19.3
16	19.6	18.4	16.2	1.7	7.2	18.7	2.8	19.1	19.4	19.4	19.1	19.3
17	19.6	18.4	16.3	1.2	7.2	18.2	3.4	19.3	19.5	19.6	19.2	19.4
18	19.7	18.4	16.9	0	7.0	17.4	2.4	19.3	19.2	19.6	19.4	19.4
19	19.4	18.4	18.0	0	7.0	17.4	2.3	19.6	19.2	19.6	19.5	19.4
20	19.4	18.4	18.3	0	6.9	17.9	2.2	19.4	19.3	19.3	19.4	19.4
21	19.4	18.4	8.4	0	5.0	17.1	2.3	19.3	19.4	19.4	19.3	19.3
22	19.3	18.0	0	0	1.8	17.0	3.4	19.2	19.4	19.3	19.4	19.4
23	19.1	18.0	0	1.0	2.1	18.0	10.0	19.1	19.6	19.4	19.8	19.4
24	19.2	18.2	0	2.6	.9	18.6	18.8	19.0	19.8	19.6	19.4	19.3
25	19.4	18.6	0	4.5	0	18.2	19.4	19.2	19.6	19.4	19.3	19.2
26	19.4	18.4	.5	7.6	0	18.9	20.4	19.4	19.6	19.2	19.4	19.1
27	19.4	18.9	1.1	7.4	0	18.9	20.0	19.4	19.6	19.2	19.8	19.1
28	19.4	19.2	1.1	7.3	0	18.7	19.4	19.4	19.4	19.6	19.9	19.1
29	18.9	19.3	1.1	6.9	-	18.6	19.1	18.0	19.4	19.6	19.4	19.3
30	18.6	19.0	1.1	6.7	-	7.5	19.3	17.6	19.4	19.6	19.5	19.3
31	17.7	-	f1.1	6.6	-	.1	-	17.7	-	17.4	19.6	-

f Computed on basis of partly estimated gage-height record.

Monthly discharge, in second-feet, of Meeks & Daley Canal near Colton, Calif., 1943-46

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1943	489	17	9	15.8	970
November	547	20	15	18.2	1,080
December	170.2	18	0	5.49	338
Calendar year 1943	3,640.2	23	0	9.97	7,220
January 1944	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	58.1	6.9	0	1.94	115
May	168.3	6.6	0	5.43	334
June	338.0	20	6.3	11.3	670
July	600	20	19	19.4	1,190
August	607	20	19	19.6	1,200
September	585	20	19	19.5	1,160
Water year 1943-44	3,562.6	20	0	9.73	7,060
October 1944	590	20	18	19.0	1,170
November	105.9	20	0	3.53	210
December	196.5	13	0	6.34	390
Calendar year 1944	3,248.8	20	0	8.88	6,440
January 1945	372.0	15	6.9	12.0	738
February	19.3	10	0	.69	38
March	6.1	1.3	0	.20	12
April	340.0	20	0	11.5	674
May	602	20	19	19.4	1,190
June	583	20	19	19.4	1,160
July	596	20	19	19.2	1,180
August	606	20	19	19.5	1,200
September	587	20	19	19.6	1,160
Water year 1944-45	4,603.8	20	0	12.6	9,120
October 1945	600.1	19.8	17.7	19.4	1,190
November	511.8	19.3	4.3	17.1	1,020
December	358.3	19.1	0	11.6	711
Calendar year 1945	5,181.6	20	0	14.2	10,270
January 1946	75.0	7.6	0	2.42	149
February	95.6	7.6	0	3.41	190
March	402.7	19.0	0	13.0	799
April	169.9	20.4	0	5.66	337
May	581.6	19.6	17.6	19.1	1,170
June	581.1	19.8	18.9	19.4	1,160
July	599.6	19.6	17.4	19.3	1,190
August	548.7	19.9	15.1	17.7	1,090
September	581.6	19.9	19.1	19.4	1,160
Water year 1945-46	5,116.0	20.4	0	14.0	10,150

SANTA ANA RIVER BASIN

Day Creek near Etiwanda, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°11'00", long. 117°32'25", in SW¹/₄ sec. 8, T. 1 N., R. 6 W., 0.2 mile downstream from confluence of two main forks and 6 miles north of Etiwanda. Altitude of gage, about 2,940 feet.

Drainage area.- 4.8 square miles.

Records available.- January 1929 to September 1946.

Average discharge.- 17 years, 5.34 second-feet.

Extremes.- Maximum discharge during year, 250 second-feet Mar. 30; minimum daily, 0.3 second-foot Dec. 17.

1929-46: Maximum discharge, 4,200 second-feet Mar. 2, 1938, by rainfall-runoff studies; minimum, 0.1 second-foot Dec. 19, 20, 1933.

Remarks.- Records fair. Etiwanda Water Co. diverted 1,900 acre-feet above station during year.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.7	0.6	6.5	4.4	5.4	27	2.0	0.8	0.8	0.9	0.8
2	.8	.6	.6	6.1	4.4	2.7	20	2.0	.8	.8	.9	.8
3	.8	.6	.6	7.4	8.0	.7	17	2.0	.8	.8	.9	1.1
4	.8	.6	.6	6.3	6.1	.7	15	1.8	.8	.8	.9	.8
5	.8	.6	.6	6.3	5.4	.7	12	1.8	.8	.8	1.0	.8
6	.8	.6	.6	6.0	5.4	.7	10	1.7	.8	.8	1.1	.8
7	.8	.6	.6	5.8	5.4	.7	10	1.6	.8	.8	1.1	.8
8	.8	.5	.6	5.8	5.2	.7	9.9	1.6	.8	.8	1.1	.8
9	.8	.5	.6	5.6	5.2	.8	9.6	1.5	.8	.8	1.1	.7
10	.8	.5	.6	5.5	5.2	.8	10	1.5	.8	.8	1.1	.7
11	.8	.5	3.0	5.5	5.4	.9	11	1.4	.8	.8	1.1	.7
12	.8	.5	3.9	5.4	5.2	.9	11	1.2	.8	.8	1.1	.7
13	.7	.5	3.8	5.2	5.0	1.6	11	1.2	.8	.8	1.1	.7
14	.7	.5	3.8	5.0	4.9	1.3	6.6	1.2	.8	.8	1.1	.7
15	.7	.5	3.8	4.9	5.0	1.2	4.0	5.3	.8	.8	1.1	.7
16	.7	.5	1.6	4.8	5.0	1.1	4.0	5.6	.8	.8	1.1	.7
17	.7	.5	.3	4.8	4.9	1.1	3.9	3.6	.8	.9	1.0	.7
18	.7	.5	.4	4.6	4.9	1.2	3.8	.8	.8	.9	1.0	.7
19	.7	.5	.4	4.4	4.9	3.7	3.5	.7	.8	.9	.9	.7
20	.7	.5	.4	4.4	4.9	5.8	3.4	.7	.8	.9	.9	1.1
21	.7	.5	79	4.4	4.9	5.8	3.3	.8	.8	.9	.9	1.0
22	.7	.5	90	4.4	4.9	5.6	3.0	5.1	.7	.9	.9	.7
23	.7	.5	86	4.4	4.9	5.5	2.8	5.4	.7	.9	.9	1.0
24	.7	.5	e25	4.6	5.0	5.6	2.6	.8	.8	.9	.9	1.5
25	.7	.6	14	4.6	5.2	3.6	2.5	.8	.8	.9	.8	1.8
26	.7	.6	11	4.6	5.2	.7	2.5	.8	.8	.9	.8	2.0
27	.7	.6	10	4.6	5.0	.7	2.5	.8	.8	.9	.8	2.3
28	.6	.6	9.0	4.6	5.2	4.1	2.4	.8	.8	.9	.8	1.9
29	.7	.6	8.3	4.6	-	8.1	2.3	.8	.8	.9	1.6	.8
30	.8	.6	7.3	4.6	-	108	2.2	.8	.8	.9	1.3	7.2
31	.7	-	6.8	4.4	-	50	-	.8	-	.9	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	23.0	0.8	0.7	0.74	46
November.....	16.4	.7	.5	.55	33
December.....	373.8	90	.3	12.1	741
Calendar year 1945	1,945.3	169	.3	5.33	3,860
January.....	160.1	7.4	4.4	5.16	318
February.....	145.1	8.0	4.4	5.18	288
March.....	230.4	108	.7	7.43	457
April.....	228.8	27	2.2	7.63	454
May.....	58.9	5.6	.7	1.90	117
June.....	23.8	.8	.7	.79	47
July.....	26.3	.9	.8	.85	52
August.....	31.0	1.6	.8	1.00	61
September.....	35.7	7.2	.7	1.19	71
Water year 1945-46	1,353.3	108	.3	3.71	2,680

Peak discharge.- Dec. 23 (6:30 a.m.) 230 sec.-ft.; Mar. 30 (12 m.) 250 sec.-ft.

e Stage-discharge relation doubtful; discharge computed on basis of records for Cucamonga Creek near Upland.

Cucamonga Creek near Upland, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°10'15", long. 117°37'55", in NE $\frac{1}{4}$ sec. 17, T. 1 N., R. 7 W.; 6 miles north of Upland. Altitude of gage, about 2,550 feet.

Drainage area.- 10.1 square miles.

Records available.- December 1928 to September 1946.

Average discharge.- 17 years (1929-46), 9.51 second-feet.

Extremes.- Maximum discharge during year, 650 second-feet Dec. 23 (gage height, 4.79 feet); minimum daily, 2.3 second-feet Sept. 23-28.

1928-46: Maximum discharge, 10,300 second-feet Mar. 2, 1938, from rainfall-runoff study; minimum, 0.8 second-foot July 16, 17, Aug. 18 to Sept. 15, Oct. 2-6, 1934.

Remarks.- Records fair. No diversion or regulation above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	4.5	3.9	8.8	4.9	6.0	35	8.6	6.4	4.4	3.1	2.9
2	3.5	4.1	3.8	8.3	4.9	6.0	28	8.3	6.2	4.3	3.1	2.9
3	3.4	3.7	3.7	8.8	13	6.0	27	8.1	6.1	4.5	3.1	2.9
4	3.5	3.7	3.7	8.1	9.2	6.0	29	7.9	5.7	4.1	3.1	2.8
5	3.7	4.0	4.0	7.9	8.1	6.0	28	7.7	5.7	4.1	3.2	2.9
6	4.6	4.4	4.1	7.5	7.9	5.9	f24	7.5	5.7	4.1	3.4	2.9
7	4.8	4.4	4.0	7.3	7.7	5.7	21	7.5	5.9	4.1	3.4	3.0
8	4.7	4.5	4.0	7.3	7.7	5.6	20	7.7	6.2	4.0	3.5	3.0
9	4.8	4.5	3.9	7.2	7.5	5.5	18	8.1	6.2	3.9	3.4	2.9
10	4.7	4.4	3.9	f7.0	7.3	5.5	16	8.7	6.1	3.8	3.2	2.8
11	4.5	4.5	4.3	a6.9	7.3	5.6	15	8.6	5.9	3.7	3.1	2.8
12	4.5	4.5	4.5	a6.8	7.3	5.6	14	8.1	5.8	3.5	3.2	2.8
13	4.4	4.5	4.3	a6.6	7.2	7.6	13	7.9	5.5	3.5	3.2	2.6
14	4.0	4.3	4.1	a6.5	7.0	6.8	13	7.7	5.4	3.4	3.4	2.6
15	3.9	4.4	4.1	a6.4	7.0	5.7	13	7.5	5.3	3.1	3.2	2.6
16	4.0	4.5	4.0	a6.3	7.3	5.6	12	7.5	5.1	3.0	3.2	2.7
17	4.0	4.5	3.9	a6.2	6.8	5.6	12	7.2	5.0	3.1	3.2	2.8
18	4.1	4.5	3.8	a6.1	6.6	5.6	11	7.3	4.7	3.5	3.4	2.6
19	3.9	4.4	3.8	a5.9	6.6	6.8	11	7.5	4.6	3.7	3.4	2.6
20	3.9	4.3	3.8	a5.8	6.6	6.8	11	7.5	4.7	3.8	3.5	2.6
21	3.9	4.3	58	f5.7	6.4	6.8	10	7.7	4.9	3.6	3.6	2.5
22	4.0	4.3	249	5.7	6.2	6.8	10	7.7	5.2	3.5	3.6	2.5
23	3.9	4.1	215	5.7	6.0	6.6	10	7.5	5.3	3.6	3.5	2.3
24	3.7	4.1	55	5.7	6.2	6.2	9.9	7.3	5.3	3.7	3.5	2.3
25	3.6	4.1	31	5.7	6.4	6.2	9.9	7.3	5.2	3.8	f3.4	2.3
26	3.5	3.9	20	5.9	6.4	6.0	9.9	7.3	5.1	3.7	a3.3	2.3
27	3.6	3.8	16	5.9	6.2	6.0	9.4	7.3	5.2	3.6	a3.2	2.3
28	3.9	3.7	15	6.0	6.2	7.0	9.1	7.2	5.2	3.5	a3.1	2.3
29	4.6	3.8	13	5.6	-	8.4	8.8	6.4	4.9	3.4	a3.0	3.7
30	5.2	3.8	12	5.5	-	93	8.6	6.4	4.7	3.2	f2.9	10
31	4.8	-	10	5.2	-	47	-	6.2	-	3.2	2.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	127.1	5.2	3.4	4.10	252
November.....	126.5	4.5	3.7	4.22	251
December.....	772.6	248	3.7	24.9	1,530
Calendar year 1945.....	4,081	248	3.4	11.2	8,090
January.....	204.3	8.8	5.2	6.59	405
February.....	197.9	13	4.9	7.07	393
March.....	319.9	93	5.5	10.3	635
April.....	466.6	35	8.6	15.6	925
May.....	235.2	8.7	6.2	7.59	467
June.....	163.2	6.4	4.6	5.44	324
July.....	114.2	4.4	3.0	3.68	227
August.....	101.3	5.6	2.9	3.27	201
September.....	88.2	10	2.3	2.94	175
Water year 1945-46.....	2,917.0	248	2.3	7.99	5,780

Peak discharge.- Dec. 23 (6:30 a.m.) 650 sec.-ft.; Mar. 30 (10:15 a.m.) 220 sec.-ft.

a No gage-height record; discharge interpolated.

f Computed on basis of partly estimated gage-height record.

San Jacinto River near Elsinore, Calif.

Location.- Water-stage recorder, lat. 33°39'45", long. 117°17'45", near east line of sec. 9, T. 6 S., R. 4 W., 2 miles east of Elsinore and 2.2 miles upstream from Elsinore Lake (low-water stage). Altitude of gage, about 1,270 feet.

Drainage area.- 717 square miles.

Records available.- January 1916 to September 1946.

Average discharge.- 30 years, 18.4 second-feet.

Extremes.- Maximum discharge during year, 6.3 second-feet Dec. 22 (gage height, 2.99 feet); no flow during several months.

1916-46: Maximum discharge, 16,000 second-feet Feb. 17, 1927 (gage height, 11.8 feet), by slope-area method; no flow during several months in most years.

Remarks.- Records good. Storage and diversions above station for irrigation. Low flow controlled since 1928 by Railroad Canyon Dam (reservoir capacity, 12,000 acre-feet), 2 miles above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.3	0.3	0.4	0.4	0.5	1.0	0.2	0.1			
2	0	.2	.3	.4	.4	.5	1.0	.2	.1			
3	0	.2	.3	.5	.6	.4	.7	.2	0			
4	0	.2	.4	.4	.7	.4	.6	.2	0			
5	0	.2	.3	.4	.5	.4	.6	.2	0			
6	0	.2	.3	.4	.5	.4	.6	.2	0			
7	0	.3	.3	.4	.5	.4	.6	.1	0			
8	.1	.3	.3	.4	.5	.4	.5	.1	0			
9	.1	.3	.3	.4	.4	.4	.5	.1	0			
10	.1	.2	.3	.4	.4	.4	.4	.2	0			
11	.1	.3	.3	.4	.4	.4	.4	.3	0			
12	.1	.3	.3	.4	.4	.4	.4	.3	0			
13	.1	.3	.3	.4	.5	.4	.4	.2	0			
14	.1	.3	.3	.4	.5	.5	.4	.2	0			
15	.1	.3	.3	.4	.5	.4	.4	.2	0			
16	.2	.3	.3	.4	.5	.5	.4	.2	0			
17	.2	.3	.3	.4	.5	.5	.4	.2	0			
18	.2	.3	.3	.4	.5	.5	.3	.2	0			
19	.2	.3	.3	.4	.5	.5	.3	.2	0			
20	.2	.2	.3	.4	.5	.6	.3	.2	0			
21	.2	.2	.4	.4	.5	.7	.3	.2	0			
22	.2	.2	3.9	.4	.5	.5	.3	.2	0			
23	.2	.2	1.7	.4	.5	.5	.2	.2	0			
24	.2	.2	.8	.4	.5	.5	.2	.2	0			
25	.2	.2	.7	.4	.5	.5	.2	.2	0			
26	.2	.2	.6	.4	.5	.4	.2	.2	0			
27	.2	.2	.5	.4	.5	.4	.2	.2	0			
28	.2	.2	.5	.4	.5	.6	.2	.2	0			
29	.2	.2	.4	.4	-	1.2	.2	.2	0			
30	.3	.3	.4	.4	-	2.7	-	.1	-			
31	.3	-	.4	.4	-	-	-	-	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4.2	0.3	0	0.14	8.3
November.....	7.5	.3	.2	.25	15
December.....	16.4	3.9	.3	.53	33
Calendar year 1945.....	140.9	3.9	0	.39	281
January.....	12.5	.5	.4	.40	25
February.....	13.7	.7	.4	.49	27
March.....	17.5	2.7	.4	.56	35
April.....	12.4	1.0	.2	.41	25
May.....	5.9	.3	.1	.19	12
June.....	.2	.1	0	.01	.4
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	90.3	3.9	0	.25	181

Elsinore Lake at Elsinore, Calif.

Location.- Staff gage, lat. 33°40'35", long. 117°21'30", on northeast shore, in La Laguna Grant, at Aloha Beach Club, Elsinore, Riverside County. Datum of gage is 1,230 feet above mean sea level. Gage heights have been reduced to elevations above mean sea level.

Records available.- December 1915 to September 1946.

Extremes.- Maximum elevation observed during year, 1,245.6 feet Oct. 2; minimum observed, 1,242.4 feet Sept. 4.

1915-46: Maximum elevation observed, 1,265.6 feet Mar. 20-25, 1916, during period of overflow; maximum observed since cessation of overflow in June 1917, 1,259.8 feet May 11-20, 1922; minimum observed, 1,226.6 feet in November and December 1936.

Remarks.- Elsinore Lake overflows into Temescal Creek, which is its outlet, only during and after years of unusually heavy rainfall. There has been no outflow since June 30, 1917. History of lake prior to 1916 is published in Water-Supply Paper 441. A summary of high stages that have occurred from 1916 to 1942 is contained in Water-Supply Paper 961.

Elevation, in feet, water year October 1945 to September 1946

Oct. 2	1,245.6	Dec. 14	1,244.9	Mar. 19	1,244.8	June 4	1,244.3	Aug. 16	1,242.8
16	1,245.4	Jan. 2	1,245.2	Apr. 5	1,245.0	18	1,244.0	Sept. 4	1,242.4
Nov. 1	1,245.2	16	1,245.1	16	1,245.0	July 2	1,243.7		
16	1,245.1	Feb. 6	1,245.1	May 1	1,244.8	16	1,243.4		
Dec. 4	1,245.0	Mar. 5	1,244.9	21	1,244.5	Aug. 2	1,243.1		

Temescal Creek near Corona, Calif.

Location.- Water-stage recorder, lat. 33°50'30", long. 117°30'45", in El Sobrante de San Jacinto Grant, 0.5 mile upstream from site of old Blue Diamond Quarry and 4 miles southeast of Corona, Riverside County. Altitude of gage, about 730 feet.

Records available.- January 1929 to September 1946.

Average discharge.- 17 years, 6.08 second-feet.

Extremes.- Maximum discharge during year, 36 second-feet Dec. 22 (gage height, 4.75 feet); no flow July 12 to Sept. 30.
1929-46: Maximum discharge, 14,900 second-feet Mar. 2, 1938, by slope-area method; no flow during parts of some years.

Remarks.- Records fair. Many diversions and several storage reservoirs in basin above this station, principally above Elsinore Lake.

Cooperation.- Twenty-six discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	1.1	0.9	2.1	a1.0	1.2	2.1	0.7	0.3	0.3		
2	1.4	.9	1.7	2.0	a1.0	1.1	2.3	.7	.3	.2		
3	1.5	1.1	1.9	2.0	a2.5	1.0	2.1	.7	.3	.3		
4	1.3	2.0	1.7	2.0	a2.4	1.0	2.1	.8	f.3	.3		
5	1.2	1.7	1.0	1.9	a2.3	.9	2.1	.8	a.3	.2		
6	1.2	1.2	.9	1.8	a2.3	.9	2.1	.8	a.2	.3		
7	1.1	1.2	.9	1.8	a2.2	.8	2.3	.8	f.2	.2		
8	1.0	1.2	1.7	1.8	a2.2	.8	2.1	.8	.2	.2		
9	1.1	1.1	2.0	1.8	a2.2	.7	2.3	.6	.2	.2		
10	2.5	1.6	2.1	1.9	a2.2	.8	2.0	.6	.2	.1		
11	2.8	2.3	1.9	2.1	a2.1	.8	2.0	.6	.2	.1		
12	2.7	2.0	1.5	2.4	a2.1	1.0	2.1	.6	.2	0		
13	1.9	1.2	1.2	2.4	2.1	1.2	2.1	.6	.2	0		
14	2.1	1.9	1.4	2.5	2.1	e.9	2.0	.6	.3	0		
15	2.8	1.8	.9	2.8	2.1	e.9	2.0	.5	.4	0		
16	2.7	1.3	1.2	3.0	2.1	e.8	2.0	.6	.3	0		
17	1.9	1.4	1.7	3.0	2.1	e.8	2.1	.6	.3	0		
18	1.6	1.0	1.8	3.0	2.1	e.8	2.1	.5	.3	0		
19	1.3	1.4	2.0	3.0	2.3	e.8	2.1	.6	.3	0		
20	1.2	1.3	1.4	3.0	2.4	1.0	2.1	.6	.4	0		
21	1.0	1.2	1.5	2.7	2.4	1.1	1.6	.6	.4	0		
22	1.1	1.4	1.1	1.5	2.3	1.2	1.0	.6	.3	0		
23	1.2	1.5	7.7	1.3	1.9	1.3	.9	.5	.2	0		
24	1.5	1.6	3.5	1.2	2.0	1.4	.9	.5	.2	0		
25	1.8	1.9	3.3	1.2	2.3	1.5	.8	.5	.2	0		
26	1.7	1.5	3.2	1.2	2.3	1.5	.8	.6	.2	0		
27	2.1	.8	2.8	2.1	2.1	e1.5	.8	.8	.2	0		
28	2.1	1.2	2.5	1.3	1.8	e1.5	.8	.6	.4	0		
29	2.4	1.3	2.4	1.2	-	1.5	.8	.5	.3	0		
30	f2.5	.8	2.4	1.0	-	1.9	.7	.4	.4	0		
31	1.7	-	2.3	a1.0	-	2.3	-	.4	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	53.3	2.8	0.9	1.72	106
November.....	41.9	2.3	.8	1.40	83
December.....	72.4	11	.9	2.34	144
Calendar year 1945	917.2	11	.7	2.51	1,820
January.....	82.0	3.0	1.0	2.00	123
February.....	58.9	2.5	1.0	2.10	117
March.....	34.9	2.3	.7	1.13	69
April.....	51.2	2.3	.7	1.71	102
May.....	19.1	.8	.4	.62	38
June.....	8.2	.4	.2	.27	16
July.....	2.4	.3	0	.08	4.8
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	404.3	11	0	1.11	803

a No gage-height record; discharge computed on basis of weather records, or interpolated.

e Stage-discharge relation doubtful; discharge estimated on basis of low flow earlier in March.

f Computed on basis of partly estimated gage-height record.

San Antonio Creek near Claremont, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°12'50", long. 117°40'00", in NW 1/4 sec. 36, T. 2 N., R. 8 W., 0.5 mile upstream from Southern California Edison Co.'s Sierra power plant and 8 miles northeast of Claremont. Altitude of gage, about 3,400 feet.

Drainage area.- 16.9 square miles.

Records available.- March 1901 to September 1946.

Average discharge.- 29 years (1917-46), 11.5 second-feet. Average combined discharge of creek and conduit, 29 years (1917-46), 24.6 second-feet.

Extremes.- Maximum discharge during year, 250 second-feet Dec. 23 (gage height, 3.06 feet); minimum daily, 0.6 second-foot Sept. 2-3.
1917-46: Maximum discharge, 21,400 second-feet Mar. 2, 1938, by rainfall-runoff studies; minimum, less than 0.1 second-foot for several days in October 1934.

Remarks.- Records fair. Southern California Edison Co.'s conduit diverts water above station (see p. 79).

Cooperation.- One discharge measurement furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.8	0.8	15	1.4	1.7	12	20	3.2	1.1	1.0	0.8
2	.8	.8	.8	12	1.4	1.6	11	20	2.9	1.0	1.0	.6
3	.8	1.2	.8	11	4.8	1.6	9.5	19	2.4	1.0	1.0	.6
4	.8	.7	.8	9.9	3.1	1.6	8.8	16	2.3	1.0	1.0	.8
5	.8	.7	.8	9.0	1.8	1.4	9.2	16	2.0	1.1	.9	.8
6	1.6	.8	.8	9.2	1.7	1.4	9.7	15	2.0	1.0	.8	.8
7	1.4	.9	.8	8.4	1.6	1.3	9.7	14	1.8	1.0	.8	.8
8	1.1	.9	.9	8.1	1.7	1.3	9.7	14	2.0	1.1	.8	.8
9	.8	.9	.9	7.1	1.6	1.2	9.7	14	2.1	1.2	.8	.8
10	.8	.9	.8	6.7	1.6	1.2	9.7	13	2.1	1.1	.8	.8
11	.8	.9	.8	7.5	1.6	1.2	9.7	13	2.3	1.1	.8	.8
12	.8	.9	.8	7.9	1.6	1.3	9.9	12	2.3	1.0	.9	.9
13	.8	.9	.8	7.3	1.4	1.7	10	11	2.3	1.1	.9	1.1
14	.8	.8	.8	7.1	1.4	1.6	11	11	2.1	1.0	.9	1.1
15	.7	.8	.8	d6.4	1.4	1.6	11	10	2.4	1.0	.9	1.1
16	.7	.9	.8	d5.8	1.4	1.6	12	9.9	3.2	1.1	.9	1.2
17	.7	.9	.8	d5.1	1.4	1.6	12	9.5	2.3	1.1	.9	1.2
18	.8	.9	.9	d4.5	1.4	1.6	19	9.0	1.3	1.2	.9	1.2
19	.8	.9	.9	d3.8	1.4	2.3	16	8.4	1.3	1.2	.9	1.2
20	.8	.9	.9	d3.2	1.4	2.4	22	7.7	1.3	1.1	.9	1.2
21	.8	.9	22	2.5	1.3	2.3	26	7.3	1.3	1.0	1.0	1.2
22	.7	.8	111	2.4	1.3	2.1	27	6.9	1.3	1.0	1.0	1.2
23	.7	.8	146	1.8	1.3	2.0	27	6.7	1.4	1.0	1.0	1.2
24	.7	.9	65	1.8	1.7	2.1	26	6.3	1.6	1.0	.9	.9
25	.7	1.0	60	1.8	1.7	2.0	25	5.9	1.1	1.0	.9	.9
26	.7	1.0	41	1.7	1.7	2.1	23	5.7	.9	1.0	.9	1.0
27	.7	1.0	36	1.7	1.7	2.0	22	5.3	1.1	1.0	.9	1.2
28	.8	1.6	29	2.0	1.7	1.8	22	4.7	1.1	1.0	.9	1.2
29	.9	.8	26	1.7	-	2.1	22	4.4	1.1	1.0	.9	1.2
30	1.8	.8	23	1.6	-	42	21	3.9	1.1	1.0	1.0	1.9
31	.9	-	18	1.6	-	20	-	3.5	-	1.0	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	26.8	1.8	0.7	0.86	53
November.....	27.0	1.6	.7	.90	54
December.....	593.5	146	.8	19.1	1,180
Calendar year 1945.....	5,230.7	146	.7	8.85	6,410
January.....	175.6	15	1.6	5.66	348
February.....	47.5	4.8	1.3	1.70	94
March.....	111.7	42	1.2	3.60	222
April.....	472.6	27	8.8	15.8	937
May.....	322.1	20	3.5	10.4	639
June.....	55.6	3.2	1.0	1.85	110
July.....	32.5	1.2	1.0	1.05	64
August.....	28.1	1.0	.8	.91	56
September.....	30.5	1.9	.6	1.02	60
Water year 1945-46.....	1,923.5	146	.6	5.27	3,820

Peak discharge.- Dec. 23 (9:30 a.m.) 250 sec.-ft.; Mar. 30 (12 m.) 89 sec.-ft.

d Doubtful gage-height record; discharge interpolated.

SANTA ANA RIVER BASIN

Combined discharge, in second-feet, of San Antonio Creek and Southern California Edison Co.'s conduit near Claremont, Calif., water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	12	11	37	19	17	32	42	25	18	14	12
2	12	12	11	34	19	17	31	42	24	17	13	12
3	12	12	11	33	26	17	32	40	23	18	14	12
4	12	12	11	32	21	17	31	38	23	18	13	12
5	12	12	11	31	20	16	31	38	23	17	13	12
6	13	12	11	30	20	16	32	37	23	17	13	12
7	13	12	11	29	20	16	32	36	23	17	13	12
8	13	12	11	29	20	16	32	36	23	17	13	12
9	13	12	10	29	20	16	32	36	22	17	12	12
10	12	12	10	29	20	16	32	35	22	17	12	12
11	12	11	10	30	20	15	32	35	22	17	12	12
12	12	11	10	30	19	15	32	34	22	17	13	12
13	12	11	10	28	18	18	32	33	22	17	13	12
14	12	11	10	28	18	16	33	33	22	16	13	12
15	13	11	10	28	18	16	33	32	21	16	13	12
16	12	11	10	28	18	16	34	32	22	15	13	12
17	12	11	10	27	17	16	34	32	21	15	13	11
18	12	11	10	26	17	15	41	31	20	16	13	12
19	12	11	10	26	16	16	38	30	20	16	13	12
20	12	11	10	24	16	16	44	30	20	16	13	11
21	12	11	44	22	16	16	49	29	19	15	13	11
22	12	11	111	22	16	16	50	29	19	15	13	11
23	12	11	146	22	16	16	50	29	19	15	12	11
24	12	11	87	22	17	16	49	28	20	15	12	11
25	12	11	82	22	17	15	48	28	19	15	12	11
26	12	11	63	21	17	15	46	28	19	14	12	12
27	12	11	58	21	17	15	44	27	18	14	12	11
28	12	12	51	21	17	16	44	27	18	14	12	11
29	12	11	48	21	-	16	44	26	18	14	12	11
30	15	11	45	21	-	60	43	26	18	14	12	12
31	12	-	39	21	-	40	-	26	-	14	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	380	15	12	12.3	754
November.....	341	12	11	11.4	676
December.....	982	146	10	31.7	1,950
Calendar year 1945.....	9,470	146	10	25.9	18,800
January.....	824	37	21	26.6	1,630
February.....	515	26	16	18.4	1,020
March.....	564	60	15	18.2	1,120
April.....	1,137	50	31	37.9	2,260
May.....	1,005	42	26	32.4	1,990
June.....	630	25	18	21.0	1,250
July.....	493	18	14	15.9	978
August.....	393	14	12	12.7	780
September.....	350	12	11	11.7	694
Water year 1945-46.....	7,614	146	10	20.9	15,100

Southern California Edison Co.'s conduit near Claremont, Calif.

Location. - At Southern California Edison Co.'s Sierra power plant, lat. 34°12'45", long. 117°40'15", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 2 N., R. 8 W., 1.5 miles downstream from intake and 8 miles northeast of Claremont. Altitude of gage, about 3,160 feet.

Records available. - January 1917 to September 1946.

Average discharge. - 29 years, 13.1 second-feet.

Remarks. - Conduit diverts water from San Antonio Creek in SE $\frac{1}{4}$ sec. 25, T. 2 N., R. 8 W., 1 mile upstream from gaging station on San Antonio Creek near Claremont. Water is used for power development and then for irrigation. Discharge is computed from record of kilowatt output of Sierra power plant.

Cooperation. - Records furnished by Southern California Edison Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	10	22	18	15	20	22	22	17	13	11
2	11	11	10	22	18	15	20	22	21	16	12	11
3	11	11	10	22	21	15	22	22	21	17	13	11
4	11	11	9.8	22	18	15	22	22	21	17	12	11
5	11	11	9.8	22	18	15	22	22	21	16	12	11
6	11	11	9.8	21	18	15	22	22	21	16	12	11
7	12	11	9.8	21	18	15	22	22	21	16	12	11
8	12	11	9.8	21	18	15	22	22	21	16	12	11
9	12	11	9.5	22	18	15	22	22	20	16	11	11
10	11	11	9.2	22	18	15	22	22	20	16	11	11
11	11	10	9.5	22	18	14	22	22	20	16	11	ell
12	11	10	9.5	22	17	14	22	22	20	16	12	11
13	11	10	9.2	21	17	16	22	22	20	16	12	11
14	11	10	9.2	21	17	14	22	22	20	15	12	11
15	12	10	9.2	22	17	14	22	22	19	15	12	11
16	11	10	9.2	22	17	14	22	22	19	14	12	11
17	11	10	9.2	22	16	14	22	22	19	14	12	10
18	11	10	9.2	22	16	13	22	22	19	15	12	11
19	11	10	9.0	22	15	14	22	22	19	15	12	11
20	11	10	9.0	21	15	14	22	22	19	15	12	10
21	11	10	22	20	15	14	23	22	18	14	12	10
22	11	10	0	20	15	14	23	22	18	14	12	10
23	11	10	0	20	15	14	23	22	18	14	11	10
24	11	10	22	20	15	14	23	22	18	14	11	10
25	11	9.8	22	20	15	13	23	22	18	14	11	10
26	11	9.8	22	19	15	13	23	22	18	13	11	11
27	11	9.8	22	19	15	13	22	22	17	13	11	10
28	11	10	22	19	15	14	22	22	17	13	11	10
29	11	10	22	19	-	14	22	22	17	13	11	10
30	13	10	22	19	-	18	22	22	17	13	11	10
31	11	-	21	19	-	20	-	22	-	13	11	-
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October				347		13	11	11.2	668			
November				309.4		11	9.8	10.3	614			
December				386.9		22	0	12.5	767			
Calendar year 1945				6,240.3		23	0	17.1	12,370			
January				648		22	18	20.9	1,290			
February				468		21	15	16.7	928			
March				452		20	13	14.6	897			
April				662		23	20	22.1	1,310			
May				682		22	22	22.0	1,350			
June				579		22	17	19.3	1,150			
July				462		17	13	14.9	916			
August				362		13	11	11.7	716			
September				319		11	10	10.6	633			
Water year 1945-46				5,677.3		23	0	15.6	11,260			

e Instantaneous reading not representative for day; discharge interpolated.

Anaheim Union Water Co.'s canal at Gypsum and Santa Ana Valley Irrigation Co.'s canal at Horseshoe Bend, near Atwood, Calif.

Location.- Anaheim Union Water Co.'s canal at Gypsum: Water-stage recorder and 9-foot rectangular contracted weir, lat. 33°52'36", long. 117°42'13", in Canyon de Santa Ana Grant, 7 miles east of Atwood, Orange County, Calif.

Santa Ana Valley Irrigation Co.'s canal at Horseshoe Bend: Discharge recorder and 4-foot Parshall flume, lat. 33°52'30", long. 117°44'16", in Santiago de Santa Ana Grant, 5 miles east of Atwood, Orange County, Calif.

Records available.- May to October each year, 1944 to 1946 (discontinued).

Remarks.- Records good. During low-water season, approximately one-half of flow of Santa Ana River is diverted into Anaheim Union Water Co.'s canal, 0.9 mile upstream from weir. Three miles downstream remainder of flow is diverted into Santa Ana Valley Irrigation Co.'s canal, 0.5 mile upstream from Parshall flume. Records given herein represent combined flow of the two canals. During periods of storm runoff or operational emergency, water is permitted to pass on down the river.

Cooperation.- Discharge recorder record furnished by Santa Ana Valley Irrigation Co.

Revisions.- Revised figures of discharge for period May to October 1945, superseding those published in Water-Supply Paper 1041, are given herein.

Combined discharge, in second-feet, May to October 1945 and May to October 1946

Day	1945						1946					
	May	June	July	Aug.	Sept.	Oct.	May	June	July	Aug.	Sept.	Oct.
1	89	85	70	56	58	59	93	67	61	46	47	68
2	95	82	72	60	57	60	91	69	60	48	50	69
3	93	82	72	59	58	60	91	69	59	45	47	65
4	94	84	72	61	55	60	64	68	62	47	46	70
5	88	82	72	54	52	63	65	69	62	48	46	54
6	92	78	70	54	52	65	84	67	62	49	45	58
7	96	77	70	52	54	72	86	65	60	48	45	61
8	95	78	69	51	55	70	85	65	57	46	49	60
9	95	77	67	50	60	79	85	66	56	46	52	60
10	93	80	62	52	55	78	88	66	54	44	53	59
11	94	80	60	53	53	75	75	67	52	44	51	57
12	92	74	60	57	51	76	65	70	49	43	48	56
13	98	72	58	54	54	63	91	67	49	43	47	57
14	95	72	57	49	56	75	91	66	51	45	45	58
15	91	73	58	48	57	77	88	65	49	44	43	60
16	88	73	59	47	60	77	86	65	50	44	47	62
17	83	72	58	60	61	82	89	63	52	42	48	68
18	83	69	59	70	66	82	73	61	52	44	46	68
19	81	65	62	94	69	81	70	61	55	46	43	60
20	86	66	60	84	68	68	92	64	56	47	43	54
21	86	66	56	74	69	82	95	66	54	45	46	63
22	83	72	54	68	68	81	90	66	49	40	47	63
23	80	71	54	65	68	82	87	65	51	41	49	61
24	78	71	53	62	66	75	82	65	52	41	50	61
25	78	74	54	60	65	78	75	60	54	41	49	60
26	78	72	53	60	63	80	81	59	47	42	47	64
27	81	71	54	61	64	70	80	61	47	42	48	70
28	85	73	56	62	62	82	79	61	46	45	46	74
29	85	72	59	62	57	87	76	60	50	48	46	70
30	85	72	59	63	58	105	74	62	47	46	92	75
31	86	-	55	60	-	98	70	-	47	45	-	72

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
May 1945	2,726	98	78	87.9	5,410
June	2,235	85	65	74.5	4,450
July	1,894	72	53	61.1	3,760
August	1,862	94	47	60.1	3,690
September	1,790	69	51	59.7	3,550
October	2,342	105	59	75.5	4,650
The period	-	-	-	-	25,490
May 1946	2,541	95	64	82.0	5,040
June	1,945	70	59	64.8	3,860
July	1,652	62	46	53.3	3,280
August	1,385	49	40	44.7	2,750
September	1,461	92	43	48.7	2,900
October	1,957	75	54	63.1	3,880
The period	-	-	-	-	21,710

Santiago Creek near Villa Park, Calif.

Location.- Water-stage recorder and concrete control, lat. 33°49'10", long. 117°46'30", in SW¹/₄ sec. 13, T. 4 S., R. 9 W., 0.6 mile downstream from diversion dam of Serrano and Carpenter Irrigation Districts and 1.8 miles northeast of Villa Park. Altitude of gage, about 420 feet.

Drainage area.- 83.8 square miles.

Records available.- June 1920 to September 1946.

Average discharge.- 26 years, 9.61 second-feet.

Extremes.- Maximum discharge during year, 150 second-feet Dec. 23 (gage height, 2.60 feet); no flow during several months.

1920-46: Maximum discharge, 11,000 second-feet Feb. 16, 1927 (gage height, 8.4 feet), by slope-area method; no flow during several months each year.

Remarks.- Records good. Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts. Flow completely regulated by Santiago Reservoir.

Cooperation.- Four discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0.2	0.2	e0.02		1.1		0.04			
2	0		.2	.2	.3		1.1		.4			
3	0		.1	.3	.6			e0.02	.6			
4	0		.1	.2	.6		e.06		.4			
5	0		.1	.2	.6							
6	0		.1	.1	.3				e.01			
7	0		.1	.1				0				
8	0		.1	.1			e.03	0	0			
9	0		.1	.1				0	0			
10	0		.1					0	0			
11	0	e0.04	.1			e0.01						
12	0		.1					0	0			
13	0		.1					0	0			
14			.1					0	0			
15			.1				e.01	0	0			
16			.1	e.07				0	0			
17			.1					0	0			
18			.1		e.02			0	0			
19	e.05		.1					0	0			
20		.1	.1			.2	e.04	0	0			
21		.1	.3			.4		0	0			
22		.1	.47			.2		0	0			
23		.1	.27					0	0			
24		.1	1.3					0	0			
25		.1	.8				e.02	0	0			
26		.1	.6	e.03		e.02		0	0			
27	e.04	.1	.3					0	0			
28		.1	.2					0	0			
29		.1	.2					0	0			
30		.1	.2			45			0			
31			.2			15		.01				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0.82	-	0	0.026	1.6
November.....	1.86	0.1	-	.062	5.7
December.....	80.4	47	.1	2.59	159
Calendar year 1945.....	1,690.04	164	0	4.63	3,350
January.....	2.64	.3	-	.085	5.2
February.....	2.28	.6	-	.081	4.5
March.....	61.13	45	-	1.97	121
April.....	2.89	1.1	-	.096	5.7
May.....	.12	-	0	.004	.2
June.....	1.46	.6	0	.049	2.9
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	153.60	47	0	.421	304

e Daily discharge less than 0.1 second-foot.

Santiago Creek at Santa Ana, Calif.

Location.- Water-stage recorder, lat. 33°46'00", long. 117°52'45", in Santiago de Santa Ana Grant, at end of Baker Street, Santa Ana, Orange County, 2,000 feet upstream from mouth. Altitude of gage, about 120 feet.

Records available.- January 1929 to September 1946.

Average discharge.- 17 years, 7.91 second-feet.

Extremes.- Maximum discharge during year, 280 second-feet Dec. 22 (gage height, 3.23 feet); no flow during most of year.

1929-46: Maximum discharge, 4,400 second-feet Mar. 2, 1938 (gage height, 7.40 feet); from rating curve extended above 1,200 second-feet by logarithmic plotting; no flow during most of each year.

Remarks.- Records fair. Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts. During each winter season, some water originally diverted from Santa Ana River by the Santa Ana Valley Irrigation Co.'s canal is occasionally wasted into Santiago Creek three miles upstream from this station.

Cooperation.- Ten discharge measurements furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	3.2	0					
2			0	0	0	.5	f3.7					
3			0	0	3.9	0	0					
4			0	0	0	.5	0					
5			0	0	0	0	0					
6			0	0	0	.7	0					
7			0	0	0	2.5	0					
8			0	0	0	1.8	0					
9			0	0	0	0	.7					
10			0	0	0	0	0					
11			0	0	0	0	0					
12			0	0	0	0	0					
13			0	0	2.1	0	0					
14			0	0	0	0	0					
15			0	0	2.6	0	0					
16			0	0	f1.6	f.6	0					
17			0	0	1.6	1.1	0					
18			0	.4	.9	f1.1	0					
19			0	11	0	1.1	0					
20			0	12	0	3.0	0					
21			3.1	10	f.5	f3.2	0					
22			101	f4.9	0	0	0					
23			13	0	0	1.0	0					
24			f.1	0	0	.7	0					
25			0	0	0	7.8	0					
26			0	0	0	14	0					
27			0	0	0	6.9	0					
28			0	0	f.7	12	0					
29			0	0	-	0	0					
30			0	0	-	12	0					
31			0	0	-	f7.6	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	117.2	101	-	3.78	232
Calendar year 1945.....	1,080.6	101	0	2.96	2,140
January.....	38.3	12	0	1.24	76
February.....	13.9	3.9	0	.50	28
March.....	82.0	14	0	2.65	163
April.....	3.7	3.7	0	.12	7.3
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	255.1	101	0	.70	506

f Computed on basis of partly estimated gage-height record.

East Fork San Gabriel River near Camp Bonita, Calif.

Location.- Water-stage recorder, lat. 34°14'12", long. 117°48'30", in SE $\frac{1}{4}$ sec. 22, T. 2 N., R. 9 W., 1,000 feet upstream from mouth of Graveyard Canyon, 2.5 miles upstream from confluence with West Fork, and 2.5 miles west of Camp Bonita.

Records available.- December 1932 to September 1946.

Average discharge.- 13 years (1933-46), 96.1 second-feet.

Extremes.- Maximum discharge during year, 2,760 second-feet Dec. 21 (gage height, 10.90 feet); minimum daily, 19 second-feet Dec. 16-20.

1932-46: Maximum discharge, 46,000 second-feet Mar. 2, 1938, from rating curve extended above 21,300 second-feet by logarithmic plotting (computed by Geological Survey); minimum, 1.5 second-feet Oct. 1, 1934.

Cooperation.- Records furnished by Los Angeles Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	29	22	114	51	46	286	135	65	42	29	23
2	21	27	21	112	50	45	241	152	64	42	29	23
3	21	24	21	110	170	45	235	126	64	42	29	22
4	20	24	21	108	70	44	228	124	62	42	29	22
5	20	24	21	103	64	44	214	119	61	41	29	21
6	26	27	21	98	58	43	212	115	59	41	29	21
7	31	27	21	93	58	42	206	113	59	40	29	21
8	26	24	21	89	58	41	187	111	59	40	29	21
9	23	24	20	85	58	41	184	109	58	39	29	21
10	24	24	20	81	58	40	184	109	56	39	28	21
11	24	23	20	78	58	39	189	104	56	38	28	21
12	24	25	20	74	57	39	194	100	55	38	28	21
13	24	24	20	71	56	50	194	98	53	38	28	21
14	24	23	20	67	56	48	191	98	52	38	28	21
15	24	23	20	64	55	44	194	96	51	38	27	22
16	24	23	19	63	54	42	204	92	51	38	27	22
17	24	23	19	62	54	39	206	90	50	36	26	22
18	21	22	19	61	53	39	204	88	48	40	25	22
19	21	22	19	60	52	56	212	85	46	39	25	22
20	22	22	19	59	52	53	206	85	46	39	25	22
21	23	21	553	58	51	46	191	86	46	36	25	22
22	22	20	1,520	58	50	46	180	84	46	36	25	22
23	22	20	1,150	58	49	46	173	80	47	26	25	22
24	21	20	478	57	49	50	168	78	48	36	25	22
25	21	20	268	57	48	50	164	77	48	35	25	22
26	21	20	226	56	48	50	164	75	47	34	25	21
27	21	20	190	55	47	48	159	73	47	34	25	21
28	21	20	161	54	46	53	152	70	47	33	24	21
29	26	22	140	53	-	64	148	68	46	32	24	21
30	50	22	125	52	-	773	143	67	43	31	23	27
31	32	-	118	52	-	462	-	65	-	30	23	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	745	50	20	24.0	1,480
November.....	689	29	20	23.0	1,370
December.....	5,333	1,520	19	172	10,580
Calendar year 1945	27,519	1,520	19	75.4	54,590
January.....	2,262	114	52	73.0	4,490
February.....	1,630	170	46	58.2	3,230
March.....	2,568	773	39	82.8	5,090
April.....	5,813	286	143	194	11,530
May.....	2,952	135	65	95.2	5,860
June.....	1,580	65	43	52.7	3,150
July.....	1,163	42	30	37.5	2,310
August.....	825	29	23	26.6	1,640
September.....	653	27	21	21.8	1,300
Water year 1945-46	26,213	1,520	19	71.8	52,010

San Gabriel River near Azusa, Calif.

Location.- Water-stage recorder, lat. $34^{\circ}10'10''$, long. $117^{\circ}53'16''$, in SW $\frac{1}{4}$ sec. 13, T: 1. N., R. 10 W., 1 mile downstream from Morris Dam and 3 miles northeast of Azusa, Altitude of gage, about 870 feet.

Drainage area.- 211 square miles.

Records available.- 1894 to September 1946.

Average discharge.- 50 years (1896-1946), 118 second-feet. Average combined discharge of river and diversions, adjusted for storage and evaporation in Morris Reservoir and San Gabriel River flood-control reservoirs 1 and 2, 51 years (1895-1946), 168 second-feet.

Extremes.- Maximum discharge during year, 980 second-feet Dec. 23 (gage height, 3.04 feet); minimum daily, 0.3 second-foot Aug. 2, 3.

1894-1946: Maximum discharge, 65,700 second-feet Mar. 2, 1938, by computation of flow over spillway at Morris Dam; no flow for several months in each year 1894-1936, 1940, 1941.

Remarks.- Records good. Flow regulated by San Gabriel flood-control reservoirs 1 and 2, and by Morris Reservoir of Metropolitan Water District of Southern California. Azusa Canal (formerly power canal of Southern California Edison Co.) diverts above high-water line of Morris Reservoir at point about 3 miles above station.

Cooperation.- Forty-four discharge measurements furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	6.1	34	2.9	1.2	66	a38	52	48	0.5	0.4	2.1
2	8.4	6.1	34	117	1.2	64	a64	52	48	.5	.3	2.1
3	8.0	6.1	34	462	1.9	64	a65	52	48	.5	.3	2.1
4	8.0	5.7	34	452	11	63	a61	52	48	.6	.4	2.1
5	8.0	6.1	34	452	57	63	f56	51	48	.6	.5	2.1
6	8.4	6.1	34	418	48	63	56	51	47	.7	.8	1.9
7	8.0	6.1	34	337	52	63	58	51	47	.8	1.5	1.9
8	8.0	6.1	34	330	59	63	75	51	47	.9	1.7	1.9
9	8.0	6.1	34	285	80	63	70	51	47	1.0	1.9	1.9
10	7.5	6.1	34	285	90	63	59	51	21	1.0	2.1	259
11	7.5	5.7	34	281	92	63	51	51	2.1	1.1	2.3	447
12	7.5	5.7	34	281	92	63	57	51	1.9	1.0	2.6	484
13	7.5	20	34	277	92	70	58	51	1.7	.9	2.8	532
14	7.5	37	34	277	86	68	56	51	1.4	.8	3.2	626
15	7.5	37	33	273	84	66	56	51	1.0	.7	3.2	626
16	7.5	36	33	251	84	64	54	51	.8	.6	3.5	626
17	7.5	36	33	214	84	64	54	51	.7	.5	3.5	620
18	7.0	34	33	214	84	64	54	51	.6	.4	3.9	524
19	7.0	34	32	214	84	70	54	51	.6	.4	3.9	463
20	7.0	34	31	211	82	64	54	50	.5	.4	3.9	426
21	7.0	34	38	207	73	63	54	50	.5	.8	3.5	426
22	7.0	34	381	a76	70	62	52	48	.5	1.2	3.2	426
23	7.0	34	937	a2.6	68	62	52	48	.5	1.1	3.2	426
24	7.0	34	914	f1.7	66	62	52	48	.5	.9	3.2	426
25	7.0	34	907	1.4	66	62	52	48	.5	1.0	3.2	426
26	7.0	34	907	1.4	66	62	52	48	.5	.9	2.8	302
27	7.0	34	414	1.4	66	62	52	48	.5	.8	2.6	2.3
28	7.0	34	3.2	1.2	66	62	52	48	.5	.7	2.3	1.0
29	6.5	34	2.9	1.1	-	62	52	48	.5	.6	2.1	.5
30	6.5	34	2.9	1.1	-	18	52	48	.5	.6	2.1	.4
31	6.1	-	2.9	1.1	-	a3	-	48	-	.4	2.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	
					San Gabriel River	San Gabriel River and Azusa Canal†
October	254.9	34	6.1	8.22	506	2,640
November	680.0	37	5.7	22.7	1,350	2,600
December	5,180.9	937	2.9	167	10,280	22,240
Calendar year 1945	28,336.1	980	2.9	77.6	56,200	100,400
January	5,929.9	462	1.1	191	11,760	7,670
February	1,806.3	92	1.2	64.5	3,580	5,650
March	1,871	70	3	60.4	3,710	15,220
April	1,670	75	3.8	55.7	3,310	21,490
May	1,553	52	4.8	50.1	3,080	9,190
June	465.3	48	.5	15.5	923	5,110
July	22.9	1.2	.4	.74	45	3,650
August	75.0	3.9	.3	2.35	145	2,680
September	8,187.3	632	.4	273	16,240	2,370
Water year 1945-46	27,694.5	937	.3	75.9	54,930	100,700

† Combined runoff of river and Azusa Canal, adjusted for storage and evaporation in Morris Reservoir and San Gabriel River flood-control reservoirs 1 and 2 using record furnished by Metropolitan Water District of Southern California. These figures of runoff are equivalent to combined records of San Gabriel River and Southern California Edison Co.'s canal as published from 1894 to 1935.

a No gage-height record; discharge computed on basis of recorded range in stage, operation records of upstream Morris Dam, and probable discharge recession curve.

f Computed on basis of partly estimated gage-height record.

San Gabriel River below Santa Fe Dam, near Baldwin Park, Calif.

Location.- Water-stage recorder, lat. 34°06'40", long. 117°58'20", at stilling basin of outlet of Santa Fe Dam, 0.3 mile north of Arrow Highway and 1.5 miles north of Baldwin Park, Los Angeles County. Datum of gage, 400.00 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 231 square miles.

Records available.- October 1942 to September 1946.

Extremes.- Maximum discharge during year, 1,600 second-feet Dec. 23 (gage height, 12.54 feet); no flow during most of year.

1942-46: Maximum discharge, 6,700 second-feet Jan. 24, 1943; no flow during several months of each year.

Remarks.- Records excellent above 150 second-feet, and fair below. Flow regulated by San Gabriel flood-control reservoirs 1 and 2, by Norris Reservoir of Metropolitan Water District of Southern California, and during high flow by Santa Fe flood-control basins. Canal diversions upstream. Records include 22,180 acre-feet diverted to Rio Hondo as shown in monthly table.

Cooperation.- Gage-height record and nine discharge measurements furnished by Corps of Engineers, War Department, and seven discharge measurements furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0	5.0					0
2			0	29	0	0	4.4					0
3			0	415	0	0	0					0
4			0	402	0	0	0					0
5			0	402	21	0	0					0
6			0	384	8.8	0	0					0
7			0	310	8.6	0	0					0
8			0	308	8.9	0	0					0
9			0	234	10	0	0					0
10			0	234	12	0	0					12
11			0	246	14	0	0					334
12			0	246	13	0	0					340
13			0	242	14	0	0					493
14			0	238	9.5	0	0					493
15			0	242	5.4	0	0					493
16			0	224	4.7	0	0					493
17			0	183	1.8	0	0					498
18			0	180	0	0	0					417
19			0	183	0	0	0					365
20			0	183	.9	0	0					323
21			0	183	1.4	0	0					323
22			434	110	0	0	0					327
23			1,140	2.7	0	0	0					323
24			950	0	0	0	0					323
25			910	0	0	0	0					327
26			900	0	0	0	0					282
27			525	0	0	0	0					3.6
28			10	0	0	0	0					0
29			.3	0	-	0	0					0
30			0	0	-	35	0					0
31			0	0	-	38	-					-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	
					San Gabriel River	Diversion to Rio Hondo
October	0	0	0	0	0	0
November	0	0	0	0	0	0
December	4,846.3	1,140	0	156	9,620	0
Calendar year 1945	9,868.9	1,140	0	27.0	19,580	0
January	5,178.7	415	0	167	10,270	10,270
February	131.8	21	0	4.71	281	0
March	73	38	0	2.4	145	0
April	9.4	5.0	0	.31	19	0
May	0	0	0	0	0	0
June	0	0	0	0	0	0
July	0	0	0	0	0	0
August	0	0	0	0	0	0
September	6,169.6	498	0	206	12,240	11,910
Water year 1945-46	16,411.8	1,140	0	45.0	32,560	22,180

San Gabriel River at Pico, Calif.

Location.- Water-stage recorder, lat. 34°00'20", long. 118°04'05", in Paso De Bartolo Grant, at Beverly Boulevard Bridge, 0.5 mile east of Pico, Los Angeles County. Altitude of gage, about 180 feet.

Records available.- October 1928 to September 1946.

Average discharge.- 18 years, 57.7 second-feet.

Extremes.- Maximum discharge during year, 4,660 second-feet Dec. 23 (gage height, 6.80 feet); no flow for several periods.

1928-46: Maximum discharge, 22,700 second-feet Mar. 2, 1938; no flow for periods each year.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.9	2.2	15	88	72	78	108	50	4.7			0
2	5.7	2.4	16	70	78	96	120	54	3.8			0
3	0	3.6	15	70	207	88	100	50	3.8			0
4	0	3.8	15	75	128	80	92	48	3.3			0
5	0	4.1	16	70	88	72	104	54	1.5			0
6	0	4.1	15	70	104	75	92	44	1.8			0
7	0	5.0	15	62	88	75	84	33	.6			0
8	0	6.9	17	62	92	70	92	24	0			0
9	0	6.9	16	62	108	72	92	13	0			0
10	0	6.6	15	68	116	84	84	14	0			0
11	0	6.9	17	65	112	72	84	15	0			0
12	0	6.0	17	62	92	62	84	20	0			0
13	0	5.4	16	72	92	52	78	18	0			0
14	0	5.4	16	68	84	55	75	18	0			0
15	0	4.1	14	55	88	48	78	15	0			.2
16	0	5.7	14	58	80	44	84	15	0			.5
17	.1	6.6	14	68	80	50	80	14	0			0
18	.7	7.7	13	58	80	48	78	14	0			0
19	1.2	6.9	12	54	80	58	78	15	0			0
20	1.0	7.7	12	58	88	78	75	15	0			0
21	1.3	7.7	46	52	75	68	72	14	0			0
22	1.5	7.7	1,170	46	78	55	80	12	0			0
23	1.3	7.7	1,660	43	92	58	72	13	0			0
24	.9	8.5	828	44	96	58	65	11	0			0
25	1.0	11	856	44	84	60	65	10	0			0
26	.9	12	856	52	88	54	62	9.3	0			0
27	1.3	13	603	52	104	54	68	7.7	0			0
28	1.4	14	104	62	78	70	60	6.9	0			0
29	2.0	15	84	62	-	68	58	6.0	0			0
30	1.7	15	80	65	-	438	65	5.4	0			0
31	2.0	-	84	75	-	205	-	4.7	-			-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	32.9	8.9	0	1.06	65
November.....	219.6	15	2.2	7.32	436
December.....	6,671	1,660	12	215	13,230
Calendar year 1945.....	21,747.4	1,660	0	59.6	43,140
January.....	1,912	88	43	61.7	3,790
February.....	2,652	207	72	94.7	5,260
March.....	2,555	438	44	82.4	5,070
April.....	2,429	120	58	81.0	4,820
May.....	643.0	54	4.7	20.7	1,280
June.....	19.5	4.7	0	.65	39
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	.7	.5	0	.02	1.4
Water year 1945-46.....	17,134.7	1,660	0	46.9	33,990

San Gabriel River at Spring Street, near Los Alamitos, Calif.

Location.- Water-stage recorder, lat. 33°48'40", long. 118°05'30", in Los Alamitos Grant, at Spring Street Bridge, 1.5 miles west of Los Alamitos, Orange County. Altitude of gage, about 22 feet.

Records available.- October 1936 to September 1946 in reports of Geological Survey; 1927-36, in Files of Los Angeles County Flood Control District.

Average discharge.- 19 years, 35.4 second-feet.

Extremes.- Maximum discharge during year, 3,300 second-feet Dec. 23 (gage height, 9.95 feet); no flow during several months.

1936-46: Maximum discharge, 27,300 second-feet (estimated) Mar. 2, 1938; no flow during several months of each year.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	4.6	54	0				
2			0		0	5.2	41	0				
3			0		0	3.9	37	0				
4			0		79	3.9	43	0				
5			0		19	2.5	34	0				
6			0		13	1.4	32	1.6				
7			0		10	1.4	29	.7				
8			0		9.1	.4	26	0				
9			0		8.4	.1	23	0				
10			0		10	0	21	0				
11			0		12	0	20	0				
12			0		10	0	20	0				
13			0		11	0	20	0				
14			0		8.4	0	18	0				
15			0		6.6	0	16	0				
16			0		5.9	0	10	0				
17			0		4.6	0	9.7	0				
18			0		5.0	0	7.2	0				
19			0		5.3	0	8.4	0				
20			0		5.3	2.1	7.8	0				
21			0		5.3	31	8.4	0				
22			459		4.2	18	10	0				
23			1,460		7.8	16	9.7	0				
24			738		5.3	14	7.2	0				
25			792		9.1	18	4.6	0				
26			770		8.4	14	1.8	0				
27			692		6.6	15	0	0				
28			29		5.9	19	0	0				
29			0		-	26	0	0				
30			0		-	259	0	0				
31			0		-	158	-	0				
Month					Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet			
October.....					0	0	0	0	0			
November.....					0	0	0	0	0			
December.....					4,940	1,460	0	159	9,800			
Calendar year 1945.....					13,810.3	1,460	0	37.8	27,390			
January.....					0	0	0	0	0			
February.....					275.2	79	0	9.83	546			
March.....					609.5	259	0	19.7	1,210			
April.....					518.8	54	0	17.3	1,030			
May.....					2.3	1.6	0	.07	4.6			
June.....					0	0	0	0	0			
July.....					0	0	0	0	0			
August.....					0	0	0	0	0			
September.....					0	0	0	0	0			
Water year 1945-46.....					6,345.8	1,460	0	17.4	12,590			

SAN GABRIEL RIVER BASIN

West Fork San Gabriel River at Camp Rincon, Calif.

Location.- Water-stage recorder, lat. 34°14'30", long. 117°51'50", near center of sec. 19, T. 2 N., R. 9 W.. 0.2 mile upstream from Camp Rincon, 0.5 mile downstream from North Fork San Gabriel River, and 6 miles downstream from San Gabriel dam No. 2.

Drainage area.- 102 square miles.

Records available.- October 1927 to September 1946.

Average discharge.- 19 years, 80.5 second-feet.

Extremes.- Maximum discharge during year, 2,620 second-feet Mar. 30 (gage height, 11.39 feet); minimum, 5.9 second-feet Sept. 28.

1927-46: Maximum discharge, 34,000 second-feet (estimated) Mar. 2, 1938; no flow at times in 1928, 1929.

Remarks.- Flow partly regulated by San Gabriel dam No. 2, 6 miles above station.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	21	16	48	24	25	854	75	42	19	13	10
2	13	18	16	46	24	25	461	72	40	19	14	10
3	13	30	16	48	95	25	198	70	40	18	14	10
4	14	190	16	45	53	25	182	68	38	17	14	9.6
5	14	194	16	43	70	25	168	64	36	18	14	9.6
6	20	60	16	41	135	24	480	62	34	17	14	9.6
7	24	85	16	39	132	24	658	61	33	18	14	9.6
8	23	20	16	77	124	23	339	61	33	19	14	9.6
9	20	18	16	138	36	22	192	62	33	18	14	8.8
10	18	31	16	132	30	23	188	62	32	19	14	8.8
11	18	46	16	128	31	23	184	61	31	19	14	9.6
12	18	42	16	44	30	23	179	59	30	19	12	9.6
13	18	18	16	29	29	30	173	59	30	19	11	8.8
14	17	16	16	28	28	28	166	59	29	18	11	8.8
15	17	16	16	28	29	25	159	58	29	16	10	8.8
16	17	16	16	28	28	23	152	57	28	16	10	8.8
17	17	16	16	28	27	23	145	53	28	17	11	9.6
18	17	16	16	28	27	265	137	53	27	18	12	8.8
19	17	16	16	28	27	146	129	52	26	19	12	8.8
20	17	16	16	28	27	128	125	52	27	20	11	8.8
21	16	16	423	27	27	38	118	52	26	18	11	9.6
22	16	15	1,500	27	27	30	108	52	27	17	8.8	8.8
23	16	15	1,190	27	27	94	102	51	27	16	8.8	9.6
24	16	15	714	26	27	139	98	50	26	16	8.8	8.8
25	16	16	368	26	27	77	96	48	26	16	8.8	8.0
26	16	16	171	26	27	50	92	50	25	16	8.8	8.0
27	16	16	128	25	26	46	90	50	24	14	8.8	8.0
28	16	16	105	25	26	57	85	47	24	14	9.6	8.0
29	20	16	84	25	-	74	81	45	22	14	10	8.8
30	32	16	57	25	-	1,830	78	44	21	14	10	12
31	25	-	53	24	-	1,190	-	43	-	14	10	-
Month	Second-foot-days					Maximum	Minimum	Mean	Runoff in acre-feet			
October.....	550					32	13	17.7	1,090			
November.....	1,042					194	15	34.7	2,070			
December.....	5,113					1,500	16	165	10,140			
Calendar year 1945.....	20,199					1,500	13	55.3	40,060			
January.....	1,337					139	24	43.1	2,650			
February.....	1,220					135	24	43.6	2,420			
March.....	4,580					1,830	22	146	9,080			
April.....	6,217					854	78	207	12,330			
May.....	1,751					75	43	56.5	3,470			
June.....	894					42	21	29.8	1,770			
July.....	532					20	14	17.2	1,060			
August.....	356.4					14	8.8	11.5	707			
September.....	275.6					12	8.0	9.19	547			
Water year 1945-46.....	23,868.0					1,830	8.0	65.4	47,330			

Rogers Creek near Azusa, Calif.

Location.- Water-stage recorder, lat. 34°09'55", long. 117°54'20", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T. 1 N., R. 10 W., 0.5 mile upstream from mouth and 2.5 miles north of Azusa. Altitude of gage, about 800 feet.

Drainage area.- 6.4 square miles.

Records available.- May 1916 to September 1917 (discharge measurements only), October 1917 to September 1946.

Average discharge.- 29 years, 3.42 second-feet.

Extremes.- Maximum discharge during year, 400 second-feet Dec. 23 (gage height, 6.04 feet); no flow at times.
1917-46: Maximum discharge, about 2,600 second-feet Apr. 7, 1926; no flow during part of each year.

Remarks.- Records good. One small diversion above station for irrigation.

Cooperation.- One discharge measurement furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.02	0.2	0.2	3.1	0.7	0.9	18	1.8	0.9	0.2	0	
2	.01	.2	.2	3.0	.6	.9	16	1.8	.9	.3	0	
3	0	.2	.1	3.6	12	.9	12	1.7	.9	.3	0	
4	0	.2	.1	2.8	5.4	1.0	10	1.6	.8	.3	0	
5	0	.2	.2	2.7	3.3	1.0	8.9	1.6	.8	.2	0	
6	.02	.3	.2	2.4	2.7	1.1	7.9	1.5	.7	.1	0	
7	.2	.5	.2	2.2	2.5	1.2	7.3	1.4	.7	.1	0	
8	.2	.4	.2	2.1	2.2	1.0	6.7	1.5	.7	.1		
9	.2	.3	.2	1.9	1.9	.9	5.9	1.6	.5			
10	.2	.2	.2	1.9	1.9	.6	5.4	1.6	.4		e.02	
11	.2	.2	.2	1.8	1.9	.5	4.7	1.6	.3			
12	.2	.2	.2	1.6	1.8	.8	4.3	1.6	.3		0	
13	.2	.2	.3	1.6	1.7	2.4	4.3	1.6	.3	e.03	0	
14	.2	.2	.2	1.6	1.7	1.9	4.1	1.6	.3		0	
15	.2	.2	.2	1.5	1.6	1.2	3.9	1.5	.3		0	
16	.2	.2	.2	1.5	1.9	1.0	3.9	1.5	.3		0	
17	.2	.2	.2	1.5	1.7	.8	3.7	1.5	.3		0	
18	.3	.2	.2	1.4	1.6	.8	3.5	1.4	.2	.1	0	
19	.3	.2	.2	1.4	1.5	3.1	3.5	1.5	.2	.1	0	
20	.2	.2	.2	1.2	1.5	3.1	3.1	1.5	.2	.1	0	
21	.2	.1	.33	1.2	1.5	2.5	2.8	1.6	.2	.1	0	
22	.2	.2	130	1.2	1.5	1.8	2.7	1.6	.3	.1	0	
23	.2	.1	123	1.1	1.1	1.5	2.4	1.6	.3	.02	0	
24	.2	.1	22	1.1	.9	1.2	2.2	1.5	.3	.1	0	
25	.2	.1	12	1.0	1.0	1.1	2.1	1.4	.2	.01	0	
26	.2	.1	8.2	.9	1.1	1.0	2.1	1.5	.2	0	0	
27	.2	.2	6.5	.8	1.0	.9	2.1	1.5	.2	0	0	
28	.2	.2	5.7	.7	1.0	2.0	2.1	1.2	.2	0	0	
29	.2	.2	4.7	.7	-	2.2	2.1	1.1	.2	0	0	
30	.3	.2	3.9	.7	-	75	1.9	1.0	.2	0	0	
31	.3	-	3.5	.7	-	30	-	1.0	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5.45	0.3	0	0.176	11
November.....	6.2	.5	.1	.21	12
December.....	356.4	130	.1	11.5	707
Calendar year 1945.....	1,099.19	130	0	3.01	2,180
January.....	50.9	3.6	.7	1.64	101
February.....	59.2	12	.6	2.11	117
March.....	144.3	75	.5	4.65	286
April.....	159.6	18	1.9	5.32	317
May.....	46.4	1.8	1.0	1.50	92
June.....	12.3	.9	.2	.41	24
July.....	2.50	.3	0	.081	5.0
August.....	.08	-	0	.003	.2
September.....	0	0	0	0	0
Water year 1945-46.....	843.33	130	0	2.31	1,670

Peak discharge.- Dec. 23 (7:30 a.m.) 400 sec.-ft.; Mar. 30 (10:30 a.m.) 190 sec.-ft.
e Daily discharge less than 0.1 sec.-ft.

Fish Creek near Duarte, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°10'00", long. 117°55'25", in SW1/4 sec. 15, T. 1 N., R. 10 W., 0.8 mile upstream from mouth of canyon and 3 miles northeast of Duarte. Altitude of gage, about 1,000 feet (from topographic map).

Drainage area.- 6.5 square miles.

Records available.- July to September 1916, July 1917 to September 1946.

Average discharge.- 29 years (1917-46), 4.59 second-feet.

Extremes.- Maximum discharge during year, 540 second-feet Dec. 23 (gage height, 3.59 Feet); minimum daily, 0.1 second-foot many days in August and September.

1916-46: Maximum discharge, about 2,180 second-feet Apr. 4, 1925; no flow during periods in 1919-21, 1924, 1929-30.

Remarks.- Records good. No diversion or regulation above station.

Cooperation.- Three discharge measurements furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.8	0.8	3.8	1.5	1.7	24	2.7	1.6	0.8	0.1	0.1
2	.2	.8	.8	3.6	1.5	1.7	20	2.7	1.6	.8	.1	.2
3	.2	.7	.8	4.7	15	1.7	14	2.7	1.6	.8	.1	.1
4	.2	.7	.8	3.6	6.0	1.7	11	2.6	1.5	.7	.1	.1
5	.4	.8	.8	3.5	3.6	1.7	9.0	2.5	1.2	.7	.1	.1
6	.6	1.1	.8	3.0	3.2	1.8	8.0	2.3	1.1	.7	.1	.1
7	1.0	1.2	.8	2.9	2.9	1.8	7.3	2.2	1.1	.7	.2	.1
8	.9	1.0	.8	2.6	2.6	1.6	6.9	2.2	1.2	.6	.2	.1
9	.8	.9	.8	2.5	2.3	1.6	6.5	2.5	1.2	.6	.2	.2
10	.8	.9	.8	2.5	2.2	1.6	6.1	2.7	1.1	.5	.2	.2
11	.8	.9	.8	2.2	2.2	1.6	5.8	2.9	1.0	.5	.2	.1
12	.8	.9	.8	2.1	2.2	1.6	5.5	2.7	1.0	.4	.2	.1
13	.7	.9	.8	2.0	2.2	3.3	5.3	2.6	1.0	.4	.2	.1
14	.7	.9	.8	2.0	2.1	1.8	5.1	2.5	1.0	.3	.2	.1
15	.8	.9	.8	1.8	2.1	1.1	4.9	2.5	.9	.3	.2	.1
16	.8	.9	.8	1.7	2.5	1.0	4.7	2.3	.9	.2	.2	.1
17	.9	.9	.8	1.7	2.1	1.0	4.6	2.2	.9	.3	.2	.1
18	.9	.8	.7	1.7	2.0	1.0	4.4	2.2	.9	.4	.1	.1
19	.9	.8	.7	1.7	1.8	5.9	4.2	2.3	.8	.5	.1	.1
20	.8	.7	.7	1.7	1.8	6.0	4.1	2.3	.8	.5	.1	.1
21	.8	.7	35	1.7	1.8	4.9	3.9	2.5	.9	.5	.1	.1
22	.8	.7	151	1.7	1.8	3.3	3.6	2.3	1.0	.4	.1	.2
23	.8	.7	156	1.7	1.8	3.2	3.5	2.5	.9	.4	.1	.2
24	.7	.7	24	1.7	1.8	3.0	3.5	2.1	.9	.4	.1	.2
25	.6	.7	12	1.6	1.8	2.6	3.3	2.1	.8	.4	.1	.1
26	.5	.7	7.6	1.6	1.8	2.3	3.0	2.3	.8	.3	.1	.1
27	.5	.7	7.3	1.6	1.8	2.2	3.0	2.2	.8	.2	.1	.1
28	.6	.7	6.3	1.6	1.8	3.8	3.0	2.1	.8	.2	.1	.1
29	.8	.7	5.7	1.6	-	4.1	3.0	1.8	.8	.2	.1	.1
30	1.3	.8	4.9	1.5	-	110	2.9	1.7	.8	.2	.1	.2
31	.9	-	4.1	1.5	-	41	-	1.6	-	.2	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	21.7	1.3	0.2	0.70	43
November	24.6	1.2	.7	.82	49
December	429.6	156	.7	15.9	852
Calendar year 1945	1,465.5	156	.2	4.02	2,910
January	69.1	4.7	1.5	2.23	137
February	76.2	15	1.5	2.72	151
March	221.6	110	1.0	7.15	440
April	194.1	24	2.9	6.47	365
May	72.8	2.9	1.6	2.35	144
June	30.9	1.6	.8	1.03	61
July	14.1	.8	.2	.45	28
August	4.2	.2	.1	.14	8.3
September	3.7	.2	.1	.12	7.3
Water year 1945-46	1,162.6	156	.1	3.19	2,310

Peak discharge.- Dec. 23 (7:15 a.m.) 540 sec.-ft.; Feb. 3 (3:45 p.m.) 61 sec.-ft.; Mar. 30 (10:30 a.m.) 260 sec.-ft.

San Dimas Creek near San Dimas, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°08'45", long. 117°46'35", in SW¼NE¼ sec. 25, T. 1 N., R. 9 W., at mouth of San Dimas Canyon, 0.7 mile downstream from San Dimas Dam and 3 miles northeast of San Dimas. Altitude of gage, about 1,245 feet.

Drainage area.- 18.3 square miles.

Records available.- April to September 1916 (discharge measurements only), December 1916 to September 1946.

Average discharge.- 29 years (1917-46), 5.12 second-feet.

Extremes.- Maximum discharge during year, about 250 second-feet Dec. 23; minimum daily, 0.2 second-foot Jan. 18-23.

1916-46: Maximum discharge (revised), 5,000 second-feet Mar. 2, 1938, from records of release at San Dimas Dam and computed inflow between dam and gaging station; no flow for several months during most years prior to 1937.

Remarks.- Records fair. Flow regulated by San Dimas flood-control dam. San Dimas Water Co. diverts water just below gage for irrigation.

Cooperation.- Forty discharge measurements furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	1.8	1.5	6.7	1.6	2.4	1.8	1.9	2.5	2.6	2.5	2.7
2	4.3	1.8	1.6	6.7	1.9	2.4	2.4	1.9	2.5	2.6	2.6	2.7
3	5.1	1.8	1.6	6.7	2.7	2.4	1.6	1.9	2.5	2.7	2.7	2.7
4	2.2	1.8	1.6	2.7	4.6	2.4	42	1.9	2.5	2.7	2.7	2.7
5	2.2	1.8	1.7	.3	11	2.4	45	2.4	2.5	2.7	2.7	2.7
6	2.3	1.9	1.7	.4	11	2.4	1.3	2.6	2.5	2.6	2.8	2.8
7	2.3	1.9	1.7	.4	11	2.4	1.2	2.6	2.5	2.6	3.0	2.7
8	2.2	1.9	1.8	.4	11	2.3	1.2	2.6	2.5	2.6	3.0	2.6
9	2.0	1.9	1.8	.3	8.4	2.3	1.1	2.6	2.4	2.7	2.8	2.6
10	1.9	1.9	1.9	.3	3.8	3.0	1.0	2.6	2.3	2.7	2.7	2.6
11	1.9	1.9	1.9	.3	3.8	3.8	1.0	2.5	2.3	2.6	2.6	2.6
12	1.8	1.9	2.0	.4	3.4	3.9	1.0	2.5	2.4	2.6	2.5	2.6
13	1.8	1.9	2.0	.4	3.3	4.1	1.0	2.4	2.3	2.5	2.5	2.6
14	1.8	1.8	2.0	.4	3.0	3.9	.9	2.4	2.3	2.4	2.4	2.6
15	1.8	1.8	2.0	.4	2.7	4.1	.8	2.4	2.3	2.5	2.4	2.6
16	1.7	1.8	2.0	.4	2.8	4.2	.8	2.4	2.3	2.5	2.4	2.7
17	1.8	1.8	2.0	.3	2.8	4.2	.7	2.4	2.2	2.6	2.4	2.7
18	1.8	1.8	1.9	.2	2.7	4.2	.7	2.4	2.4	2.7	2.4	2.7
19	1.9	1.7	1.9	.2	2.5	4.3	.7	2.5	2.7	2.7	2.4	2.6
20	2.0	1.6	1.9	.2	2.4	3.2	.7	2.5	2.8	2.7	2.5	3.9
21	2.0	1.6	3.0	.2	2.3	.4	.6	2.5	2.8	2.6	2.5	5.3
22	2.0	1.6	e85	.2	2.2	.4	.6	2.5	2.8	2.6	2.5	5.1
23	2.0	1.6	e165	.2	2.3	.5	.5	2.4	2.8	2.6	2.5	5.1
24	1.9	1.5	e75	.3	2.4	.6	.5	2.4	2.7	2.6	2.5	5.1
25	1.9	1.5	e20	.3	2.4	.6	.6	2.4	2.6	2.6	2.5	5.0
26	1.9	1.5	e9.0	.3	2.4	.6	1.6	2.4	2.6	2.6	2.6	5.0
27	1.9	1.5	e2.0	.3	2.5	1.5	2.8	2.4	2.5	2.6	2.6	5.0
28	1.9	1.5	e5.5	.4	2.4	2.4	2.8	2.4	2.6	2.6	2.6	5.0
29	1.9	1.5	7.0	.4	-	2.4	2.5	2.5	2.5	2.6	2.6	5.1
30	1.9	1.5	6.7	1.0	-	14	1.9	2.5	2.5	2.6	2.6	5.3
31	1.8	-	6.7	1.7	-	22	-	2.5	-	2.6	2.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	68.4	5.1	1.7	2.21	136
November	51.8	1.9	1.5	1.73	103
December	421.4	165	1.5	13.6	836
Calendar year 1945	2,300.8	165	.5	6.30	4,560
January	33.4	6.7	.2	1.08	66
February	115.3	11	1.6	4.12	229
March	109.7	22	.4	3.54	218
April	121.3	45	.5	4.04	241
May	74.3	2.6	1.9	2.40	147
June	75.1	2.8	2.2	2.50	149
July	80.9	2.7	2.4	2.61	160
August	80.2	3.0	2.4	2.59	159
September	105.4	5.3	2.6	3.51	209
Water year 1945-46	1,337.2	165	.2	3.66	2,650

e Stage-discharge relation doubtful; discharge computed on basis of records of outflow from San Dimas Dam, probable inflow between dam and gage, rainfall records, and records of discharge for nearby streams.

SAN GABRIEL RIVER BASIN

Dalton Creek near Glendora, Calif.

Location (revised).- Water-stage recorder and broad-crested weir, lat. 34°09'30", long. 117°48'40", in center of sec. 21, T. 1 N., R. 9 W., 0.6 mile upstream from mouth of canyon, 1.7 miles downstream from Big Dalton Dam, and 2.6 miles northeast of Glendora. Altitude of gage, about 1,170 feet (from topographic map).

Drainage area.- 7.5 square miles.

Records available.- December 1919 to September 1946.

Average discharge.- 26 years (1920-46), 1.30 second-feet.

Extremes.- Maximum discharge during year, 166 second-feet Dec. 23 (gage height, 2.10 feet); no flow for several months.

1919-46: Maximum discharge, about 850 second-feet Mar. 2, 1938, from record of release from Big Dalton Reservoir; no flow for several months each year.

Remarks.- Records fair. Flow regulated by Big Dalton flood control dam. Glendora Irrigation Co. diverted 499 acre-feet during water-year at diversion dam 1.5 miles above station.

Cooperation.- Twenty-six discharge measurements furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	a0.6	0.2	0.2	2.4	0.2	0.1			
2			0	f.6	.2	.2	2.4	f.2	.1			
3			0	.6	1.6	.2	2.0	f.2	.1			
4			0	.6	.8	.2	1.8	.2	.1			
5			0	f.5	.5	.2	1.8	.2	.1			
6			0	a.5	.4	.2	1.7	.2	f.1			
7			0	a.6	.4	.2	1.6	.2	.1			
8			0	a.6	.3	.2	1.4	.2	.1			
9			0	f.6	.3	.2	1.1	.2	.1			
10			0	.6	.3	.2	.9	.2	.1			
11			0	.6	.3	.2	.8	.2	.1			
12			0	.5	.3	.2	.8	.2	.1			
13			0	.5	.3	.3	.7	.2	.1			
14			0	.4	f.3	.3	.7	.2	.1			
15			0	.4	.3	.2	.7	.2	.1			
16			0	.4	.4	.2	.6	.2	.1			
17			0	.3	.3	.2	.6	.2	.1			
18			0	.3	.3	.2	f.6	.2	.1			
19			0	.3	.3	.3	f.6	.2	0			
20			0	.4	.3	.4	.6	.2	0			
21			.6	.4	.3	.4	.5	.2	.1			
22			16	.4	.3	.3	.5	.2	0			
23			26	.4	.3	.3	.4	.2	0			
24			3.7	.4	.3	.3	.4	.1	0			
25			2.1	.3	.3	.2	.4	.1	0			
26			1.6	.2	.3	.2	.3	.1	0			
27			1.1	.3	.3	.2	.2	.1	0			
28			.9	.3	.3	.3	.2	.1	0			
29			.8	.3	-	.3	.2	.1	0			
30			f.7	.3	-	5.7	.2	.1	0			
31			f.6	.3	-	3.4	-	.1	0			
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October.....				0		0	0	0	0			
November.....				0		0	0	0	0			
December.....				54.1		26	0	1.75	107			
Calendar year 1945.....				203.5		26	0	.56	403			
January.....				13.5		.6	.3	.44	27			
February.....				10.5		1.6	.2	.38	21			
March.....				16.0		5.7	.2	.52	32			
April.....				27.1		2.4	.2	.90	54			
May.....				5.4		.2	.1	.17	11			
June.....				1.9		.1	0	.06	3.8			
July.....				0		0	0	0	0			
August.....				0		0	0	0	0			
September.....				0		0	0	0	0			
Water year 1945-46.....				128.5		26	0	.35	256			

a No gage-height record; discharge interpolated.

f Computed on basis of partly estimated gage-height record.

Little Dalton Creek near Glendora, Calif.

Location.- Water-stage recorder, lat. 34°10'05", long. 117°50'15", in SE $\frac{1}{4}$ sec. 17, T. 1 N., R. 9 W., 0.8 mile upstream from mouth of canyon and 2.5 miles northeast of Glendora. Altitude of gage, about 1,330 feet.

Drainage area.- 3.3 square miles.

Records available.- January 1929 to September 1946.

Average discharge.- 17 years, 1.04 second-feet.

Extremes.- Maximum discharge during year, 111 second-feet Dec. 21 (gage height, 1.18 feet); no flow for part of year.

1929-46: Maximum discharge, 960 second-feet (estimated) Mar. 2, 1938; no flow for several periods in each year.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.6	0.5	0.3	2.8	0.6	0.2			
2			0	1.6	.4	.3	4.7	.6	.3			
3			0	1.9	5.8	.3	2.4	.6	.3			
4			0	1.6	1.9	.3	1.7	.6	.3			
5			0	1.6	1.1	.3	1.6	.6	.2			
6			0	1.2	.8	.3	1.6	.6	.1			
7			0	1.1	.8	.3	1.6	.5	.1			
8			0	1.0	.8	.2	1.5	.4	0			
9			0	1.0	.8	.2	1.5	.4	0			
10			0	1.0	.8	.3	1.4	.5	0			
11			0	.8	.8	.3	1.1	.5	0			
12			0	.7	.8	.3	1.1	.5	.1			
13			0	.7	.7	.5	1.1	.5	.1			
14			0	.7	.6	.5	1.2	.5	.2			
15			0	.7	.6	.4	1.1	.5	.2			
16			0	.7	.7	.4	1.2	.5	.1			
17			0	.7	.6	.4	1.2	.5	0			
18			0	.7	.5	.5	1.2	.5	.1			
19			0	.7	.4	.8	1.1	.5	.1			
20			0	.7	.5	1.0	1.1	.5	.1			
21			18	.7	.5	.8	1.0	.5	.1			
22			57	.6	.5	.6	1.0	.5	.1			
23			27	.6	.4	.6	.7	.5	0			
24			6.8	.6	.4	.5	.7	.4	0			
25			3.2	.6	.5	.5	.6	.3	0			
26			2.4	.5	.4	.4	.6	.4	0			
27			2.0	.5	.4	.4	.6	.4	0			
28			2.0	.5	.4	.8	.7	.3	0			
29			1.9	.5	-	.7	.7	.2	0			
30			1.7	.5	-	15	.6	.2	0			
31			1.6	.5	-	6.1	-	.2	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	123.6	57	0	3.99	245
Calendar year 1945.....	419.8	57	0	1.15	833
January.....	26.8	1.9	.5	.86	53
February.....	21.4	3.8	.4	.76	42
March.....	34.3	15	.2	1.11	68
April.....	39.4	4.7	.6	1.31	78
May.....	14.3	.6	.2	.46	28
June.....	2.7	.3	0	.09	5.4
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	262.5	57.	0	.72	519

San Jose Creek near Whittier, Calif.

Location.- Water-stage recorder, lat. 34°01'25", long. 118°02'05", in Paso de Bartolo Grant, at Workman-Mill Road Bridge, 3 miles north of Whittier. Altitude of gage, about 230 feet.

Drainage area.- 85.2 square miles.

Records available.- January 1929 to September 1946.

Average discharge.- 17 years, 9.96 second-feet.

Extremes.- Maximum discharge during year, 1,390 second-feet Dec. 23 (gage height, 4.10 feet); minimum, 1.2 second-feet June 28.

1929-46: Maximum discharge, 13,100 second-feet Jan. 1, 1934; no flow at times.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	4.0	2.9	7.1	6.0	8.4	17	6.0	6.5	2.7	3.3	3.5
2	3.8	3.8	2.9	6.5	6.5	8.1	16	6.5	5.2	3.1	3.3	2.7
3	4.0	3.8	2.2	7.1	43	8.1	13	6.5	5.2	3.3	3.1	2.0
4	4.2	3.3	2.4	7.4	15	8.4	12	5.5	5.0	3.8	2.4	2.2
5	4.0	3.5	2.4	7.4	11	8.1	10	6.0	3.3	3.8	2.7	2.4
6	4.0	3.5	2.7	7.1	9.7	8.1	10	6.8	3.3	2.9	2.2	2.4
7	2.9	4.0	2.9	7.1	9.0	8.4	9.7	6.8	4.0	2.4	2.2	2.9
8	2.9	3.5	3.1	7.1	9.0	8.4	9.4	7.4	2.7	3.1	3.1	2.4
9	3.3	3.3	3.1	7.4	8.4	7.4	9.0	7.4	2.0	3.5	2.0	2.0
10	3.3	3.3	2.9	7.4	8.7	7.4	9.0	7.8	2.2	3.5	2.2	2.4
11	3.1	3.1	2.9	7.8	8.4	8.1	8.7	7.8	2.4	4.0	2.2	2.9
12	2.9	3.1	3.3	7.8	8.4	8.4	8.7	7.4	2.9	3.5	2.4	2.9
13	4.0	3.1	3.3	7.8	7.8	8.7	8.4	7.4	2.9	3.8	2.7	2.4
14	3.5	3.3	3.5	7.8	7.8	8.4	8.4	7.8	2.0	3.5	3.1	3.1
15	3.3	3.3	3.3	7.8	8.1	8.7	8.4	7.4	2.4	3.8	3.1	3.5
16	3.5	3.3	3.1	8.1	8.1	9.0	8.7	7.8	3.5	3.3	2.9	2.4
17	4.0	3.3	3.1	7.9	7.8	9.0	8.1	8.1	3.8	3.1	3.1	2.9
18	3.5	3.3	3.3	8.1	8.4	9.4	8.7	8.7	4.0	3.1	2.7	3.3
19	3.5	3.1	3.3	8.7	9.0	9.7	8.4	8.1	3.1	3.5	2.7	2.9
20	3.1	2.7	3.4	8.4	8.1	17	7.8	7.8	3.3	3.3	3.1	2.7
21	3.1	2.7	2.9	8.1	8.1	11	8.1	7.4	4.7	3.1	3.3	2.9
22	3.1	2.7	2.64	7.8	8.1	8.1	7.4	7.4	3.5	3.3	3.3	3.3
23	3.5	2.4	3.86	8.1	7.8	7.8	8.4	7.1	2.7	2.9	3.1	2.4
24	3.3	2.4	19	7.8	9.0	7.8	9.0	7.4	2.2	2.7	2.9	2.7
25	3.8	2.7	12	7.4	9.0	7.4	8.4	7.8	2.0	3.1	2.9	2.9
26	3.5	2.4	9.7	7.8	9.0	7.8	7.8	7.4	2.0	4.2	2.9	2.9
27	3.8	2.7	9.4	6.8	9.0	8.1	7.1	7.8	2.7	3.5	3.8	2.9
28	3.8	2.9	9.7	6.5	8.6	9.7	6.5	8.4	1.6	3.1	3.8	2.9
29	3.5	2.9	9.0	6.5	-	9.0	6.3	8.4	2.4	2.7	3.5	2.9
30	4.0	2.9	8.4	6.5	-	195	6.3	7.4	2.0	3.1	3.1	2.9
31	3.8	-	7.4	6.3	-	43	-	7.1	-	3.1	3.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	109.3	4.2	2.9	3.53	217
November.....	94.1	4.0	2.4	3.14	187
December.....	823.6	386	2.2	26.6	1,630
Calendar year 1945.....	3,446.3	386	2.2	9.44	6,830
January.....	231.2	8.7	6.3	7.46	459
February.....	276.8	43	6.0	9.89	543
March.....	489.9	195	7.4	15.8	972
April.....	274.7	17	6.3	9.16	545
May.....	228.6	8.7	5.5	7.37	453
June.....	95.5	6.5	1.6	3.18	189
July.....	101.8	4.2	2.4	3.28	202
August.....	90.4	3.8	2.0	2.92	179
September.....	82.6	3.5	2.0	2.75	164
Water year 1945-46.....	2,898.5	386	1.6	7.94	5,750

Coyote Creek near Artesia, Calif.

Location.- Water-stage recorder, lat. 35°50'45", long. 118°03'30", in Los Coyotes Grant, at Del Amo Street Bridge, 1.8 miles southeast of Artesia, Los Angeles County. Altitude of gage, about 35 feet.

Drainage area.- 110 square miles.

Records available.- October 1939 to September 1946 in reports of Geological Survey. December 1928 to September 1939 (weekly discharge measurements only prior to January 1930) in files of Los Angeles County Flood Control District.

Average discharge.- 16 years (1930-46), 9.60 second-feet.

Extremes.- Maximum discharge during year, 920 second-feet Dec. 23 (gage height, 7.70 feet); minimum daily, 0.2 second-foot July 4, 5, Sept. 28.
1930-46: Maximum discharge, 4,190 second-feet Feb. 6, 1937 (gage height, 10.1 feet); no flow at times.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H..E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.8	2.3	3.1	6.2	2.1	0.9	26	2.1	2.4	1.6	2.6	5.2
2	3.0	2.4	3.1	5.5	2.0	.9	22	3.4	1.6	1.1	2.3	6.1
3	1.9	2.4	2.9	4.9	5.1	.8	15	2.6	1.8	.3	2.4	4.6
4	1.9	2.6	3.4	4.8	13	.8	8.4	2.9	2.2	.2	2.5	3.2
5	3.2	2.5	3.3	4.8	6.4	.9	6.2	1.9	1.8	.2	2.5	2.8
6	3.4	3.6	3.4	4.6	5.5	.9	5.7	2.9	1.8	.7	2.6	2.3
7	4.6	3.4	3.8	4.2	5.0	.8	5.5	3.6	.9	1.9	2.7	1.5
8	3.3	3.5	3.6	3.8	5.0	.9	4.6	2.9	.9	3.2	2.9	1.3
9	2.0	.5	3.8	3.6	5.0	.9	4.2	2.1	.8	1.6	2.9	1.7
10	.9	.3	3.3	3.4	4.6	1.1	4.8	3.3	.8	2.5	2.9	2.9
11	2.1	1.0	4.0	3.6	4.4	1.2	4.6	3.4	.7	2.5	3.0	2.2
12	2.5	2.1	3.9	3.8	4.5	1.4	4.8	3.4	.7	1.4	3.1	1.7
13	2.6	2.0	4.0	3.8	4.2	1.5	4.8	3.9	.6	.6	3.2	2.0
14	2.9	2.4	4.2	3.9	3.9	1.8	4.6	1.8	.6	.6	3.3	2.9
15	2.6	4.3	3.9	3.9	4.0	1.6	4.5	2.1	.6	1.4	3.3	1.9
16	1.1	2.6	4.0	4.0	3.9	1.6	4.6	2.4	.7	.7	3.4	1.9
17	2.0	2.6	4.5	4.0	3.8	1.6	4.5	2.8	1.4	.7	1.2	1.2
18	2.1	2.6	5.0	3.9	3.4	2.0	4.5	2.9	1.1	.9	1.2	.8
19	1.9	2.5	1.4	3.9	3.4	4.4	4.6	2.3	.4	1.9	1.3	.7
20	1.0	3.0	1.3	3.8	3.3	8.8	4.6	3.1	1.0	1.2	1.4	1.0
21	3.1	2.4	4.7	3.6	3.1	13	4.4	2.5	1.7	1.2	1.5	1.2
22	2.9	.7	224	3.4	2.8	6.4	4.2	1.6	1.2	1.4	1.6	.9
23	2.4	.8	278	3.4	2.4	4.5	2.2	2.9	1.8	1.2	.5	2.2
24	2.1	1.3	54	3.3	2.1	4.6	1.4	3.6	1.7	1.4	.5	1.5
25	2.5	.9	17	3.3	1.8	4.8	3.1	4.5	1.6	1.3	5.5	.9
26	.9	1.6	12	3.2	1.5	4.9	2.4	4.0	1.5	1.3	5.0	.9
27	.7	2.4	9.3	3.1	1.2	5.1	1.8	4.4	1.4	1.2	3.2	.6
28	1.7	2.5	8.7	3.0	.9	5.2	1.5	2.9	1.3	1.2	2.1	.2
29	2.1	3.0	8.0	2.9	-	6.1	2.6	1.5	1.2	3.0	1.4	1.1
30	2.1	2.9	7.4	2.6	-	78	2.4	3.0	.8	4.0	1.2	1.9
31	2.3	-	6.8	2.2	-	75	-	1.9	-	1.6	1.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	71.6	4.6	0.7	2.31	142
November.....	67.1	4.3	.3	2.24	133
December.....	699.8	278	1.3	22.6	1,390
Calendar year 1945	2,078.0	278	.3	5.69	4,130
January.....	118.4	6.2	2.2	3.82	235
February.....	108.3	13	.9	3.87	215
March.....	242.2	78	.8	7.81	480
April.....	174.5	26	1.4	5.82	346
May.....	86.6	4.5	1.5	2.86	176
June.....	37.0	2.4	.4	1.23	73
July.....	44.0	4.0	.2	1.42	87
August.....	74.7	5.5	.5	2.41	148
September.....	59.1	6.1	.2	1.97	117
Water year 1945-46	1,785.3	278	.2	4.89	3,540

Brea Creek below Brea Dam, near Fullerton, Calif.

Location.- Water-stage recorder, lat. 33°53'15", long. 117°55'30", 0.2 mile downstream from Brea Dam, east of U. S. Highway 101, 1 mile north of Fullerton, Orange County. Datum of gage is 197.70 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 23.4 square miles.

Records available.- January 1942 to September 1946.

Extremes.- Maximum discharge during year, 166 second-feet Dec. 23 (gage height, 2.80 feet); minimum discharge less than 0.1 second-foot on many days.
1942-46: Maximum discharge, 655 second-feet Feb. 29, 1944 (gage height, 5.10 feet); no flow during several months of most years.

Remarks.- Records good. Flow regulated by Brea Dam.

Cooperation.- Gage-height graph and 19 discharge measurements furnished by Corps of Engineers, War Department.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1				0.2	0.3	0.1	1.8	0.1	0.2	0.1	0.1	0.1	
2				.2	.9	.1	8.9	.1	.1	.1	.1	.1	
3				.2	.7	.1	4.1	.1	.2	.1	.1	.1	
4				.2	.4	.1	1.3	.1	.3	.1	.1	.1	
5				.2	.3	.1	.8	.1	.2	.1	.1	.2	
6	e0.01	e0.02	e0.02	.1	.2	.1	.6	.1	.2	.1	.1	.1	
.1				.2	.1	.5	.1	.1	.1	.2	.1		
.1				.2	.1	.4	.1	.2	.1	.1	.2	.1	
.1				.2	.2	.4	.2	.1	.2	.1	.1	.2	.1
.1				.2	.2	.4	.3	.1	.2	.1	.1	.1	.1
11	.1 .2		e.03	.1	.2	.1	.3	.3	.1	.2	.1	.1	
.1				.2	.3	.2	.1	.1	.2	.1	.1	.1	
.1				.2	.4	.2	.2	.2	.1	.1	.1	.1	
.1				.2	.2	.2	.3	.2	.1	.1	.1	.1	
.1				.2	.2	.2	.3	.2	.1	.1	.1	.1	
16	e.03		1.5	.1	.2	.2	.3	.2	.1	.1	.1	.1	
.1				.2	.2	.3	.1	.1	.1	.1	.1	.1	
f.1				.2	.2	.2	.3	.2	.1	.1	.1	.1	
f.2				.2	.3	.2	.1	.1	.1	.1	.1	.1	
a.2				.2	.5	.2	.3	.1	.2	.1	.1	.1	
21		1.6	a.2	.2	.2	.3	.2	.3	.1	.1	.1	.1	
31				a.2	.2	.2	.2	.1	.1	.1	.1	.1	
46				a.2	.2	.2	.2	.2	.1	.1	.1	.1	
2.3				a.2	.2	.1	.1	.3	.1	.1	.1	.1	
.5				f.2	.2	.1	.1	.2	.1	.1	.1	.1	
26	e.02	e.01		.2	.2	.1	.1	.1	.1	.1	.1	.1	
.2				.2	.1	.1	.2	.1	.1	.2	.1	.1	
.2				.1	.1	.5	.1	.2	.2	.1	.2	.1	
.2				.2	-	.3	.1	.2	.4	.1	.2	.1	
.2				.2	-	36	.1	.1	.1	.1	.2	.2	
30		-		.2	-	13	-	.2	-	.1	.2	-	
31				.2	-		-	.2	-	.1	.2	-	
Month				Second-foot-days		Maximum		Minimum		Mean		Runoff in acre-feet	
October.....				0.86		0.2		-		0.028		1.7	
November.....				.40		-		-		.013		.8	
December.....				85.91		46		-		2.77		170	
Calendar year 1945				213.43		46		0		.585		423	
January.....				4.8		.2		.1		.15		9.5	
February.....				7.1		.9		.1		.25		14	
March.....				54.7		36		.1		1.76		108	
April.....				22.8		8.9		.1		.78		45	
May.....				5.9		.3		.1		.19		12	
June.....				4.5		.4		.1		.15		8.9	
July.....				3.7		.2		.1		.12		7.3	
August.....				3.6		.2		.1		.12		7.1	
September.....				3.5		.2		.1		.12		6.9	
Water year 1945-46				197.77		46		-		.542		391	

a No gage-height record; discharge interpolated.

e Daily discharge less than 0.1 second-foot.

f Computed on basis of partly estimated gage-height record.

Note.- Stage-discharge relationship doubtful July 22 to Aug. 1, Sept. 8-11, 20-30; discharge computed on basis of 2 discharge measurements and interpolation.

Brea Creek at Fullerton, Calif.

Location.- Water-stage recorder, lat. 33°52'25", long. 117°55'40", in San Juan Cajon de Santa Ana Grant, on Ford Avenue Bridge, at Fullerton, Orange County. Altitude of gage, about 250 feet.

Drainage area.- 26.4 square miles.

Records available.- October 1930 to September 1946.

Average discharge.- 15 years (1930-38, 1939-46), 1.64 second-feet.

Extremes.- Maximum discharge during year, 182 second-feet Dec. 23 (gage height, 0.87 feet); no flow during most of year.

1930-46: Maximum discharge, 3,700 second-feet Mar. 14, 1941 (gage height, 5.45 feet); no flow during most of each year.

Cooperation.- Records furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	0	2.1					
2			0		.9	0	3.5					
3			0		1.5	0	2.2					
4			0		.6	0	1.2					
5			0		0	0	.3					
6			0		0	0	.3					
7			0		0	0	.3					
8			0		0	0	.3					
9			0		0	0	.3					
10			0		0	0	.3					
11			0		0	0	.3					
12			0		.3	0	0					
13			0		0	0	0					
14			0		.7	0	0					
15			0		1.0	0	0					
16			0		0	0	0					
17			0		0	0	0					
18			1.3		0	0	0					
19			0		0	0	0					
20			0		0	0	0					
21			3.0		0	0	0					
22			38		0	0	0					
23			52		0	0	0					
24			3.7		0	0	0					
25			.8		0	0	0					
26			0		0	0	0					
27			0		0	0	0					
28			0		0	1.2	0					
29			0		-	.3	0					
30			0		-	42	0					
31			0		-	13	-					
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October.....				0		0	0	0	0			
November.....				0		0	0	0	0			
December.....				98.8		52	0	3.19	196			
Calendar year 1945				210.9		52	0	.58	418			
January.....				0		0	0	0	0			
February.....				5.0		1.5	0	.18	9.9			
March.....				56.5		42	0	1.82	112			
April.....				11.1		3.5	0	.37	22			
May.....				0		0	0	0	0			
June.....				0		0	0	0	0			
July.....				0		0	0	0	0			
August.....				0		0	0	0	0			
September.....				0		0	0	0	0			
Water year 1945-46				171.4		52	0	.47	340			

Fullerton Creek at Fullerton, Calif.

Location.- Water-stage recorder, lat. 33°52'20", long. 117°54'20", in San Juan Cajon de Santa Ana Grant, on Raymond Avenue Bridge, at Fullerton, Orange County. Altitude of gage, about 170 feet.

Drainage area.- 6.2 square miles.

Records available.- October 1939 to September 1946 in reports of Geological Survey. October 1931 to September 1935 at site at Cypress Avenue (drainage area, 4.3 square miles) and October 1935 to September 1939 in files of Orange County Flood Control District.

Average discharge.- 11 years (1935-46), 0.96 second-foot.

Extremes.- Maximum discharge during year, 67 second-feet Dec. 23 (gage height, 1.22 feet); no flow during most of year.
1935-46: Maximum discharge, 1,600 second-feet Mar. 14, 1941 (gage height, 10.05 feet); no flow for several months each year.

Cooperation.- Records furnished by Orange County Flood Control District, through J. A. Bradley, flood-control engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8		0		0	0	0.2					
2	.8		0		0	0	.9					
3	.4		0		.7	0						
4	.5		0		.2	0						
5	.5		0		0	0	0					
6	0		0		0	0	0					
7	.5		0		0	0	0					
8	.4		0		0	0	0					
9			0		0	0	0					
10	.1		0		0	0	0					
11	.2		0		0	0	0					
12	0		0		0	0	0					
13	0		0		0	0	0					
14	0		0		0	0	0					
15	0		0		0	0	0					
16	0		0		0	0	0					
17	0		0		0	0	0					
18	0		0		0	0	0					
19	0		0		0	.1	0					
20	0		0		0	2.0	0					
21	0		2.3		0	1.0	0					
22	0		9.8		0	.7	0					
23	0		17		0	.5	2.8					
24	0		1.4		0	.2	0					
25	0		.4		0	0	0					
26	0		0		0	0	0					
27	0		0		0	0	0					
28	0		0		0	2.0	0					
29	0		0		0	2.0	0					
30	0		0		-	7.4	0					
31	0		0		-	2.9	-					
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October.....				4.2		0.8	0	0.14	8.3			
November.....				0		0	0	0	0			
December.....				30.9		17	0	1.00	61			
Calendar year 1945.....				80.9		17	0	.22	160			
January.....				0		0	0	0	0			
February.....				.9		.7	0	.03	1.8			
March.....				18.8		7.4	0	.61	37			
April.....				3.9		2.8	0	.13	7.7			
May.....				0		0	0	0	0			
June.....				0		0	0	0	0			
July.....				0		0	0	0	0			
August.....				0		0	0	0	0			
September.....				0		0	0	0	0			
Water year 1945-46.....				58.7		17	0	.16	116			

Los Angeles River at Sepulveda Dam, Calif.

Location.- Water-stage recorder, lat. 34°09'50", long. 118°28'10", on outlet channel of Sepulveda Dam, in Ex Mission San Fernando Grant, 0.2 mile upstream from Sepulveda Boulevard in city of Los Angeles, and 2 miles southwest of Van Nuys, Los Angeles County. Altitude of gage, about 675 feet (from topographic map).

Drainage area.- 155 square miles.

Records available.- May 1943 to September 1946.

Extremes.- Maximum discharge during year, 1,600 second-feet Dec. 21 (gage height, 6.64 feet); minimum daily, 5.9 second-feet June 13, 16, Sept. 13, 14.
1943-46: Maximum discharge, 4,800 second-feet Feb. 22, 1944 (gage height, 7.90 feet); minimum daily discharge, 4.8 second-feet July 25, 1943, Feb. 10, 1944.

Remarks.- Records good above 50 second-feet and poor below. Storage of imported water in San Fernando Reservoir and diversions above station. Flow regulated by Sepulveda flood-control dam.

Cooperation.- Gage-height graph and 47 discharge measurements furnished by Corps of Engineers, War Department.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	9.7	7.0	58	12	9.2	12	10	7.5	7.5	6.3	7.3
2	9.7	9.7	7.0	58	12	9.2	36	9.2	7.5	8.4	6.3	7.7
3	9.7	9.4	7.3	55	60	9.2	48	9.2	7.5	7.5	7.3	7.7
4	9.4	9.1	7.6	53	21	9.2	25	9.2	7.5	7.5	7.3	8.0
5	9.1	8.8	9.1	55	11	10	12	9.2	7.5	7.5	8.0	7.7
6	9.4	8.2	47	61	8.4	10	14	9.2	7.5	7.5	8.4	7.7
7	8.5	7.0	60	71	8.4	10	48	9.2	7.5	7.5	8.4	7.7
8	8.8	7.3	61	53	8.4	10	94	8.4	7.5	8.4	8.4	7.7
9	8.8	6.5	60	55	10	10	72	8.4	7.5	7.7	9.1	7.7
10	8.8	6.5	58	53	9.2	10	15	9.2	7.5	7.3	8.7	7.3
11	a8.8	6.5	58	50	10	10	11	8.4	6.7	7.3	8.7	6.6
12	a8.8	6.8	60	45	11	10	10	7.5	6.9	7.3	8.0	6.3
13	a8.8	6.8	60	45	12	10	10	8.4	5.9	7.3	8.0	5.9
14	a8.8	7.0	58	48	12	9.2	10	7.5	6.7	7.3	7.7	5.9
15	a8.8	7.3	58	53	f12	7.5	10	7.5	6.7	8.0	7.3	6.3
16	8.2	7.3	57	53	f11	8.4	9.2	7.5	5.9	7.7	6.9	6.6
17	7.6	7.6	57	55	f10	8.4	8.4	7.5	6.7	8.0	6.9	6.9
18	7.3	8.8	57	53	a10	8.4	9.2	7.5	6.7	8.4	6.9	6.9
19	7.3	8.5	56	55	f10	14	8.4	7.5	6.7	8.4	6.9	6.9
20	7.3	7.5	56	55	12	12	8.4	7.5	6.7	7.7	6.9	6.9
21	7.6	7.6	243	55	11	9.2	8.4	7.5	6.7	7.7	6.6	6.6
22	8.5	7.0	452	55	11	8.4	13	7.5	6.7	7.3	6.6	6.6
23	7.3	6.8	218	55	10	8.4	43	7.5	6.7	7.3	6.3	7.3
24	7.0	7.6	55	55	9.2	8.4	74	7.5	6.7	7.3	6.3	6.3
25	7.6	7.0	63	a55	8.5	9.2	74	7.5	6.7	7.3	6.6	a6.4
26	8.2	7.0	71	a53	8.4	9.2	63	8.4	6.7	6.9	6.9	a6.4
27	8.8	7.0	71	a53	8.4	9.2	55	8.4	6.7	6.9	6.9	a6.4
28	10	7.0	68	a54	7.5	12	55	9.2	7.5	6.9	7.3	a12
29	11	7.1	74	a16	-	14	58	9.2	7.5	6.9	6.9	f27
30	11	7.0	74	a14	-	137	34	8.4	7.5	6.9	6.9	f27
31	11	-	66	12	-	27	-	7.5	-	6.3	6.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	271.0	11	7.0	8.74	538
November.....	227.4	9.7	6.5	7.58	451
December.....	2,556.0	452	7.0	76.0	4,870
Calendar year 1945.....	5,946.2	452	5.9	16.3	11,800
January.....	1,561	71	12	50.4	3,100
February.....	345.3	60	7.5	12.3	685
March.....	446.7	137	7.5	14.4	886
April.....	948.0	94	8.4	31.6	1,880
May.....	256.8	10	7.5	8.28	509
June.....	210.0	7.5	5.9	7.00	417
July.....	231.9	8.4	6.3	7.48	460
August.....	226.6	9.1	6.3	7.31	449
September.....	253.7	27	5.9	8.46	503
Water year 1945-46.....	7,334.4	452	5.9	20.1	14,550

a No gage-height record; discharge computed on basis of 3 discharge measurements, recorded range in stage, dam operation records, interpolation, and records for station below Sepulveda Dam.

f Computed on basis of partly estimated gage-height record.

Los Angeles River at Los Angeles, Calif.

Location.- Water-stage recorder, lat. 34°04'50", long. 118°13'35", near Figueroa Street, Los Angeles, 0.1 mile upstream from Arroyo seco.

Drainage area.- 510 square miles.

Records available.- October 1929 to September 1946.

Average discharge.- 17 years, 68.7 second-feet.

Extremes.- Maximum discharge during year, 5,240 second-feet Dec. 22 (gage height, 3.33 feet); minimum, 2.8 second-feet Sept. 15.

1929-46: Maximum discharge, 67,000 second-feet Mar. 2, 1938; no flow for several periods in earlier years.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, Chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	21	19	109	38	46	88	54	22	14	8.8	5.2
2	15	18	17	107	20	45	121	18	22	15	10	4.6
3	13	17	19	107	710	46	95	20	23	13	9.8	5.2
4	12	15	21	107	104	43	94	30	21	13	8.2	5.2
5	12	12	25	106	54	44	69	41	21	12	8.2	6.4
6	11	20	20	104	51	47	71	16	21	12	8.8	7.0
7	8.8	25	45	104	50	47	94	16	20	12	10	7.0
8	15	19	62	102	48	45	106	19	20	11	12	7.0
9	16	17	65	99	47	43	113	19	17	12	13	6.4
10	15	16	64	97	47	44	80	21	18	12	12	6.4
11	15	16	76	97	44	44	46	20	18	12	11	6.4
12	12	14	71	95	44	40	12	19	19	12	10	7.0
13	13	16	71	95	46	42	24	20	16	12	10	5.8
14	14	16	71	94	46	13	38	20	16	12	10	4.6
15	16	16	69	94	57	13	13	20	15	10	9.4	3.4
16	16	16	69	92	50	13	14	26	13	12	8.8	4.0
17	17	17	68	92	43	17	14	24	13	12	10	4.6
18	17	16	71	92	44	18	16	24	14	11	9.4	5.2
19	18	16	71	92	43	219	18	24	15	12	9.4	5.2
20	17	21	72	92	44	113	19	23	16	13	10	4.6
21	16	20	488	94	46	62	19	24	15	12	9.4	4.0
22	15	19	1,880	94	46	40	20	23	14	11	8.2	3.4
23	16	17	860	94	47	17	62	23	12	11	7.6	3.4
24	16	18	320	92	44	16	109	23	12	10	7.0	4.0
25	17	20	208	88	46	15	118	22	12	9.4	6.4	4.0
26	17	19	120	85	46	19	116	21	12	8.8	6.4	4.0
27	17	21	115	82	48	18	111	21	12	9.4	6.4	4.6
28	18	21	115	79	48	216	111	23	13	8.2	7.0	4.0
29	39	21	113	69	-	151	111	24	14	8.2	6.4	5.8
30	61	20	113	51	-	983	109	22	15	8.8	6.4	3.4
31	29	-	111	56	-	102	-	22	-	8.8	5.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						549.8	61	8.8	17.7	1,090		
November.....						540	25	12	18.0	1,070		
December.....						5,506	1,880	17	178	10,920		
Calendar year 1945						18,261.3	1,880	6.5	50.0	36,220		
January.....						2,861	109	51	92.3	5,670		
February.....						2,001	710	20	71.5	3,970		
March.....						2,623	983	13	84.6	5,200		
April.....						2,027	121	12	67.6	4,020		
May.....						722	54	16	23.3	1,430		
June.....						491	23	12	16.4	974		
July.....						549.6	15	8.2	11.3	895		
August.....						274.2	13	5.2	8.85	544		
September.....						151.8	7.0	3.4	5.06	301		
Water year 1945-46						18,096.4	1,880	3.4	49.6	35,880		

LOS ANGELES RIVER BASIN

Los Angeles River near Downey, Calif.

Location.- Water-stage recorder, lat. 33°57'05", long. 118°10'25", in San Antonio Grant, at Firestone Boulevard Bridge, 1 mile upstream from Rio Hondo and 2.5 miles west of Downey, Los Angeles County. Altitude of gage, about 100 feet.

Drainage area.- 614 square miles.

Records available.- March 1928 to September 1946.

Average discharge.- 18 years, 105 second-feet.

Extremes.- Maximum discharge during year, 12,500 second-feet Dec. 22 (gage height, 6.57 feet); minimum daily, 8.4 second-feet Mar. 17.

1928-46: Maximum discharge, 79,700 second-feet Mar. 2, 1938; no flow during parts of some years.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, Chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	30	38	174	73	65	123	89	41	26	34	12
2	26	26	30	174	73	61	303	38	45	30	38	9.6
3	22	30	30	219	1,220	57	181	26	45	38	34	12
4	30	26	38	188	129	57	174	41	45	30	30	22
5	34	30	53	167	94	61	128	57	49	30	30	22
6	41	46	38	138	85	65	114	30	45	38	30	20
7	41	45	45	145	85	65	188	30	45	38	38	20
8	34	34	77	138	81	61	152	34	41	34	41	16
9	30	26	81	128	73	61	188	41	41	34	41	16
10	34	34	81	128	73	65	118	49	41	34	38	16
11	34	30	99	123	69	61	81	41	41	34	34	11
12	30	26	77	114	69	65	45	38	38	34	30	11
13	30	30	81	104	65	85	38	41	38	26	30	12
14	22	34	94	109	77	45	61	45	34	26	34	20
15	26	34	94	114	85	16	34	41	30	22	30	20
16	30	34	89	118	94	11	38	45	22	30	30	20
17	34	41	89	128	85	8.4	38	45	30	38	30	20
18	34	41	89	128	69	9.6	38	45	34	34	34	20
19	34	41	94	128	69	725	38	45	38	34	30	22
20	34	45	94	123	77	465	34	45	38	34	38	22
21	26	45	1,110	118	81	123	26	45	38	30	38	26
22	26	38	4,000	109	81	81	22	45	30	30	34	22
23	30	34	1,650	109	77	53	45	45	30	34	34	20
24	26	38	629	118	65	49	109	49	30	34	38	20
25	26	41	498	128	69	49	167	45	26	34	38	20
26	26	38	351	133	69	53	174	41	26	34	41	22
27	30	41	196	114	69	53	145	45	30	38	38	22
28	30	41	181	109	73	563	138	45	30	30	38	20
29	102	61	188	99	-	290	152	45	34	34	30	20
30	147	41	181	73	-	2,800	152	41	26	34	26	20
31	61	-	188	73	-	324	-	38	-	38	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,152	147	22	37.2	2,280
November.....	1,101	61	26	36.7	2,180
December.....	10,583	4,000	30	341	20,990
Calendar year 1945.....	34,565	4,000	16	94.7	68,550
January.....	3,971	219	73	128	7,880
February.....	3,309	1,220	65	118	6,560
March.....	6,547.0	2,800	8.4	211	12,990
April.....	3,244	303	22	108	6,430
May.....	1,350	89	26	43.5	2,680
June.....	1,081	49	22	36.0	2,140
July.....	1,014	38	22	32.7	2,010
August.....	1,045	41	16	33.7	2,070
September.....	555.6	26	9.6	18.5	1,100
Water year 1945-46.....	34,952.6	4,000	8.4	95.8	69,310

Los Angeles River at Long Beach, Calif.

Location.- Water-stage recorder, lat. 33°47'25", long. 118°12'20", at State Street Bridge at Long Beach, Los Angeles County.

Records available.- December 1928 to September 1946.

Average discharge.- 17 years (1929-46), 164 second-feet.

Extremes.- Maximum discharge during year, 12,800 second-feet Dec. 22 (gage height, 10.20 feet); minimum daily, 30 second-feet Sept. 17-30.

1928-46: Maximum discharge, 99,000 second-feet Mar. 2, 1938; no flow at times in 1929, 1930, 1934.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	66	89	174	92	72	404	106	52	44	36	36
2	40	64	81	157	85	73	977	62	52	45	37	35
3	40	61	72	174	1,380	70	398	61	53	46	37	34
4	40	59	64	170	330	64	194	61	54	46	37	34
5	40	56	56	174	194	70	174	60	55	46	37	33
6	40	54	48	180	120	75	154	60	56	47	38	33
7	40	51	59	214	85	81	233	59	56	47	38	35
8	41	49	70	222	87	75	183	59	56	47	38	32
9	41	49	81	222	83	70	206	58	55	48	38	32
10	41	48	92	210	75	62	187	56	55	48	37	32
11	41	48	103	226	72	59	107	55	55	48	36	31
12	41	48	114	222	70	59	98	53	54	48	36	31
13	40	48	107	230	72	62	83	52	54	47	35	31
14	40	47	107	206	70	75	79	50	52	47	34	31
15	40	47	107	214	79	42	79	49	51	46	34	31
16	40	47	104	206	105	41	61	47	49	46	33	31
17	39	47	102	187	68	40	54	47	47	45	33	30
18	39	47	102	184	62	38	49	48	46	45	33	30
19	39	48	104	184	66	633	49	48	44	43	33	30
20	40	48	107	151	72	609	51	49	43	42	33	30
21	40	48	651	151	73	329	48	49	41	40	33	30
22	40	48	6,440	157	73	187	46	50	41	38	33	30
23	40	48	3,030	154	72	139	48	50	41	36	33	30
24	41	48	604	133	66	114	107	50	41	35	34	30
25	41	48	691	127	64	98	154	50	40	33	35	30
26	45	48	564	127	70	87	157	49	40	34	35	30
27	48	48	256	124	70	79	142	49	40	34	36	30
28	52	48	214	127	72	622	136	49	41	35	37	30
29	55	105	210	136	-	528	136	49	42	35	38	30
30	59	97	206	110	-	2,760	151	50	43	36	37	30
31	62	-	190	98	-	639	-	51	-	36	36	-
Month				Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet				
October.....				1,325	62	39	42.7	2,630				
November.....				1,618	105	47	53.9	3,210				
December.....				14,825	6,440	48	478	29,400				
Calendar year 1945				50,953	6,440	33	140	101,100				
January.....				5,311	230	98	171	10,530				
February.....				3,827	1,380	62	137	7,590				
March.....				7,952	2,760	38	257	15,770				
April.....				4,945	977	46	165	9,810				
May.....				1,686	106	47	54.4	3,340				
June.....				1,449	56	40	48.3	2,870				
July.....				1,313	48	33	42.4	2,600				
August.....				1,100	38	33	35.5	2,180				
September.....				940	36	30	31.3	1,860				
Water year 1945-46				46,291	6,440	30	127	91,790				

Pacoima Creek near San Fernando, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°20'02", long. 118°23'55", in SE $\frac{1}{4}$ sec. 24, T. 3 N., R. 15 W., 500 feet downstream from Pacoima Dam, 600 feet upstream from mouth of canyon and 4 miles northeast of San Fernando.

Drainage area.- 28.2 square miles.

Records available.- March 1916 to September 1946.

Average discharge.- 29 years (1917-46), 9.21 second-feet.

Extremes.- Maximum discharge during year, 241 second-feet Feb. 5; no flow on many days. 1916-46: Maximum discharge, 2,440 second-feet Mar. 3, 1938; no flow for several months in most years.

Remarks.- Flow regulated by Pacoima flood-control dam.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.5	0	0.1	0.1	0	0.1	0.3	11	4.6	8.2	7.9
2	.1	.5	0	.1	.1	0	.1	.3	11	4.6	8.7	7.8
3	.1	.5	0	.1	.1	0	.1	.3	11	4.6	8.2	7.8
4	.1	.5	0	.1	.1	0	.1	.2	10	4.6	8.4	7.8
5	.2	.5	0	.1	137	0	.1	.2	10	4.5	8.3	7.8
6	.2	.5	0	.1	130	.1	.1	7.2	10	4.5	8.3	7.9
7	.3	.4	0	.1	41	.1	.1	10	10	4.5	8.3	7.8
8	.4	.4	0	.1	0	.1	.1	9.6	10	4.5	8.0	7.8
9	.4	.4	0	.1	0	.1	.1	8.6	10	4.5	5.5	7.8
10	.4	.4	0	.1	0	.1	.1	8.8	10	4.5	6.8	7.8
11	.4	.5	0	.1	0	.1	.2	9.2	4.6	4.5	7.9	7.8
12	.5	.5	0	.1	0	.1	.2	9.5	2.2	4.4	7.9	7.8
13	.5	.4	0	.1	0	.1	.2	9.6	4.9	4.4	7.9	7.7
14	.5	.4	0	.1	0	.1	.2	9.5	4.9	4.4	7.9	7.8
15	.5	.4	0	.1	0	.1	.2	9.5	4.9	4.4	7.9	7.8
16	.5	.2	0	.1	0	.1	.2	9.5	4.8	4.4	7.9	7.8
17	.5	0	0	.1	0	.1	.2	9.5	4.8	4.4	7.9	5.8
18	.5	0	0	.1	0	.1	.2	9.5	4.8	4.4	7.9	4.3
19	.5	0	0	.1	0	.1	.2	9.5	4.8	4.4	7.9	4.3
20	.5	0	0	.1	0	.1	.2	9.4	4.8	4.4	7.9	4.3
21	.5	0	0	.1	0	.1	.2	9.4	4.8	4.4	8.0	4.3
22	.5	0	0	.1	0	.1	.2	10	4.7	4.4	8.2	4.3
23	.5	0	0	.1	0	.1	.3	10	4.7	7.4	8.0	4.3
24	.5	0	12	.1	0	.1	.3	10	4.7	8.6	8.0	4.3
25	.5	0	30	.1	0	.1	.3	10	4.7	9.8	7.9	4.3
26	.5	0	15	.1	0	.1	.3	10	4.1	9.2	7.9	4.3
27	.5	0	0	.1	0	.1	.3	10	4.6	11	7.9	4.3
28	.5	0	0	.1	0	.1	.3	9.9	4.6	11	7.8	4.3
29	.6	0	0	.1	-	.1	.3	9.6	4.6	9.8	7.9	4.3
30	.6	0	0	.1	-	.1	.3	11	4.6	10	7.9	4.3
31	.5	-	0	.1	-	.1	-	11	-	8.4	7.9	-
Month						Second-foot-days	Maximum	Minimum	Mean		Runoff in acre-feet	
October						12.8	0.6	0	0.41		25	
November						7.0	.5	0	.23		14	
December						57	30	0	1.8		113	
Calendar year 1945						2,139.9	174	0	5.86		4,240	
January						3.1	.1	.1	.10		6.1	
February						308.4	137	0	11.0		612	
March						2.6	.1	0	.08		5.2	
April						5.8	.3	.1	.19		12	
May						251.1	11	.2	8.10		498	
June						194.6	11	2.2	6.49		386	
July						183.5	11	4.4	5.92		364	
August						245.1	8.7	5.5	7.91		486	
September						186.6	7.9	4.3	6.22		370	
Water year 1945-46						1,457.6	137	0	3.99		2,890	

Tujunga Creek near Colby Ranch, Calif.

Location.- Water-stage recorder, lat. 34°18'10", long. 118°09'35", just downstream from Lucas Creek, 400 feet upstream from crossing of Edison Road, 3.5 miles west of Colby Ranch, Los Angeles County, and 4 miles upstream from Big Tujunga Dam.

Drainage area.- 66.9 square miles.

Records available.- October 1930 to September 1946.

Average discharge.- 16 years, 22.8 second-feet.

Extremes.- Maximum discharge during year, 2,700 second-feet Mar. 30 (gage height, 11.01 feet); minimum daily discharge, 0.7 second-foot on many days.

1930-46: Maximum discharge not determined, probably occurred Mar. 2, 1938. A discharge of 14,800 second-feet occurred Jan. 23, 1943 (gage height, 15.40 feet); no flow for parts of some years.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	2.9	2.9	9.8	5.8	6.6	137	11	5.4	1.9	0.8	0.8
2	1.4	2.6	2.9	9.8	5.8	6.6	107	11	5.1	1.9	.7	.8
3	1.5	2.3	2.7	11	37	6.4	98	10	4.8	1.8	.7	.8
4	1.6	2.1	2.9	9.4	17	6.4	87	10	4.4	1.8	.7	.8
5	1.9	2.1	3.1	9.8	11	6.1	78	10	4.1	1.8	.8	.8
6	2.0	2.9	2.9	8.6	9.4	6.1	70	9.8	3.9	1.6	.9	.8
7	2.4	2.9	2.9	8.6	9.0	6.1	60	9.4	3.8	1.6	.9	.8
8	2.0	2.7	2.9	8.2	8.2	5.8	52	9.4	3.9	1.5	.8	.8
9	1.9	2.7	2.9	7.8	8.6	5.6	43	10	3.8	1.5	.8	.8
10	1.9	2.6	2.9	7.4	8.6	5.4	36	11	3.8	1.5	.8	.8
11	1.9	2.7	2.9	7.0	8.6	5.4	31	11	3.4	1.4	.7	.8
12	1.8	2.6	3.2	7.0	8.6	5.4	28	9.4	5.2	1.2	.8	.8
13	1.6	2.6	3.2	7.0	8.2	7.8	27	9.0	3.1	1.2	.8	.7
14	1.5	2.6	3.2	7.0	7.8	7.0	24	9.0	2.9	1.1	.6	.7
15	1.5	2.7	3.2	7.0	8.6	5.8	22	9.0	2.7	1.1	.7	.7
16	1.4	2.7	3.2	7.0	9.8	5.6	21	9.0	2.7	1.0	.6	.8
17	1.4	2.7	3.2	7.0	8.2	5.4	20	8.6	2.7	.9	.8	.9
18	1.4	2.7	3.4	7.0	8.2	5.4	18	8.6	2.6	1.0	.7	.9
19	1.2	2.6	3.4	7.0	8.2	25	17	7.8	2.3	1.2	.7	.9
20	1.2	2.6	3.4	7.0	8.2	17	17	7.8	2.3	1.6	.8	.9
21	1.2	2.6	133	6.6	8.2	12	16	7.4	2.3	1.2	.8	.9
22	1.2	2.6	331	6.6	8.2	10	15	7.8	2.4	.9	.8	.9
23	1.4	2.6	277	6.6	7.8	14	13	7.8	2.3	.9	.7	.9
24	1.4	2.6	58	6.4	7.8	14	13	7.8	2.3	1.1	.7	.8
25	1.5	2.6	30	6.4	7.8	11	12	7.8	2.3	1.2	.7	.8
26	1.5	2.6	20	6.4	7.4	9.4	12	7.8	2.4	1.0	.7	.8
27	1.6	2.6	16	6.4	7.4	8.2	12	7.8	2.3	.8	.7	.9
28	1.8	2.6	14	6.4	7.4	12	12	7.0	2.3	.8	.7	.9
29	3.2	2.7	12	6.4	-	25	12	6.6	2.3	.7	.8	1.4
30	5.1	2.9	10	5.8	-	1,330	11	5.8	2.1	.7	.8	1.6
31	3.6	-	10	5.8	-	310	-	5.4	-	.8	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	56.5	5.1	1.2	1.82	112
November.....	78.7	2.9	2.1	2.62	156
December.....	972.3	331	2.7	31.4	1,930
Calendar year 1945.....	4,879.0	500	1.1	13.4	9,680
January.....	230.2	11	5.8	7.43	457
February.....	266.8	37	5.6	9.53	529
March.....	1,904.5	1,330	5.4	61.4	3,780
April.....	1,121	137	11	37.4	2,220
May.....	269.8	11	5.4	8.70	535
June.....	93.9	5.4	2.1	3.13	186
July.....	38.7	1.9	.7	1.25	77
August.....	23.7	.9	.7	.76	47
September.....	26.0	1.6	.7	.87	52
Water year 1945-46.....	5,082.1	1,330	.7	13.9	10,080

Tujunga Creek near Sunland, Calif.

Location.- Water-stage recorder, lat. 34°17'55", long. 118°16'10", near center of sec. 32, T. 3 N., R. 13 W. (unsurveyed), 0.2 mile downstream from a partly constructed and abandoned dam, 2 miles upstream from mouth of canyon, and 4 miles northeast of Sunland.

Drainage area.- 106 square miles.

Records available.- October 1916 to September 1946.

Average discharge.- 29 years (1917-46), 33.2 second-feet.

Extremes.- Maximum discharge during year, 1,300 second-feet Mar. 30 (gage height, 9.45 feet); minimum daily, 4.9 second-feet Mar. 25, May 30, June 19.
1916-46: Maximum discharge, 50,000 second-feet Mar. 2, 1938; minimum, 0.1 second-foot at times in summers of 1919, 1924, 1928-31.

Remarks.- Flow regulated by Big Tujunga flood-control dam 7 miles above station. Two or three small diversions above station for irrigation.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	15	5.2	19	7.8	8.1	260	11	6.0	11	15	8.7
2	10	14	5.4	18	7.8	8.4	216	12	6.0	13	15	8.9
3	11	14	6.2	19	52	8.4	85	11	6.5	12	15	9.0
4	11	14	6.2	19	20	8.4	181	11	6.0	11	15	9.1
5	11	14	6.2	19	12	8.4	270	11	6.0	10	15	9.2
6	12	16	6.2	19	9.8	8.4	145	11	6.2	11	15	9.2
7	12	16	6.2	19	40	8.1	36	11	6.2	12	15	9.3
8	12	15	6.0	19	87	7.8	22	11	6.2	61	15	9.3
9	12	15	6.0	18	51	7.8	19	11	6.5	148	15	9.3
10	12	15	5.7	18	10	7.4	16	11	7.1	146	15	9.4
11	11	15	5.7	18	8.1	7.4	14	12	6.5	150	15	9.4
12	11	15	5.4	17	6.8	7.4	14	12	6.0	154	15	9.5
13	11	15	5.7	17	5.7	10	14	13	6.0	104	15	9.2
14	10	15	5.7	17	6.0	9.1	13	13	6.0	12	15	8.8
15	10	15	5.7	17	8.1	7.8	13	12	6.0	9.4	15	8.5
16	9.8	15	5.7	17	8.4	7.8	12	11	5.7	11	15	8.1
17	9.8	15	5.7	17	8.4	7.4	12	9.4	5.7	13	15	7.8
18	9.8	15	5.7	17	9.1	7.1	12	10	5.7	17	15	7.5
19	11	14	5.7	16	9.1	26	12	10	4.9	17	13	7.1
20	15	14	6.0	21	8.4	12	11	10	7.1	17	10	7.1
21	15	14	103	17	7.8	8.8	10	10	8.4	17	9.7	7.1
22	16	14	409	17	7.4	6.5	10	10	9.4	17	9.5	7.1
23	15	14	413	17	8.1	6	9.5	9.8	13	17	9.5	7.2
24	15	14	205	17	8.4	5.4	9.1	9.4	14	17	9.1	7.2
25	14	14	99	18	8.1	4.9	8.4	9.4	14	17	8.9	7.2
26	14	14	57	15	8.1	7.8	8.1	9.4	14	17	8.7	7.2
27	15	14	24	8.8	7.8	9.4	7.8	9.4	13	16	8.5	7.2
28	14	11	22	8.1	8.1	11	7.8	8.8	11	16	8.3	7.2
29	16	6.0	20	7.8	-	22	7.4	8.1	11	16	8.1	7.2
30	18	5.2	19	7.8	-	648	9.8	4.9	11	16	8.3	7.2
31	16	-	19	7.4	-	698	-	5.4	-	15	8.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	389.4	18	9.8	12.6	772
November.....	416.2	16	5.2	13.9	826
December.....	1,506.3	413	5.2	48.6	2,990
Calendar year 1945.....	8,607.3	413	4.8	23.6	17,080
January.....	501.9	21	7.4	16.2	996
February.....	439.3	87	5.7	15.7	871
March.....	1,611.0	698	4.9	52.0	3,200
April.....	1,464.9	270	7.4	48.8	2,910
May.....	318.0	13	4.9	10.3	631
June.....	241.1	14	4.9	8.04	478
July.....	1,120.4	154	9.4	36.1	2,220
August.....	389.9	15	6.1	12.6	773
September.....	246.2	9.5	7.1	8.21	488
Water year 1945-46.....	8,644.6	698	4.9	23.7	17,160

Tujunga Creek below Hansen Dam, Calif.

Location.- Water-stage recorder and sharp-crested weir, lat. 34°15'31", long. 118°23'11", at lower end of outlet structure of Hansen Dam, in Ex Mission San Fernando Grant, in city of Los Angeles, 3 miles southeast of San Fernando, Los Angeles County. Datum of gage is 963.29 feet above mean sea level, datum of 1929 (Corps of Engineers, War Department, bench mark).

Drainage area.- 148 square miles.

Records available.- October 1940 to September 1946 in reports of Geological Survey. April 1932 to September 1940 (fragmentary) and October 1940 to September 1946 in Annual Reports of Los Angeles County Flood Control District.

Extremes.- Maximum discharge during year, 610 second-feet Dec. 23 (gage height, 4.12 feet); no flow on many days.
1940-46: Maximum discharge, 1,780 second-feet Jan. 23, 1943; no flow during parts of each year.

Remarks.- Records good except those for Dec. 22-25, which are fair. Storage and diversions above station. Flow regulated by Hansen flood-control dam.

Cooperation.- Four discharge measurements furnished by Corps of Engineers, War Department.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9		0	0	0	0.2	0.6	0	0	0	0	0
2	2.4		0	.1	0	.2	.6	0	0	0	0	0
3	2.3		0	2.6	.1	.1	.9	1.1	0	0	0	3.7
4	2.4		0	2.9	.1	0	113	2.1	0	0	0	.8
5	2.7		0	2.1	0	0	122	1.2	0	0	0	3.2
6	2.7		0	0	0	0	.2	.5	62	0	0	1.4
7	3.5		.1	3.4	114	0	.2	0	26	0	0	2.1
8	2.7		.1	1.6	118	0	.2	2.7	0	0	4.1	2.1
9	2.7		.1	1.5	0	0	.1	8.2	0	0	0	7.0
10	2.9		.1	5.0	0	0	.1	45	0	0	0	9.7
11	3.1		.1	3.5	.1	0	0	0	0	2.3	0	1.6
12	3.2		.1	0	.2	0	0	0	0	6.5	0	1.1
13	3.2		.1	0	.2	0	0	f12	53	5.0	0	1.5
14	3.1		.1	0	.2	0	0	f58	0	4.7	0	1.5
15	3.1		.1	5.5	.3	0	0	0	0	28	0	1.5
16	3.1		.1	1.9	.2	0	0	0	0	2.5	0	4.6
17	3.5		.1	1.1	.1	0	0	0	0	2.4	0	15
18	3.2		.1	1.8	.1	0	0	0	0	1.3	0	0
19	3.1		.1	.8	.1	0	0	0	0	33	5.5	0
20	4.2		.1	.6	.1	0	0	0	0	2.5	24	.1
21	6.4		.2	.4	.2	0	0	.1	0	2.5	21	0
22	6.1		137	5.5	.3	0	0	61	0	1.5	0	0
23	6.6		485	7.2	.3	0	0	0	0	1.3	0	6.2
24	4.7		543	0	.2	0	0	0	0	1.6	0	12
25	4.9		150	0	.3	0	0	0	0	1.5	0	0
26	4.9		.1	0	.3	.3	0	0	0	34	0	0
27	5.3		.1	0	.3	.4	0	0	9.6	1.6	0	0
28	5.7		0	0	.2	.1	0	0	0	1.6	0	0
29	4.4		0	0	-	.2	0	0	0	.9	0	0
30	0		0	0	-	.4	0	0	0	1.4	0	0
31	0		0	0	-	.5	-	0	-	0	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						109.0	6.6	0	3.52	216		
November.....						0	0	0	0	0		
December.....						1,316.8	543	0	42.5	2,610		
Calendar year 1945						4,242.4	543	0	11.6	8,410		
January.....						47.5	7.2	0	1.53	94		
February.....						235.9	118	0	8.42	468		
March.....						2.4	.5	0	.08	4.8		
April.....						237.9	122	0	7.93	472		
May.....						191.9	61	0	6.19	381		
June.....						150.6	62	0	5.02	299		
July.....						136.1	34	0	4.39	270		
August.....						54.6	24	0	1.76	108		
September.....						75.1	15	0	2.50	149		
Water year 1945-46						2,557.8	543	0	7.01	5,070		

Little Tujunga Creek near San Fernando, Calif.

Location.- Water-stage recorder, lat. 34°16'30", long. 118°22'20", in Tujunga Grant, on Foothill Boulevard Bridge, 4 miles east of San Fernando, Los Angeles County.

Drainage area.- 21.0 square miles.

Records available.- December 1928 to September 1946.

Average discharge.- 18 years, 3.44 second-feet.

Extremes.- Maximum discharge during year, 156 second-feet Mar. 30 (gage height, 4.00 feet); no flow during most of year.

1928-46: Maximum discharge, 8,500 second-feet Mar. 2, 1938; no flow for several months each year.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. K. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	0	12					
2			0		0	0	8.8					
3			0		9.9	0	5.6					
4			0		2.2	0	4.3					
5			0		0	0	3.5					
6			0		0	0	4.0					
7			0		0	0	3.5					
8			0		0	0	3.0					
9			0		0	0	1.8					
10			0		0	0	.8					
11			0		0	0	.5					
12			0		0	0	.5					
13			0		0	0	.2					
14			0		0	0	.1					
15			0		.2	0	.1					
16			0		.1	0	0					
17			0		0	0	0					
18			0		0	0	0					
19			0		0	1.9	0					
20			0		0	.1	0					
21			16		0	0	0					
22			49		0	0	0					
23			36		0	0	0					
24			2.4		0	0	0					
25			0		0	0	0					
26			0		0	0	0					
27			0		0	0	0					
28			0		0	1.0	0					
29			0		-	3.5	0					
30			0		-	96	0					
31			0		-	24	-					
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						103.4	49	0	3.34	205		
Calendar year 1945.....						534.5	49	0	.92	684		
January.....						0	0	0	0	0		
February.....						12.4	9.9	0	.44	25		
March.....						126.5	96	0	4.08	251		
April.....						48.3	12	0	1.61	96		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1945-46.....						290.6	96	0	.80	577		

Haines Creek near Tujunga, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°15'50", long. 118°16'15", in NW¼NW¼ sec. 17, T. 2 N., R. 13 W., 0.5 mile upstream from mouth of canyon and 1.5 miles northeast of Tujunga. Altitude of gage, about 2,430 feet (from topographic map).

Drainage area.- 1.2 square miles.

Records available.- February 1917 to September 1934, October 1935 to September 1946.

Average discharge.- 28 years, 0.179 second-foot.

Extremes.- Maximum discharge during year, 12 second-feet Mar. 30 (gage height, 2.20 feet); minimum daily, less than 0.01 second-foot on many days.

1917-34, 1935-46: Maximum discharge of record, 265 second-feet Mar. 2, 1938 (gage height, 4.6 feet); minimum, less than 0.01 second-foot during periods in most years.

A debris wave (commonly called a mud flow) attained a gage height of approximately 11 feet Jan. 1, 1934 (discharge not determined).

Remarks.- Records fair. Diversions above station for domestic use.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.01	0.13	0.08	0.06	0.34	0.24	0.08	0.01		
2			.01	.13	.08	.06	.35	.24	.08	.02		
3			.01	.13	.27	.06	.26	.24	.08	.01		
4			.01	.13	.17	.06	.24	.21	.08	.01		
5			.01	.13	.13	.06	.24	.21	.06	.01		
6			.01	.11	.13	.06	.26	.19	.06	.01		
7			.01	.11	.11	.08	.26	.19	.05	.01		
8		e0.006	.01	.11	.11	.08	.24	.19	.05	.01		
9			.02	.09	.11	.06	.24	.21	.05	.01		
10			.02	.09	.11	.06	.24	.21	.05	.01		
11			.02	.09	.11	.06	.24	.19	.03	.01		
12			.02	.09	.11	.06	.26	.17	.02	.01		
13			.02	.09	.11	.06	.26	.17	.03	.01		
14			.02	.09	.11	.06	.26	.17	.03	.01		
15			.02	.09	.11	.06	.26	.17	.02	.01		
16	e0.005											
17		.01	.02	.09	.11	.06	.26	.17	.02			
18		.01	.03	.09	.11	.06	.24	.17	.02			
19		.01	.03	.09	.11	.13	.26	.17	.01			
20		.01	.03	.09	.11	.06	.26	.15	.02			
21		.01	.68	.09	.11	.05	.26	.13	.02			
22		.01	1.4	.09	.11	.05	.24	.13	.03			
23		.01	1.2	.09	.11	.04	.24	.13	.03			
24		.01	.25	.09	.09	.05	.24	.11	.02			
25		.01	.17	.09	.08	.05	.24	.11	.02			
26		.01	.15	.09	.08	.06	.24	.13	.02			
27		.01	.13	.09	.08	.06	.24	.11	.02			
28		.01	.13	.09	.06	.11	.24	.09	.03			
29		.01	.13	.09	-	.27	.24	.08	.03			.01
30		.01	.13	.09	-	4.3	.24	.08	.02			.02
31		-	.13	.08	-	.65	-	.08	-			-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0.155	-	-	0.0050	0.3
November.....	.240	0.01	-	.0080	.5
December.....	4.86	1.4	0.01	.157	9.6
Calendar year 1945.....	33.576	2.0	-	.0920	66
January.....	3.04	.13	.08	.098	6.0
February.....	5.12	.27	.06	.111	6.2
March.....	7.00	4.3	.04	.226	14
April.....	7.63	.35	.24	.254	15
May.....	5.01	.24	.08	.162	9.9
June.....	1.10	.08	.01	.037	2.2
July.....	.240	.02	-	.0077	.5
August.....	.092	-	-	.0030	.2
September.....	.086	.02	-	.0029	.2
Water year 1945-46.....	32.573	4.3	-	.0892	65

Peak discharge.- Dec. 21 (9:15 p.m.) 5.3 sec.-ft.; Dec. 23 (5 a.m.) 4.0 sec.-ft.; Mar. 30 (4:30 a.m.) 12 sec.-ft.

e Maximum daily discharge during period, less than 0.01 sec.-ft.

Arroyo Seco near Pasadena, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°13'20", long. 118°10'40", near North line of sec. 31, T. 2 N., R. 12 W., 1.5 miles upstream from Millard Canyon and 5.5 miles northwest of Pasadena. Datum of gage, 1,397.88 feet above mean sea level (adjustment of 1929). Prior to Oct. 1, 1945, at datum 4.00 feet lower.

Drainage area.- 16.4 square miles.

Records available.- December 1910 to September 1946.

Average discharge.- 32 years (1913-15, 1916-46), 10.8 second-feet.

Extremes.- Maximum discharge during year, 680 second-feet Mar. 30 (gage height, 4.17

feet); minimum daily discharge, 0.5 second-foot Sept. 4-29.

1910-46: Maximum discharge, 8,620 second-feet Mar. 2, 1938, by slope-area method; practically no flow for several months in most years.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversion above station. Minor regulation at debris dam 1.5 miles upstream.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.2	1.5	6.5	3.1	3.3	65	8.6	3.3	1.8	1.0	0.6
2	1.0	1.2	1.5	6.8	2.9	3.3	50	8.4	3.1	1.8	1.0	.6
3	.9	1.2	1.5	6.8	28	3.3	40	8.1	2.7	1.7	1.0	.6
4	.9	1.2	1.5	6.0	24	3.3	31	7.9	2.6	1.7	1.0	.5
5	.9	1.4	1.5	5.8	7.5	3.3	23	7.7	2.6	1.7	1.0	.5
6	.9	1.5	1.7	5.4	6.2	3.3	22	7.2	2.6	1.5	1.0	.5
7	.9	1.7	1.7	5.2	5.6	3.3	26	6.5	2.7	1.5	1.0	.5
8	.9	1.5	1.7	4.8	5.0	3.3	23	6.3	2.7	1.5	1.0	.5
9	.8	1.7	1.7	4.4	4.4	3.3	23	6.2	2.7	1.5	.8	.5
10	.9	1.7	1.7	4.0	4.4	3.3	20	6.3	2.7	1.5	.8	.5
11	.9	1.7	1.8	3.8	4.2	3.3	17	6.3	2.6	1.4	.7	.5
12	.9	1.8	2.0	3.6	4.0	3.3	17	6.0	2.6	1.4	.7	.5
13	.9	1.8	2.0	3.6	4.0	3.1	16	6.0	2.2	1.4	.8	.5
14	.9	1.9	2.0	3.6	3.6	3.1	15	6.0	2.2	1.4	.8	.5
15	.9	1.8	2.0	3.6	3.6	2.9	15	6.0	2.1	1.4	.8	.5
16	.9	1.8	1.8	3.6	3.6	2.9	14	6.0	2.1	1.4	.8	.5
17	.9	1.8	1.8	3.6	3.4	3.1	13	5.8	2.1	1.4	.7	.5
18	.9	1.7	1.8	3.6	3.4	3.4	11	5.8	2.0	1.4	.7	.5
19	1.0	1.7	1.8	3.6	3.3	8.9	11	5.8	2.0	1.4	.7	.5
20	1.0	1.5	1.8	3.6	3.3	10	10	5.8	2.0	1.2	.7	.5
21	1.0	1.5	58	3.6	3.3	8.9	10	5.8	2.0	1.2	.7	.5
22	1.2	1.5	213	3.6	3.3	7.1	10	5.6	2.0	1.1	.7	.5
23	1.2	1.5	186	a3.6	3.3	6.3	9.4	5.4	2.0	1.1	.7	.5
24	1.1	1.5	60	a3.5	3.3	5.2	9.4	5.2	2.0	1.1	.7	.5
25	1.1	1.4	28	a3.5	3.3	4.8	9.4	5.0	1.8	1.1	.6	.5
26	1.1	1.4	16	a3.4	3.3	4.4	9.2	5.0	1.8	1.1	.6	.5
27	1.2	1.4	13	a3.3	3.3	4.0	9.2	5.2	1.8	1.1	.6	.5
28	1.2	1.4	11	a3.3	3.3	4.8	8.9	4.8	1.8	1.1	.6	.5
29	1.2	1.4	9.4	a3.2	-	6.5	8.6	4.4	1.8	1.1	.6	.5
30	1.2	1.4	8.1	a3.1	-	362	8.6	3.8	1.8	1.0	.6	.6
31	1.2	-	7.2	3.1	-	121	-	3.6	-	1.0	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	31.1	1.2	0.9	1.00	62
November	46.1	1.8	1.2	1.54	91
December	644.5	213	1.5	20.8	1,280
Calendar year 1945	2,792.0	289	.8	7.65	5,530
January	128.9	6.8	3.1	4.16	256
February	153.9	28	2.9	5.50	305
March	612.0	362	2.9	19.7	1,210
April	554.7	65	8.6	18.5	1,100
May	188.9	8.6	3.6	6.02	370
June	69.4	5.3	1.8	2.28	138
July	42.0	1.8	1.0	1.35	83
August	24.1	1.0	.6	.78	48
September	15.4	.6	.5	.51	31
Water year 1945-46	2,507.7	362	.5	6.87	4,970

Peak discharge.- Dec. 21 (10:45 p.m.) 590 sec.-ft.; Dec. 22 (9 a.m.) 440 sec.-ft.; Dec. 23 (6 a.m.) 490 sec.-ft.; Mar. 30 (5:30 a.m.) 880 sec.-ft.

a No gage-height record; discharge computed on basis of 2 discharge measurements and interpolation.

Rio Hondo near Montebello, Calif.

Location.- Water-stage recorder, lat. 34°01'55", long. 118°04'15", in Potrero Grande Grant, at Montebello oil field, about 1,000 feet upstream from Mission Bridge and 2 miles northeast of Montebello, Los Angeles County. Altitude of gage, about 200 feet.

Records available.- October 1928 to September 1946.

Average discharge.- 18 years, 65.8 second-feet.

Extremes.- Maximum discharge during year, 3,600 second-feet Dec. 22 (gage height, 7.73 feet); minimum daily, 23 second-feet Oct. 2.

1929-46: Maximum discharge, 28,000 second-feet Mar. 2, 1938; minimum, 0.3 second-foot Dec. 1, 1933.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	28	29	32	34	37	55	37	32	33	28	27
2	23	28	28	38	34	38	108	34	30	33	28	28
3	24	29	29	176	315	34	40	33	33	31	31	28
4	25	27	29	305	57	35	40	35	33	31	30	28
5	24	29	30	322	47	37	38	32	34	32	32	28
6	27	41	30	314	44	38	43	31	32	32	33	28
7	25	31	30	230	40	37	41	31	31	31	34	28
8	27	29	30	237	40	37	40	31	33	33	32	28
9	26	29	29	186	37	38	43	30	31	33	35	28
10	26	30	30	180	34	37	41	32	32	32	33	28
11	26	28	36	183	40	37	38	33	32	32	32	62
12	27	29	29	186	39	37	38	32	32	35	32	180
13	27	28	29	183	40	61	39	33	31	32	30	255
14	27	28	29	186	39	38	38	34	32	30	28	266
15	27	28	28	180	49	39	41	34	32	30	27	159
16	28	27	27	183	41	38	40	34	27	30	28	310
17	30	29	26	148	38	37	38	33	30	31	27	322
18	28	28	26	146	40	37	36	35	28	28	28	296
19	26	27	25	132	38	211	37	31	27	30	28	244
20	28	26	25	130	40	128	38	34	28	30	28	198
21	26	26	370	143	38	47	34	34	30	28	28	201
22	28	26	1,210	124	40	44	37	34	31	28	30	201
23	28	26	572	47	37	43	37	33	30	27	30	208
24	27	28	29	55	38	35	35	34	32	28	31	217
25	24	28	31	37	39	40	35	35	32	28	28	230
26	24	28	27	41	39	37	35	31	34	27	31	237
27	26	28	27	37	38	39	35	33	33	28	28	63
28	25	27	28	38	38	123	33	32	35	28	27	31
29	47	29	26	34	-	122	35	32	34	30	28	24
30	52	28	26	35	-	674	54	31	31	27	28	24
31	30	-	30	32	-	159	-	32	-	27	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	862	52	23	27.8	1,710
November.....	853	41	26	28.4	1,690
December.....	2,950	1,210	25	95.2	5,850
Calendar year 1945.....	15,940	1,210	18	43.7	31,620
January.....	4,280	322	32	138	8,490
February.....	1,393	315	34	49.8	2,760
March.....	2,394	674	34	77.2	4,750
April.....	1,224	108	33	40.8	2,430
May.....	1,016	37	30	32.8	2,020
June.....	942	35	27	31.4	1,870
July.....	933	33	27	30.1	1,850
August.....	921	35	27	29.7	1,830
September.....	3,987	322	24	133	7,910
Water year 1945-46.....	21,755	1,210	23	59.6	43,180

Rio Hondo near Downey, Calif.

Location.- Water-stage recorder, lat. 33°56'40", long. 118°09'50", in San Antonio Grant, on Stewart and Gray Road Bridge, 0.5 mile upstream from mouth, and 1.5 miles west of Downey, Los Angeles County. Altitude of gage, about 95 feet.

Records available.- March 1928 to September 1946.

Average discharge.- 18 years, 35.3 second-feet.

Extremes.- Maximum discharge during year, 4,270 second-feet Dec. 22 (gage height, 7.55 feet); no flow at times.
1928-46: Maximum discharge, 24,400 second-feet Mar. 3, 1938 (gage height, 13.5 feet); no flow during part of each year.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	7.1	6.7	0.6	5.6	1.2	24	6.7	4.9	4.2	4.6	3.9
2	5.6	6.4	7.4	.5	3.9	1.2	74	5.3	3.7	3.4	6.0	3.1
3	6.0	5.3	8.3	.4	221	.6	17	6.0	4.6	3.1	5.6	3.4
4	6.4	1.3	7.8	.1	36	.2	11	6.0	5.3	3.1	6.0	2.6
5	6.0	4.6	3.1	.1	13	.5	7.1	6.7	4.9	2.8	5.6	2.8
6	6.4	5.3	4.6	25	9.3	.4	6.0	5.3	4.6	3.4	4.6	3.1
7	6.0	4.9	7.1	44	7.1	.7	5.6	6.4	4.2	4.2	5.3	3.4
8	6.0	6.0	4.6	53	4.6	.5	2.6	9.8	3.7	4.2	6.4	3.4
9	6.0	5.3	6.4	56	3.4	.4	2.3	8.8	3.9	4.2	7.1	1.5
10	6.0	6.4	6.4	49	3.1	0	1.5	8.8	3.4	4.2	4.6	1.4
11	6.0	3.9	5.6	58	2.3	.2	1.4	6.0	3.9	3.1	4.9	1.8
12	6.0	1.1	5.3	49	2.3	.1	1.0	6.7	4.6	3.9	4.9	2.8
13	6.0	1.8	7.4	64	1.8	1.4	1.1	7.8	4.2	3.1	4.9	4.2
14	6.0	1.8	7.1	71	1.5	5.6	0	6.4	4.2	3.1	3.4	4.6
15	6.0	3.4	6.7	79	1.8	1.0	0	8.8	4.9	3.7	2.6	2.6
16	6.0	3.7	7.4	74	6.9	1.3	0	9.3	3.9	3.9	3.9	1.3
17	6.0	7.4	7.4	51	3.1	.9	1.4	8.8	3.9	3.9	4.2	2.8
18	6.7	6.7	7.4	38	1.5	1.3	0	7.4	4.2	3.7	5.6	4.6
19	7.8	7.4	8.3	33	3.1	145	0	8.8	5.3	4.6	5.6	4.2
20	4.9	6.7	7.8	32	2.3	86	0	7.8	6.4	4.2	4.2	3.9
21	6.7	5.6	57	41	2.0	12	0	4.9	6.0	4.2	3.7	3.7
22	9.3	6.4	1,130	25	1.2	2.8	0	6.0	4.2	4.6	3.7	5.3
23	7.4	6.7	756	7.8	1.5	.9	0	0	4.2	5.3	4.2	4.9
24	5.3	5.6	75	.4	1.4	.6	0	5.6	4.2	4.2	4.6	5.6
25	6.7	5.6	15	.5	1.1	.5	0	5.6	3.7	2.0	4.9	4.2
26	5.6	5.6	3.9	.6	1.3	.4	3.1	5.6	3.9	5.6	2.3	4.6
27	5.3	6.0	2.0	.7	1.2	.4	5.3	6.0	4.6	5.3	3.7	12
28	5.6	4.6	2.0	.9	1.0	72	0	4.2	4.2	6.0	2.3	5.3
29	7.1	6.7	2.6	1.8	-	35	3.1	4.9	4.2	6.0	2.6	3.9
30	4.6	8.8	1.0	2.6	-	575	6.7	5.3	4.6	6.7	1.8	3.1
31	6.7	-	.9	4.2	-	114	-	4.9	-	6.4	3.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	191.4	9.3	4.6	6.17	380
November.....	158.1	8.8	1.1	5.27	314
December.....	2,178.2	1,130	.9	70.3	4,520
Calendar year 1945	5,161.1	1,130	0	14.1	10,240
January.....	863.2	79	.1	27.8	1,710
February.....	344.3	221	1.0	12.3	683
March.....	1,062.1	575	0	34.3	2,110
April.....	174.2	74	0	5.81	346
May.....	200.6	9.8	0	6.47	398
June.....	132.5	6.4	3.4	4.42	263
July.....	130.3	6.7	2.0	4.20	258
August.....	137.5	7.1	1.8	4.44	273
September.....	114.0	12	1.3	3.80	226
Water year 1945-46	5,686.4	1,130	0	15.6	11,280

Sawpit Creek near Monrovia, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°10'25", long. 117°59'20", in NE¼SW¼ sec. 13, T. 1 N., R. 11 W., 0.1 mile downstream from Monrovia Creek, 0.3 mile downstream from Sawpit Dam, and 1.5 miles north of Monrovia. Altitude of gage, about 1,100 feet (from topographic map).

Drainage area.- 5.3 square miles.

Records available.- November 1916 to September 1946.

Average discharge.- 29 years (1917-46), 1.36 second-feet; including diversion by Monrovia pipe line, 29 years, 2.86 second-feet.

Extremes.- Maximum discharge during year, 125 second-feet Dec. 23 (gage height, 2.23 feet); no flow during several periods.
1916-46: Maximum discharge, about 2,000 second-feet Apr. 7, 1926, estimated from flow of Rogers Creek; no flow during parts of most years.

Remarks.- Records fair. Flow regulated by Sawpit Dam on Sawpit Creek; diversion by city of Monrovia from Monrovia Creek.

Cooperation.- Five discharge measurements furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer. Record of diversion to Monrovia pipe line furnished by city of Monrovia.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	1.3	0.8	0.1	0	6.3	0.2				
2	0	0	1.3	.8	.1	0	4.7	.2				
3	0	0	1.3	.8	1.6	0	2.8	.1				
4	0	0	1.4	.9	1.0	.1	2.6	.1				
5	0	0	1.7	.8	.4	0	1.7	.1				
6	0	.1	1.3	.8	.2	0	1.5	.1				
7	0	.2	1.0	.8	.2	0	1.4	.1				
8	0	0	1.0	.8	.2	0	1.3	.1				
9	0	0	.5	.2	.1	0	1.1	.1				
10	0	0	.1	.2	.1	0	.8	.1				
11	0	0	0	.3	.2	0	.6	.1				
12	0	.0	0	.5	.2	0	.5	.1				
13	0	0	0	.2	.1	0	.4	.1				
14	0	0	0	.1	.2	.1	.4	.1				
15	0	.1	0	.1	.1	.1	.3	.1				
16	0	.1	0	.1	.1	0	.3	.1				
17	0	0	0	.1	.2	0	.3	.1				
18	0	0	0	.2	.2	0	.2	0				
19	0	0	0	.3	.1	0	.2	0				
20	0	0	0	.2	.1	.1	.2	0				
21	0	.3	2.8	.2	.1	.1	.2	0				
22	0	1.3	13	.2	.1	.1	.2	0				
23	0	1.4	42	.2	.1	.1	.2	0				
24	0	1.4	8.2	.2	.1	.1	.2	0				
25	0	1.4	5.5	.2	.1	.1	.2	0				
26	0	1.3	3.3	.1	.1	.2	.2	0				
27	0	1.3	2.3	.1	.1	.1	.2	0				
28	0	1.3	1.5	.1	.1	.2	.2	0				
29	0	1.3	1.0	.1	-	.1	.2	0				
30	.3	1.3	1.0	.1	-	19	.2	0				
31	.2	-	.8	.1	-	11	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	Diversion in acre-feet†
October	0.5	0.3	0	0.02	1.0	91
November	12.8	1.4	0	.43	25	92
December	92.3	42	0	2.98	183	e86
Calendar year 1945	258.2	42	0	.71	512	1,540
January	10.2	.9	.1	.33	20	e132
February	6.2	1.8	.1	.22	12	115
March	31.5	19	0	1.02	82	122
April	29.6	6.3	.2	.99	59	170
May	1.9	.2	0	.08	3.8	137
June	0	0	0	0	0	101
July	0	0	0	0	0	86
August	0	0	0	0	0	74
September	0	0	0	0	0	88
Water year 1945-46	185.0	42	0	.51	366	1,270

† Diversion to Monrovia pipe line.

e Water meter not operating Dec. 24 to Jan. 9; discharge computed on basis of daily observations of head on weir.

Santa Anita Creek near Sierra Madre, Calif.

Location.- Water-stage recorder, lat. 34°11'30", long. 118°01'00", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10, T. 1 N., R. 11 W., at head of Hermits Falls, 1 mile upstream from Big Santa Anita Dam and 4 miles northeast of Sierra Madre. Datum of gage is about 1,475 feet above mean sea level.

Drainage area.- 10.5 square miles.

Records available.- July 1916 to September 1946.

Average discharge.- 30 years, 6.46 second-feet.

Extremes.- Maximum discharge during year, 460 second-feet Dec. 23 (gage height, 4.86 feet); minimum daily, 0.5 second-foot Aug. 18, 19, Sept. 13-15.

1916-46: Maximum discharge, about 5,200 second-feet Mar. 2, 1938, based on inflow to Big Santa Anita flood-control reservoir; practically no flow Aug. 18 to Sept. 14, 1929.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.8	1.6	5.5	2.4	2.8	30	4.8	2.8	1.7	0.7	0.8
2	.8	1.6	1.6	5.5	2.4	2.8	23	4.6	2.9	1.8	.7	.8
3	.8	1.3	1.5	6.6	11	2.8	18	4.6	2.8	1.8	.7	.7
4	.9	1.2	1.5	5.5	6.1	2.7	15	4.5	2.6	1.8	.7	.7
5	1.0	1.3	1.5	5.7	4.5	2.7	13	4.3	2.3	1.8	.7	.7
6	1.1	1.6	1.6	5.0	3.9	2.9	12	4.3	2.3	1.6	.8	.7
7	1.2	1.7	1.6	4.8	3.7	2.9	12	4.1	2.4	1.5	1.0	.7
8	1.8	1.5	1.5	4.6	3.7	2.7	11	4.1	2.4	1.3	1.0	.8
9	1.6	1.4	1.4	4.5	3.6	2.7	10	4.3	2.3	1.3	.9	.8
10	1.6	1.4	1.4	4.5	3.4	2.7	9.5	4.3	2.0	1.0	.8	.7
11	1.5	1.4	1.4	4.3	3.4	2.7	9.0	4.3	2.0	1.0	.7	.7
12	1.5	1.5	1.4	4.1	3.2	2.7	8.7	4.1	1.9	1.0	.7	.6
13	1.5	1.5	1.4	3.9	3.2	4.2	8.1	4.1	1.9	1.0	.7	.5
14	1.4	1.5	1.4	3.9	3.1	3.1	8.1	3.9	1.9	1.0	.7	.5
15	1.4	1.5	1.4	3.7	3.2	2.7	7.6	3.9	1.9	1.0	.8	.5
16	1.4	1.6	1.4	3.6	3.4	2.6	7.1	3.9	1.8	1.0	.7	.6
17	1.4	1.6	1.4	3.6	3.2	2.4	6.6	3.7	1.8	1.0	.6	.7
18	1.5	1.5	1.4	3.6	3.2	2.4	6.4	3.9	1.7	1.1	.5	.7
19	1.4	1.6	1.4	3.4	3.2	7.9	6.2	3.9	1.7	1.2	.5	.6
20	1.4	1.5	1.4	3.4	3.4	5.7	5.9	3.9	1.7	1.2	.6	.6
21	1.3	1.5	47	3.2	3.4	4.8	5.9	3.9	1.8	1.0	.7	.6
22	1.4	1.5	133	3.1	3.4	4.3	5.5	3.7	1.9	1.0	.7	.7
23	1.5	1.5	138	2.9	3.4	4.1	5.5	3.7	1.8	1.0	.7	.7
24	1.3	1.6	28	2.9	3.2	3.9	5.2	3.6	1.7	1.0	.7	.7
25	1.2	1.5	17	2.9	3.1	3.7	5.2	3.6	1.6	1.0	.7	.6
26	1.1	1.5	11	2.8	3.1	3.6	5.2	3.6	1.6	1.0	.7	.6
27	1.1	1.4	8.4	2.7	2.8	3.4	5.0	3.6	1.6	.8	.7	.6
28	1.3	1.4	7.3	2.7	2.8	4.8	5.0	3.6	1.8	.8	.8	.6
29	1.7	1.5	6.6	2.7	-	6.2	5.0	3.2	1.8	.8	.8	.6
30	2.7	1.6	6.2	2.6	-	119	4.8	2.9	1.8	.9	.8	.7
31	2.0	-	5.9	2.4	-	53	-	2.8	-	.8	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	42.6	2.7	0.8	1.37	84
November.....	45.0	1.8	1.2	1.50	89
December.....	437.6	138	1.4	14.1	668
Calendar year 1945.....	1,863.1	138	.8	5.10	3,700
January.....	120.6	6.6	2.4	3.89	239
February.....	102.4	11	2.4	3.66	203
March.....	274.9	119	2.4	8.87	545
April.....	279.5	30	4.8	9.32	554
May.....	121.7	4.8	2.8	3.93	241
June.....	60.5	2.9	1.6	2.02	120
July.....	36.2	1.8	.8	1.17	72
August.....	22.6	1.0	.5	.73	45
September.....	19.8	.8	.5	.66	39
Water year 1945-46.....	1,563.4	138	.5	4.28	3,100

Peak discharge.- Dec. 21 (9:30 p.m.) 380 sec.-ft.; Dec. 22 (9:30 a.m.) 335 sec.-ft.; Dec. 23 (6:30 a.m.) 460 sec.-ft.; Mar. 30 (11 a.m.) 200 sec.-ft.

Little Santa Anita Creek near Sierra Madre, Calif.

Location.- Water-stage recorder and concrete control, lat. 34°11'15", long. 118°02'35", near center of NW¼ sec. 9, T. 1 N., R. 11 W., 1.3 miles upstream from Sierra Madre Dam and 2 miles north of Sierra Madre. Altitude of gage, about 2,200 feet (from topographic map).

Drainage area.- 1.9 square miles.

Records available.- April 1916 to September 1946.

Average discharge.- 29 years (1916-25, 1926-46), 1.00 second-foot.

Extremes.- Maximum discharge during year, 62 second-feet Dec. 21 (gage height, 2.05 feet); minimum daily, 0.1 second-foot July 31 to Sept. 30.

1916-46: Maximum discharge, 536 second-feet Mar. 2, 1938, computed on basis of inflow to Sierra Madre flood-control reservoir; no flow during periods in 1919, 1924, 1925.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.3	0.2	1.2	0.4	0.5	4.1	0.7	0.4	0.2	0.1	0.1
2	.2	.3	.2	1.1	.4	.5	3.4	.7	.4	.2	.1	.1
3	.2	.2	.2	1.3	1.5	.5	2.8	.6	.4	.2	.1	.1
4	.2	.2	.2	1.2	.8	.5	2.2	.6	.4	.2	.1	.1
5	.2	.2	.2	1.3	.6	.5	2.0	.6	.4	.2	.1	.1
6	.2	.3	.2	1.1	.6	.5	2.0	.6	.4	.2	.1	.1
7	.2	.3	.2	1.0	.5	.5	1.8	.5	.4	.2	.1	.1
8	.2	.3	.2	.8	.5	.5	1.6	.5	.4	.2	.1	.1
9	.2	.3	.2	.7	.5	.5	1.6	.6	.4	.2	.1	.1
10	.2	.2	.2	.6	.5	.4	1.3	.6	.4	.2	.1	.1
11	.2	.2	.2	.6	.5	.4	1.3	.6	.4	.2	.1	.1
12	.2	.2	.2	.6	.5	.4	1.3	.6	.4	.2	.1	.1
13	.2	.2	.2	.6	.5	.4	1.3	.6	.4	.2	.1	.1
14	.2	.2	.2	.5	.5	.5	1.2	.6	.4	.2	.1	.1
15	.2	.2	.2	.5	.5	.4	1.2	.6	.4	.2	.1	.1
16	.2	.2	.2	.5	.5	.4	1.1	.6	.3	.2	.1	.1
17	.2	.2	.2	.5	.5	.4	1.0	.6	.3	.2	.1	.1
18	.2	.2	.2	.5	.5	.4	1.0	.5	.3	.2	.1	.1
19	.2	.2	.2	.5	.5	1.2	.9	.6	.3	.2	.1	.1
20	.2	.2	.2	.5	.6	.9	.9	.6	.3	.2	.1	.1
21	.2	.2	4.9	.5	.6	.8	.9	.6	.3	.2	.1	.1
22	.2	.2	15	.5	.6	.7	.9	.6	.3	.2	.1	.1
23	.2	.2	16	.5	.6	.6	.8	.6	.3	.2	.1	.1
24	.2	.2	4.3	.5	.5	.6	.8	.6	.3	.2	.1	.1
25	.2	.2	2.6	.4	.5	.6	.7	.5	.3	.2	.1	.1
26	.2	.2	1.9	.4	.5	.6	.7	.6	.3	.2	.1	.1
27	.2	.2	1.6	.4	.5	.5	.7	.6	.3	.2	.1	.1
28	.2	.2	1.4	.4	.5	.8	.7	.5	.3	.2	.1	.1
29	.3	.2	1.3	.4	-	1.1	.7	.5	.3	.2	.1	.1
30	.4	.2	1.2	.4	-	1.3	.7	.5	.3	.2	.1	.1
31	.3	-	1.2	.4	-	6.2	-	.5	-	.1	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6.6	0.4	0.2	0.21	13
November.....	6.6	.3	.2	.22	13
December.....	55.4	16	.2	1.79	110
Calendar year 1945.....	295.3	16	.2	.81	585
January.....	20.4	1.3	.4	.66	40
February.....	15.7	1.5	.4	.56	31
March.....	36.0	13	.4	1.16	71
April.....	41.6	4.1	.7	1.39	83
May.....	18.0	.7	.5	.58	36
June.....	10.5	.4	.3	.35	21
July.....	6.1	.2	.1	.20	12
August.....	3.1	.1	.1	.10	6.1
September.....	3.0	.1	.1	.10	6.0
Water year 1945-46.....	223.0	16	.1	.61	442

Peak discharge.- Dec. 21 (8:15 p.m.) 62 sec.-ft.; Dec. 22 (9:15 a.m.) 51 sec.-ft.; Dec. 23 (6:00 a.m.) 53 sec.-ft.; Mar. 30 (5:15 a.m.) 26 sec.-ft.

Eaton Creek near Pasadena, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°11'40", long. 118°06'15", in SE $\frac{1}{4}$ sec. 2, T. 1 N., R. 12 W., at mouth of canyon, just upstream from bridge on old Mount Wilson toll road and 4 miles northeast of Pasadena. Altitude of gage, about 1,230 feet (from topographic map).

Drainage area.- 6.5 square miles.

Records available.- March 1916 to September 1946.

Average discharge.- 26 years, 2.81 second-feet. Average combined discharge of creek and diversion, 28 years, 4.12 second-feet.

Extremes.- Maximum discharge during year, 271 second-feet Dec. 23 (gage height, 2.12 feet); no flow during most of year.

1918-46: Maximum discharge, 2,400 second-feet Mar. 2, 1938, from record of inflow to Eaton flood-control reservoir; no flow for some periods in each year.

Remarks.- Records fair. City of Pasadena has two surface diversions upstream and one infiltration gallery diversion downstream from this station. The upstream diversions are shown in monthly table. For some past years the downstream diversion has been included. In the current year it amounted to 8.5 percent of upstream diversions.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0	18					
2			0	0	0	0	9.5					
3			0	0	7.4	0	5.8					
4			0	0	.8	0	6.6					
5			0	0	0	0	3.6					
6			0	.1	0	0	1.9					
7			0	0	0	0	3.6					
8			0	0	0	0	8.4					
9			0	0	0	0	6.2					
10			0	0	0	0	2.0					
11			0	0	0	0	0					
12			0	0	0	0	0					
13			0	0	0	0	0					
14			0	0	0	0	0					
15			0	0	0	0	0					
16			0	0	0	0	0					
17			0	0	0	0	0					
18			0	0	0	0	0					
19			0	0	0	1.9	0					
20			0	0	0	.2	0					
21			19	0	0	0	0					
22			94	0	0	0	0					
23			77	0	0	0	0					
24			20	0	0	0	0					
25			7.1	0	0	0	0					
26			1.9	0	0	0	0					
27			.3	0	0	0	0					
28			0	0	0	.1	0					
29			0	0	-	.4	0					
30			0	0	-	103	0					
31			0	0	-	39	0					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	Diversion in acre-feet†
October	0	0	0	0	0	82
November	0	0	0	0	0	57
December	219.3	94	-	7.07	435	94
Calendar year 1945	491.3	94	0	1.35	974	1,600
January	.1	.1	0	.003	.2	125
February	8.2	7.4	0	.29	16	101
March	144.6	103	0	4.66	287	99
April	85.4	18	0	2.18	130	238
May	0	0	0	0	0	144
June	0	0	0	0	0	84
July	0	0	0	0	0	51
August	0	0	0	0	0	34
September	0	0	0	0	0	28
Water year 1945-46	437.6	103	0	1.20	868	1,110

Peak discharge.- Dec. 22 (9:45 a.m.) 186 sec.-ft.; Dec. 23 (4:45 a.m.) 271 sec.-ft.; Mar. 30 (4:45 a.m.) 288 sec.-ft.

† Diversion above station by city of Pasadena. Records furnished by that city.

Mission Creek near Montebello, Calif.

Location.- Water-stage recorder, lat. 34°01'45", long. 118°04'07", in Paso de Bartolo Grant, at San Gabriel Boulevard Bridge, 2 miles northeast of Montebello, Los Angeles County.

Records available.- October 1932 to September 1946 in reports of Geological Survey. July 1928 to September 1932 (weekly discharge measurements only prior to September 1929) in files of office of Los Angeles County Flood Control District.

Average discharge.- 16 years (1929-37, 1938-46), 19.5 second-feet.

Extremes.- Maximum discharge during year, 67 second-feet Dec. 23 (gage height, 7.76 feet); minimum daily, 17 second-feet Aug. 22-24.

1929-46: Maximum discharge not determined, occurred Mar. 2, 1938. A discharge of 336 second-feet occurred Feb. 22, 1944 (gage height, 10.75 feet). Minimum discharge, 4.8 second-feet Oct. 4, 1935.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	21	21	23	23	23	30	22	20	19	18	18
2	20	21	21	23	23	23	30	22	21	19	18	18
3	20	21	21	24	27	23	28	22	20	19	18	18
4	19	21	21	23	26	23	27	22	20	19	18	18
5	20	21	21	24	24	22	27	22	20	18	18	18
6	20	21	21	24	24	22	26	22	20	18	18	18
7	20	21	21	23	23	22	26	22	20	19	19	18
8	21	21	21	23	23	22	26	22	20	19	19	18
9	21	21	21	23	24	22	26	23	20	19	18	18
10	21	21	21	23	24	23	26	23	19	19	19	18
11	21	21	21	24	24	23	25	23	19	19	18	18
12	21	21	21	24	24	22	24	23	19	19	18	19
13	21	21	21	24	24	23	24	23	19	19	18	19
14	21	21	21	24	24	23	24	23	19	19	18	19
15	21	21	21	24	25	23	24	22	19	19	18	19
16	21	21	21	24	25	23	24	23	19	19	18	19
17	21	21	21	24	25	23	24	22	19	19	18	20
18	21	21	21	23	25	23	24	22	19	19	18	20
19	21	21	21	23	25	26	24	22	19	19	18	19
20	21	20	21	23	25	30	24	22	19	19	18	19
21	22	20	24	23	24	28	23	22	19	19	18	19
22	21	20	52	23	24	27	23	22	19	19	17	19
23	22	20	48	23	24	27	23	22	19	19	17	19
24	21	20	28	23	24	26	22	22	19	19	17	19
25	21	20	26	23	24	26	22	22	18	19	16	19
26	21	20	25	23	24	26	22	22	19	18	18	19
27	21	21	24	23	24	26	22	22	18	18	18	18
28	21	21	23	23	23	25	22	22	18	18	18	18
29	21	21	23	23	-	25	22	22	19	18	18	18
30	21	21	23	23	-	42	22	21	19	18	18	19
31	21	-	23	23	-	35	-	21	-	18	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	645	22	19	20.8	1,280
November.....	623	21	20	20.8	1,240
December.....	759	52	21	25.8	1,470
Calendar year 1945.....	8,648	52	18	23.7	17,170
January.....	723	24	23	23.3	1,430
February.....	678	27	23	24.2	1,340
March.....	777	42	22	25.1	1,540
April.....	736	30	22	24.5	1,460
May.....	887	25	21	22.2	1,360
June.....	577	21	18	19.2	1,140
July.....	581	19	18	18.7	1,150
August.....	558	19	17	18.0	1,110
September.....	558	20	18	18.6	1,110
Water year 1945-46.....	7,882	52	17	21.6	15,630

BALLONA CREEK BASIN

Ballona Creek near Culver City, Calif.

Location.- Water-stage recorder, lat. 33°59'50", long. 118°24'10", in La Ballona Grant, on Sawtelle Boulevard Bridge, 1.5 miles south of Culver City, Los Angeles County. Altitude of gage, about 40 feet.

Drainage area.- 111 square miles.

Records available.- February 1928 to September 1946.

Average discharge.- 18 years, 36.9 second-feet.

Extremes.- Maximum discharge during year, 7,750 second-feet Dec. 22 (gage height, 11.00 feet); minimum daily discharge, 3.8 second-feet June 30.

1928-46: Maximum discharge, 19,000 second-feet Mar. 2, 1938; no flow during parts of some years.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	7.8	8.3	7.2	5.4	8.6	21	7.2	7.2	4.1	7.0	5.4
2	8.4	8.0	7.2	7.8	6.5	9.0	107	8.9	6.5	4.9	6.5	6.5
3	9.0	8.0	8.0	18	597	6.5	13	7.5	7.0	4.7	6.5	6.7
4	8.9	7.8	24	9.2	12	7.2	10	7.5	8.0	4.9	5.6	7.2
5	9.7	8.0	11	22	7.5	8.1	10	6.7	8.0	6.3	6.0	6.0
6	50	39	11	7.5	7.0	8.3	49	6.7	7.0	6.0	5.1	7.0
7	7.8	8.0	9.4	7.8	8.0	7.8	9.2	7.2	7.2	4.9	5.1	6.5
8	6.7	6.3	7.8	8.0	7.5	8.3	6.0	7.8	7.2	5.6	5.6	4.5
9	8.8	6.3	7.5	7.8	7.2	7.8	6.3	8.3	6.0	6.3	7.5	4.7
10	9.3	6.7	7.2	8.0	6.3	8.0	6.5	8.6	6.3	6.0	7.0	5.4
11	14	6.3	30	8.0	7.5	7.2	6.7	8.6	7.2	6.3	9.2	4.5
12	7.5	6.7	7.8	7.8	7.2	8.9	7.0	7.2	8.9	6.3	9.7	5.4
13	6.7	7.2	7.0	7.2	6.7	24	7.2	7.8	8.3	6.0	6.7	5.8
14	5.8	7.8	7.5	9.2	6.4	8.3	6.7	8.0	8.3	5.1	7.5	6.7
15	7.4	7.8	7.5	9.2	21	7.8	8.3	8.9	8.3	4.9	8.3	4.1
16	6.9	8.0	6.5	8.3	12	7.0	9.4	9.7	6.5	5.8	8.3	5.4
17	7.2	8.3	6.5	9.4	7.5	6.3	10	9.4	7.2	5.8	8.6	6.0
18	7.0	7.2	6.5	9.2	7.0	7.0	9.7	8.3	8.0	5.6	9.2	5.8
19	7.2	8.0	7.2	8.9	6.7	339	9.2	7.5	8.0	5.8	9.2	6.0
20	6.7	8.6	6.7	8.3	7.5	188	8.6	8.0	9.2	5.6	9.7	6.3
21	6.7	8.3	1,010	7.8	7.2	34	8.3	7.8	7.8	4.9	11	6.5
22	6.7	7.2	1,830	7.2	7.2	8.6	9.7	7.0	7.8	6.0	9.2	5.1
23	7.4	7.8	681	6.5	8.0	9.2	9.2	7.5	6.7	5.8	8.0	6.5
24	6.3	8.3	35	7.0	7.0	9.4	8.6	7.8	5.1	7.0	8.0	5.6
25	8.0	7.5	66	7.2	7.8	9.2	7.5	7.2	5.8	6.3	5.6	5.4
26	7.5	7.8	9.4	7.5	7.2	8.6	7.2	6.3	6.0	5.8	7.5	4.7
27	7.2	8.9	9.2	6.5	8.0	9.2	7.5	6.7	5.6	5.6	7.8	6.3
28	7.2	9.7	8.6	7.8	7.8	366	6.0	7.8	4.5	4.9	6.5	6.3
29	82	41	8.9	8.3	-	149	6.5	7.2	4.9	6.7	6.7	6.0
30	67	9.2	7.8	6.5	-	844	7.0	7.0	3.8	7.2	6.5	6.5
31	9.7	-	8.9	5.6	-	42	-	7.5	-	7.2	6.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	418.5	82	5.8	13.5	830
November	297.5	41	6.3	9.92	590
December	3,869.4	1,830	6.5	125	7,670
Calendar year 1945	12,348.6	1,830	3.0	33.8	24,490
January	266.7	22	5.6	8.60	529
February	814.1	597	5.4	29.1	1,610
March	2,172.3	844	6.3	70.1	4,310
April	398.3	107	6.0	13.3	790
May	239.6	9.7	6.3	7.73	475
June	208.3	9.2	3.8	6.94	413
July	178.3	7.2	4.1	5.75	354
August	231.4	11	5.1	7.46	459
September	174.8	7.2	4.1	5.83	347
Water year 1945-46	9,269.2	1,830	3.8	25.4	18,360

Topanga Creek near Topanga Beach, Calif.

Location.- Water-stage recorder, lat. 34°03'50", long. 118°35'10", in Boca de Santa Monica Grant, at highway bridge, 2 miles north of Topanga Beach, Los Angeles County.

Drainage area.- 17.9 square miles.

Records available.- January 1930 to September 1938, October 1939 to September 1946.

Average discharge.- 15 years (1930-38, 1939-46), 6.97 second-feet.

Extremes.- Maximum discharge during year, 905 second-feet Dec. 23 (gage height, 5.40 feet); minimum daily, 0.02 second-foot Aug. 20 to Sept. 5.
1930-38, 1939-46: Maximum discharge, 7,960 second-feet Mar. 2, 1938; no flow at times.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through R. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.1	0.6	0.3	0.3	8.8	0.4	0.2	0.2	0.1	0.02
2	.1	.1	.1	.6	.4	.2	6.2	.5	.2	.2	.1	.02
3	.1	.1	.1	.5	27	.2	2.8	.4	.2	.2	.1	.02
4	.1	.1	.1	.5	5.6	.2	1.9	.6	.2	.1	.1	.02
5	.1	.1	.1	1.3	1.9	.2	1.7	.6	.2	.1	.1	.02
6	.1	.1	.1	.5	1.3	.2	1.9	.5	.2	.1	.05	.03
7	.1	.1	.1	.4	.9	.2	1.9	.3	.2	.1	.05	.03
8	.1	.1	.2	.4	.6	.2	1.3	.2	.2	.1	.05	.03
9	.1	.1	.2	.4	.6	.1	.9	.2	.2	.1	.05	.03
10	.1	.1	.1	.4	.6	.1	1.1	.2	.2	.1	.05	.03
11	.1	.1	.1	.3	.6	.2	1.1	.3	.2	.1	.04	.03
12	.1	.1	.1	.3	.5	.2	1.5	.3	.2	.1	.04	.03
13	.1	.1	.1	.2	.4	.2	1.3	.2	.2	.1	.04	.03
14	.1	.1	.2	.2	.4	.2	.9	.2	.2	.1	.04	.03
15	.1	.1	.1	.2	.4	.2	1.1	.3	.2	.1	.03	.03
16	.1	.1	.1	.3	.6	.2	.6	.2	.2	.1	.03	.03
17	.1	.1	.1	.2	.5	.2	.9	.2	.2	.1	.03	.03
18	.1	.1	.1	.3	.5	.2	.6	.2	.2	.1	.03	.03
19	.1	.1	.1	.3	.4	2.9	.6	.2	.2	.1	.03	.03
20	.1	.1	.1	.2	.4	4.7	.6	.2	.2	.1	.02	.03
21	.1	.1	.64	.2	.4	1.7	.6	.2	.2	.1	.02	.03
22	.1	.1	182	.2	.4	.9	.6	.2	.2	.1	.02	.03
23	.1	.1	150	.2	.4	.5	.5	.2	.2	.1	.02	.03
24	.1	.1	5.6	.2	.4	.5	.5	.2	.2	.1	.02	.03
25	.1	.1	2.4	15	.4	.3	.5	.2	.2	.1	.02	.03
26	.1	.1	1.7	.4	.4	.2	.6	.2	.2	.1	.02	.03
27	.1	.1	1.7	.4	.3	.2	.5	.2	.2	.1	.02	.03
28	.1	.1	1.3	.3	.3	1.3	.5	.2	.2	.1	.02	.03
29	.1	.2	1.3	.3	-	4.5	.3	.2	.2	.1	.02	.03
30	.1	.2	1.1	.3	-	104	.4	.2	.2	.1	.02	.03
31	.1	-	.9	.3	-	26	-	.2	-	.1	.02	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3.1	0.1	0.1	0.10	6.1
November.....	3.2	.2	.1	.11	6.3
December.....	412.3	182	.1	13.3	818
Calendar year 1945.....	892.9	182	.1	2.45	1,770
January.....	25.9	15	.2	.84	51
February.....	44.9	27	.3	1.60	89
March.....	151.2	104	.1	4.88	300
April.....	42.7	8.8	.3	1.42	85
May.....	8.4	.6	.2	.27	17
June.....	6.0	.2	.2	.20	12
July.....	3.4	.2	.1	.11	6.7
August.....	1.30	.1	.02	.042	2.6
September.....	.85	.03	.02	.028	1.7
Water year 1945-46.....	703.25	182	.02	1.93	1,400

Malibu Creek at Crater Camp, near Calabasas, Calif.

Location.- Water-stage recorder, lat. 34°04'30", long. 118°42'10", in SW $\frac{1}{4}$ sec. 18, T. 1 S., R. 17 W., 0.2 mile downstream from Crater Camp and 6 miles southwest of Calabasas.

Drainage area.- 103 square miles.

Records available.- January 1931 to September 1946.

Average discharge.- 15 years, 25.3 second-feet.

Extremes.- Maximum discharge during year, 506 second-feet Mar. 30 (gage height, 6.63 feet); minimum daily, 0.1 second-foot on many days in August and September.

1931-46: Maximum discharge, 12,200 second-feet Jan. 22, 1943 (gage height, 18.31 feet); no flow for periods in some years.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through R. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.6	0.7	6.2	2.4	3.3	70	5.0	3.0	1.0	0.3	0.1
2	.3	.6	.7	5.6	2.7	3.0	45	4.5	3.0	1.0	.3	.1
3	.3	.6	.8	5.0	2.1	2.7	34	4.5	3.0	.9	.3	.1
4	.3	.6	.7	5.0	18	2.7	25	4.2	2.7	.9	.3	.1
5	.3	.5	.7	4.5	10	3.3	22	3.9	2.4	.8	.3	.1
6	.3	.5	.7	4.2	6.7	3.0	18	3.6	2.4	.8	.2	.1
7	.3	.5	.8	3.9	5.6	3.0	17	3.0	2.4	.7	.2	.1
8	.3	.5	.8	3.6	4.5	3.0	14	3.0	2.4	.7	.2	.2
9	.3	.5	.8	3.0	4.2	2.7	11	3.0	2.4	.6	.1	.3
10	.3	.5	.8	3.0	4.5	2.7	9.4	3.0	2.1	.6	.1	.3
11	.3	.5	.8	2.4	4.2	3.0	10	3.0	2.1	.6	.1	.2
12	.3	.5	.8	2.1	4.2	2.7	9.4	3.9	1.8	.5	.1	.2
13	.3	.5	.8	2.1	3.9	2.7	9.4	3.6	2.1	.5	.1	.2
14	.3	.5	.8	2.4	3.9	2.7	8.4	3.6	2.1	.4	.1	.2
15	.3	.5	.8	3.0	4.2	3.0	8.4	3.6	1.5	.3	.1	.2
16	.3	.5	.8	3.0	4.2	3.0	9.4	3.6	1.5	.2	.2	.3
17	.4	.5	.8	2.7	4.5	2.7	7.8	3.6	1.5	.2	.1	.2
18	.4	.5	.8	2.7	4.5	2.7	7.2	3.3	1.4	.2	.1	.2
19	.4	.5	.8	2.7	5.0	5.0	7.2	3.6	1.5	.3	.1	.1
20	.4	.6	.8	2.7	5.0	7.8	6.2	3.3	1.4	.3	.1	.1
21	.4	.5	71	2.7	4.5	7.8	5.0	3.3	1.4	.3	.1	.1
22	.5	.6	133	2.4	4.5	6.2	5.0	3.3	1.4	.3	.2	.3
23	.5	.6	166	2.4	3.9	3.9	5.6	3.3	1.3	.2	.3	.3
24	.5	.7	44	2.4	4.2	3.6	5.0	3.3	1.3	.3	.3	.3
25	.5	.7	21	2.4	4.2	3.3	5.0	3.3	1.2	.3	.1	.2
26	.5	.7	15	2.1	3.9	3.0	5.0	3.3	1.2	.3	.2	.2
27	.5	.7	11	2.1	3.9	2.7	5.0	3.3	1.1	.3	.1	.2
28	.5	.7	8.9	2.4	3.9	5.0	5.6	3.6	1.1	.3	.2	.2
29	.6	.7	8.4	2.4	-	10	5.6	2.7	1.0	.2	.2	.1
30	.6	.7	7.2	2.4	-	287	5.6	2.7	1.0	.3	.1	.1
31	.6	-	7.2	2.4	-	157	-	4.3	-	.3	.1	-
Month												
	Second-foot-days			Maximum			Minimum			Mean		
October.....	12.1			0.6			0.3			0.39		
November.....	17.1			.7			.5			.57		
December.....	508.2			166			.7			16.4		
Calendar year 1945.....	2,422.0			210			.2			6.64		
January.....	95.9			6.2			2.1			3.09		
February.....	156.2			21			2.4			5.58		
March.....	534.2			267			2.7			17.2		
April.....	401.2			70			5.0			13.4		
May.....	109.2			5.0			2.7			3.52		
June.....	54.7			3.0			1.0			1.82		
July.....	14.6			1.0			.2			.47		
August.....	5.3			.3			.1			.17		
September.....	5.4			.3			.1			.18		
Water year 1945-46.....	1,914.1			267			.1			5.24		
										3,800		

Santa Clara River near Saugus, Calif.

Location.- Water-stage recorder, lat. 34°25'30", long. 118°35'10", in San Francisco Grant, at bridge on U. S. Highway 99, 3 miles west of Saugus, Los Angeles County. Altitude of gage, about 1,030 feet.

Drainage area.- 355 square miles.

Records available.- October 1929 to September 1946.

Average discharge.- 17 years, 19.0 second-feet.

Extremes.- Maximum discharge during year, 500 second-feet Mar. 30 (gage height, 6.62 feet); minimum daily, 0.4 second-foot Aug. 28-30, Sept. 21-23.

1929-46: Maximum discharge, 24,000 second-feet Mar. 2, 1938; no flow at times in each year 1935-39.

Cooperation.- Records furnished by Los Angeles County Flood Control District, through H. E. Hedger, chief engineer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	4.4	8.3	14	14	13	26	6.2	4.8	3.0	1.0	0.6
2	4.4	4.1	8.3	14	13	13	17	5.9	4.6	3.4	.9	.8
3	3.8	3.8	8.3	15	47	13	13	5.9	4.8	3.4	.8	.9
4	3.8	4.1	8.3	15	27	12	13	5.6	4.8	3.2	.8	1.0
5	3.5	4.4	8.7	14	19	12	12	5.9	4.6	3.4	.8	1.2
6	4.9	4.7	8.7	14	17	12	11	5.9	4.4	3.0	.8	1.0
7	4.7	4.7	8.7	14	17	11	11	5.6	4.4	2.8	.8	1.0
8	4.4	4.4	7.9	13	17	11	11	5.5	4.2	2.8	.8	.9
9	4.1	4.4	7.5	13	16	10	11	5.5	4.2	2.4	.8	.8
10	4.4	4.7	7.5	13	16	10	12	5.6	4.4	2.3	.8	.9
11	4.9	4.7	7.9	13	16	10	12	8.0	3.8	2.3	.8	.8
12	4.9	4.7	8.3	14	16	9.8	12	7.4	4.0	2.4	.8	.6
13	4.4	4.7	8.3	14	16	10	12	8.0	4.4	2.4	.7	.6
14	4.7	4.9	8.7	15	16	8.9	13	8.0	4.4	2.3	.8	.6
15	4.4	5.5	8.3	15	17	8.9	15	7.7	4.4	2.3	.8	1.0
16	4.7	5.5	7.9	16	17	8.9	17	7.4	4.0	2.3	.7	1.2
17	4.9	5.5	7.5	16	16	9.2	17	6.5	3.6	2.3	.7	1.2
18	4.7	5.5	7.5	16	16	9.2	17	6.2	3.4	2.7	.7	.9
19	4.4	5.5	7.1	16	15	19	16	7.1	3.2	2.9	.7	.8
20	4.1	5.9	7.5	16	15	11	11	7.4	4.4	2.8	.7	.7
21	4.1	5.9	9.2	17	15	10	9.2	6.8	5.3	2.4	.7	.4
22	4.1	6.3	15.8	17	15	10	8.3	6.8	4.6	2.3	.7	.4
23	3.5	6.3	10.5	17	15	10	7.1	6.5	4.6	2.7	.7	.4
24	3.8	6.7	3.2	17	15	10	6.2	5.9	5.0	2.8	.6	.6
25	4.1	6.7	2.2	17	14	9.8	5.6	5.9	3.0	2.5	.6	.8
26	3.8	6.7	1.6	16	14	9.5	5.6	5.9	3.2	2.4	.5	1.2
27	4.1	7.1	1.2	15	14	9.2	6.2	4.8	3.6	2.4	.5	1.2
28	4.1	7.1	1.2	15	13	12	6.5	4.6	3.4	2.4	.4	1.9
29	4.9	8.3	1.3	15	-	13	5.9	5.0	3.2	2.5	.4	1.2
30	5.2	8.3	1.3	14	-	19.4	5.9	5.0	3.0	2.3	.4	1.2
31	4.9	-	1.4	14	-	5.4	-	5.0	-	1.6	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	135.1	5.2	3.5	4.36	268
November.....	165.5	8.3	3.8	5.52	328
December.....	650.2	158	7.1	21.0	1,290
Calendar year 1945	5,599.3	158	2.2	15.3	11,110
January.....	46.4	17	1.3	15.0	920
February.....	47.8	47	1.3	17.1	948
March.....	563.4	19.4	8.9	18.2	1,120
April.....	345.5	26	5.6	11.5	685
May.....	193.5	8.0	4.6	6.24	384
June.....	123.7	5.3	3.0	4.12	245
July.....	80.7	5.4	1.6	2.60	160
August.....	21.7	1.0	.4	.70	43
September.....	26.8	1.9	.4	.89	53
Water year 1945-46	3,248.1	19.4	.4	8.90	6,440

Piru Creek near Piru, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°25'30", long. 118°45'45", in southern part of Temescal Grant, 1.8 miles northeast of Piru, Ventura County, and 2 miles upstream from mouth. Altitude of gage, about 780 feet.

Drainage area.- 432 square miles.

Records available.- October 1911 to September 1913 and October 1934 to September 1946. October 1927 to September 1934 at site at Piru, 1.5 miles downstream.

Average discharge.- 19 years (1927-46), 70.7 second-feet.

Extremes.- Maximum discharge during year, 3,000 second-feet Dec. 22 (gage height, 5.48 feet); minimum daily, 2.6 second-feet Sept. 25-28.

1911-13, 1927-46: Maximum discharge, 35,600 second-feet Mar. 2, 1938, by slope-area method; no flow during parts of some years.

Remarks.- Records fair. Doheny ditch diverts water for irrigation above station, and Piru Water Co.'s ditch diverts below.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.7	23	18	42	28	30	342	49	23	7.5	6.5	5.0
2	7.2	20	18	42	29	29	274	46	22	7.5	6.5	6.0
3	6.8	18	18	42	207	29	270	45	20	7.5	6.5	6.0
4	7.2	17	19	42	65	29	254	43	19	7.0	7.5	6.0
5	8.1	17	20	42	49	29	274	41	19	7.0	8.0	5.5
6	13	17	21	42	45	29	235	38	18	7.0	8.0	5.5
7	24	18	21	43	43	29	225	37	17	6.5	8.0	6.0
8	22	17	20	40	44	28	206	34	17	6.0	5.5	9.5
9	21	17	19	40	42	28	171	35	17	5.0	5.5	7.5
10	17	17	18	37	40	28	146	37	17	4.6	5.5	f4.6
11	15	18	18	37	39	28	149	38	16	4.6	5.0	a4.6
12	15	17	18	36	38	28	152	35	15	4.6	4.2	a4.6
13	13	17	18	32	37	34	159	35	14	5.0	5.0	a4.6
14	12	17	18	34	37	34	140	34	13	5.5	6.7	a4.6
15	12	17	18	35	36	30	130	34	13	6.0	5.0	a4.6
16	14	18	19	34	36	28	125	35	13	5.5	5.5	a4.6
17	17	18	20	34	35	27	125	34	12	5.5	5.5	f4.6
18	16	18	20	34	35	27	118	34	13	5.5	7.5	5.0
19	15	18	20	35	35	64	116	33	13	5.5	6.0	5.0
20	15	18	20	35	35	58	107	31	13	11	6.5	7.0
21	16	18	275	35	35	53	92	31	13	20	8.0	7.0
22	16	19	1,500	35	34	45	80	31	15	16	5.0	f7.5
23	14	18	566	32	32	41	69	31	16	10	5.0	f7.5
24	13	18	258	30	31	41	61	29	16	8.5	5.0	f5.0
25	14	18	158	30	31	39	57	29	12	15	4.2	2.6
26	14	17	98	30	31	37	55	29	10	17	4.2	2.6
27	14	17	70	29	31	37	53	29	11	13	3.8	2.6
28	15	17	60	28	30	47	53	27	10	12	4.2	2.6
29	19	17	55	28	-	88	51	27	9.5	11	4.2	3.4
30	25	18	48	28	-	1,370	49	25	8.5	9.5	4.6	3.0
31	23	-	45	28	-	583	-	23	-	7.5	4.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	462.0	25	6.8	14.9	916
November	534	23	17	17.8	1,060
December	3,514	1,500	18	113	6,970
Calendar year 1945	17,820.0	1,830	4.3	48.8	35,350
January	1,089	43	28	35.1	2,160
February	1,228	207	28	43.9	2,440
March	3,027	1,370	27	97.6	6,000
April	4,348	342	49	145	8,620
May	1,059	49	23	34.2	2,100
June	445.0	23	8.5	14.8	883
July	263.8	20	4.6	8.51	523
August	176.8	8.0	3.8	5.70	351
September	154.6	9.5	2.6	5.15	307
Water year 1945-46	16,301.2	1,500	2.6	44.7	32,330

Peak discharge.- Dec. 22 (4:30 a.m.) 3,000 sec.-ft.; Feb. 3 (5 p.m.) 535 sec.-ft.; Mar. 30 (5:45 a.m.) 2,100 sec.-ft.

a No gage-height record; discharge interpolated.

f Computed on basis of partly estimated gage-height record.

Hopper Creek near Piru, Calif.

Location. - Water-stage recorder, lat. 34°23'55", long. 118°49'40", on south line of NW¼ Sec. 25, T. 4 N., R. 19 W., at highway bridge, 2 miles southwest of Piru.

Drainage area. - 23.0 square miles.

Records available. - October 1930 to September 1932, October 1933 to September 1936, October 1937 to September 1946.

Average discharge. - 14 years (1930-32, 1933-36, 1937-46), 6.78 second-feet.

Extremes. - Maximum discharge during year, 710 second-feet Dec. 21 (gage height, 5.10 feet); no flow for several months.

1930-32, 1933-36, 1937-46: Maximum discharge, 8,000 second-feet Mar. 2, 1938; no flow for several months during most years.

Cooperation. - Records furnished by Ventura County Water Survey.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.8	0.5	0.7	1.1	0.05	11	0.6				
2	0	.6	.5	.9	1.1	.03	5.7	.6				
3	0	.6	.4	1.6	78	.09	3.0	.6				
4	0	.5	.5	1.1	9.6	.1	1.0	.5				
5	0	.6	.6	1.1	1.6	.2	.5	.5				
6	.07	.7	.6	.9	.8	.2	.5	.5				
7	.05	.7	.6	.9	.5	.1	.7	.5				
8	.01	.7	.6	.9	.1	.06	.6	.4				
9	.01	.5	.6	1.1	.1	.02	.6	.6				
10	.01	.5	.5	1.1	.1	.03	.5	.7				
11	.01	.4	.5	1.2	.1	.04	.5	.6				
12	.01	.4	.5	1.2	.1	.06	.6	.5				
13	.02	.4	.5	1.2	.01	.6	.6	.6				
14	.02	.3	.5	1.2	.07	.2	.7	.6				
15	.02	.4	.4	1.4	.07	.1	.7	.5				
16	.02	.4	.4	1.2	.08	.1	.6	.5				
17	.03	.4	.3	1.2	.08	.06	.6	.5				
18	.03	.4	.3	1.2	.09	.06	.8	.5				
19	.03	.2	.2	1.4	.09	7.0	.8	.5				
20	.03	.2	.2	1.4	.10	1.6	.8	.5				
21	.03	.2	150	1.1	.10	2.2	.7	.5				
22	.03	.2	286	1.1	.08	1.2	.7	.4				
23	.03	.2	47	1.1	.07	1.1	.6	.3				
24	.02	.2	7.5	1.2	.10	1.1	.5	.1				
25	.02	.2	11	1.2	.05	.8	.5	.1				
26	.04	.2	4.0	1.1	.06	.7	.5	.1				
27	.03	.1	2.2	1.1	.02	.6	.5	0				
28	.04	.1	1.4	1.1	.03	3.3	.5	0				
29	.2	.5	1.2	1.1	-	10	.6	0				
30	2.4	.5	.8	1.1	-	227	.6	0				
31	1.2	-	.8	1.1	-	48	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4.41	2.4	0	0.142	8.7
November.....	12.1	.8	.1	.40	24
December.....	531.1	286	.2	17.1	1,050
Calendar year 1945	1,316.42	337	0	3.61	2,610
January.....	35.2	1.6	.7	1.14	70
February.....	94.30	78	.01	3.37	187
March.....	306.70	227	.02	9.89	608
April.....	36.5	11	.5	1.22	72
May.....	12.3	.7	0	.40	24
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	1,032.61	286	0	2.83	2,040

Sespe Creek near Fillmore, Calif.

Location.- Water-stage recorder, lat. 34°26'55", long. 118°55'35", in NE $\frac{1}{4}$ sec. 12, T. 4 N., R. 20 W., 0.1 mile downstream from Little Sespe Creek and 3.5 miles north of Fillmore. Altitude of gage, about 590 feet.

Drainage area.- 254 square miles.

Records available.- November 1934 to September 1946. September 1911 to September 1913 and October 1927 to November 1934 at site at Sespe, 3 miles downstream.

Average discharge.- 19 years (1927-46), 116 second-feet.

Extremes.- Maximum discharge during year, 11,300 second-feet Mar. 30 (gage height, 12.95 feet); minimum daily, 0.2 second-foot on several days in August and September.

1927-46: Maximum discharge, 56,000 second-feet Mar. 2, 1938, by slope-area method; no flow except slight return seepage from Fillmore Canal during latter part of irrigation season in most years.

Remarks.- Records good except those for period of no gage-height record, which are fair. Fillmore Irrigation Co.'s canal diverts 1 mile above station (see following page).

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	21	2.4	74	24	27	930	65	16	0.6	0.3	0.4
2	.4	14	4.3	67	24	27	620	64	15	.6	.3	.3
3	.4	11	2.4	66	325	27	475	61	14	.6	.3	.4
4	.4	10	1.7	61	a85	25	410	58	12	.6	.4	.4
5	.4	9.0	3.9	60	a70	24	387	53	11	.6	.4	.5
6	.5	8.4	3.1	67	61	24	340	52	9.5	.7	.3	.4
7	2.0	9.0	3.8	59	58	23	298	49	8.5	.7	.3	.4
8	1.7	8.4	5.7	53	53	32	272	44	9.0	.7	.3	.4
9	.5	8.4	5.7	52	49	20	264	40	10	.8	.3	.4
10	.5	8.4	3.5	49	47	21	251	41	11	.7	.2	.4
11	.5	9.0	3.6	48	46	20	255	43	11	.7	1.0	.3
12	.5	9.0	6.2	46	44	19	255	41	9.0	.6	1.0	.3
13	.5	9.0	6.7	45	41	25	245	37	6.5	.5	.4	.3
14	.5	8.4	6.7	44	38	27	216	35	4.9	.6	.3	.3
15	.5	8.4	7.2	42	38	25	208	35	4.6	.7	.3	.3
16	.5	9.0	7.2	41	38	22	194	35	4.2	.6	.3	.3
17	.5	9.6	4.6	40	38	21	180	33	3.0	.6	.3	.2
18	.5	9.6	2.4	40	38	20	169	33	1.9	.6	.2	.2
19	.5	9.0	4.8	38	37	75	162	33	1.9	.6	.2	.2
20	.4	8.4	5.7	38	37	81	140	32	1.9	.6	.3	.3
21	.4	8.4	1,530	36	37	62	126	32	1.9	.7	.3	.3
22	.4	7.8	4,330	34	35	55	115	29	1.9	.5	.3	.3
23	.4	5.8	1,210	34	33	52	107	28	1.9	.5	.3	.3
24	.4	3.9	400	32	32	55	97	28	1.9	.4	.2	.2
25	.4	3.1	373	32	30	55	90	26	1.7	.4	.2	.2
26	.5	2.4	205	30	29	52	83	27	1.4	.4	.2	.2
27	.5	2.1	152	30	29	50	81	25	1.2	.4	.2	.2
28	.6	1.8	127	28	29	63	77	24	1.0	.4	.3	.2
29	2.2	5.5	108	27	-	635	75	20	.7	.5	.3	.2
30	31	6.0	94	27	-	6,250	69	18	.6	.5	.4	.3
31	17	-	81	25	-	1,700	-	16	-	.4	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	66.0	31	0.4	2.13	131
November	245.8	21	1.8	8.13	484
December	8,701.6	4,330	1.7	281	17,260
Calendar year 1945	29,734.5	5,820	.4	81.5	58,980
January	1,365	74	25	44.0	2,710
February	1,445	325	24	51.6	2,870
March	9,604	6,250	19	310	19,050
April	7,191	930	69	240	14,260
May	1,157	65	16	37.3	2,290
June	179.1	16	.6	5.97	355
July	17.8	1.8	.4	.57	35
August	10.5	.0	.2	.34	21
September	9.1	.5	.2	.30	18
Water year 1945-46	29,989.9	6,250	.2	82.2	59,480

Peak discharge.- Dec. 22 (1:30 a.m.) 9,600 sec.-ft.; Feb. 3 (11:40 a.m.) 1,350 sec.-ft.; Mar. 30 (3 a.m. and 5:30 a.m.) 11,300 sec.-ft.

a No gage-height record; discharge computed on basis of records for Piru Creek near Piru and Santa Paula Creek near Santa Paula.

Fillmore Irrigation Co.'s canal near Fillmore, Calif.

Location.- Water-stage recorder and Parshall flume, lat. 34°27'15", long. 118°55'35", in SE $\frac{1}{4}$ sec. 1, T. 4 N., R. 20 W., 4 miles north of Fillmore. Prior to Jan. 17, 1946, staff gage on canal section at same site. Altitude of gage, about 660 feet.

Records available.- October 1927 to September 1932 (monthly discharge); October 1935 to September 1939 (yearly discharge); October 1939 to March 1940 (monthly discharge); April 1940 to September 1946.

Average discharge.- 16 years (1927-32, 1935-46), 5.98 second-feet.

Extremes.- Maximum daily discharge during year, 16 second-feet on several days in May; minimum daily, 0.7 second-foot Mar. 29.
1940-46: Maximum daily discharge, 16 second-feet for several days in occasional years; no flow at times during 1941-43.

Remarks.- Records fair. Staff gage read once daily. Canal diverts water from Sespe Creek in SE $\frac{1}{4}$ sec. 1, T. 4 N., R. 20 W., 1 mile above station on Sespe Creek near Fillmore.

Cooperation.- Gage-height record for staff gage furnished by Fillmore Irrigation Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	1.6	10	2.4	9.0	5.4	1.8	6.6	15	12	6.9	5.8
2	5.3	1.6	11	3.4	8.8	6.3	1.8	6.4	15	12	6.5	5.9
3	5.3	2.9	11	3.4	5.0	6.3	1.7	8.0	15	11	6.5	5.9
4	5.3	4.1	11	3.4	2.0	7.5	1.7	8.8	15	11	6.7	5.8
5	5.6	4.1	11	a3.4	1.8	8.4	1.8	8.7	15	11	6.7	5.6
6	6.1	3.7	12	a3.3	1.8	8.6	1.7	8.7	14	11	6.7	5.4
7	6.1	3.2	12	a3.2	1.8	8.2	1.6	8.4	14	11	6.7	5.4
8	6.7	3.2	12	a3.2	1.8	10	2.3	13	14	10	6.7	5.4
9	6.7	3.5	12	a3.0	1.8	12	2.3	14	13	10	6.7	5.4
10	6.7	3.5	12	a2.8	1.8	12	3.0	15	13	9.8	6.2	5.3
11	6.7	3.5	11	a2.5	1.8	12	3.0	14	13	9.6	5.4	5.2
12	6.7	3.5	8.0	a2.0	1.8	12	3.4	14	13	9.1	5.8	5.1
13	6.7	3.8	8.0	a1.5	1.8	9.1	3.2	14	13	8.8	6.2	5.0
14	6.7	4.0	8.0	a1.3	1.8	6.1	3.7	14	13	8.4	6.3	5.0
15	6.7	4.0	8.0	a1.2	1.8	9.5	4.7	14	12	8.2	6.2	5.1
16	6.4	4.0	8.0	a1.2	1.8	11	4.1	15	12	8.0	6.2	5.2
17	6.4	4.0	10	f1.2	1.8	10	3.9	16	14	7.6	6.1	5.4
18	6.4	4.0	12	1.2	1.7	f11	3.8	16	15	7.6	5.9	5.2
19	6.5	5.0	11	1.3	1.7	h5.9	3.8	15	15	7.6	5.8	5.1
20	6.5	5.3	9.5	1.5	1.7	h2.6	4.1	16	15	7.6	5.8	5.2
21	6.5	5.4	1.8	2.1	1.7	f1.4	4.1	16	14	7.6	5.6	5.1
22	6.5	5.6	3.2	2.2	1.4	3.6	16	14	7.5	5.6	5.2	5.2
23	6.5	7.8	1.8	2.2	3.4	1.5	4.9	16	14	7.4	5.6	5.3
24	6.5	9.2	2.4	2.7	4.2	1.6	5.6	16	14	7.5	5.6	5.1
25	6.3	10	2.4	3.0	4.7	1.5	6.6	26	14	7.8	5.6	5.0
26	6.5	10	2.4	2.9	4.8	1.6	7.2	15	14	7.8	5.6	5.0
27	6.5	10	2.4	2.9	4.8	1.6	6.8	15	13	7.5	5.6	5.0
28	6.5	10	2.4	3.9	4.8	1.1	6.3	15	13	7.5	5.6	5.0
29	4.0	6.8	2.4	6.3	-	.7	6.4	15	12	7.5	5.8	5.0
30	1.6	7.2	2.4	7.7	-	1.0	6.6	16	12	7.5	5.8	6.2
31	1.6	-	2.4	7.9	-	1.7	-	16	-	7.3	5.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	183.8	6.7	1.6	5.93	365
November.....	154.5	10	1.6	5.15	306
December.....	233.5	12	1.8	7.53	463
Calendar year 1945.....	2,364.8	15	.8	6.53	4,730
January.....	90.2	7.9	1.2	2.91	179
February.....	83.9	9.0	1.7	3.00	166
March.....	192.0	12	.7	6.19	381
April.....	115.5	7.2	1.6	3.85	229
May.....	437.6	16	6.4	13.5	828
June.....	412	15	12	13.7	817
July.....	274.2	12	7.3	8.85	544
August.....	186.0	6.9	5.4	6.06	373
September.....	159.3	6.2	5.0	5.31	316
Water year 1945-46.....	2,504.5	16	.7	6.86	4,970

a No gage-height record; discharge computed on basis of 2 discharge measurements and records for Sespe Creek near Fillmore.

f Computed on basis of partly estimated gage-height record.

h Computed on basis of once-daily reading of staff gage.

Santa Paula Creek near Santa Paula, Calif.

Location.- Water-stage recorder, lat. 34°23'40", long. 119°04'35", near east boundary of Ex Mission San Buenaventura Grant, 15 feet upstream from Santa Paula Works diversion dam and 3 miles north of Santa Paula, Ventura County. Altitude of gage, about 650 feet.

Drainage area.- 39.8 square miles.

Records available.- October 1927 to September 1946. April 1912 to September 1913 at site 2.5 miles upstream. October 1927 to February 1931 at site 500 feet downstream, below diversion of Santa Paula Water Works.

Average discharge.- 19 years (1927-46), 22.8 second-feet.

Extremes.- Maximum discharge during year, 1,350 second-feet Mar. 30 (gage height, 4.30 feet); minimum daily, 1.0 second-foot Aug. 31.
1927-46: Maximum discharge, 13,500 second-feet Mar. 2, 1938 (gage height, 10.56 feet), by slope-area method; minimum daily, 0.1 second-foot Aug. 19-21, 26-29, 1942.

Remarks.- Records fair. Diversions for irrigation above station and for municipal use below station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	4.5	3.5	18	9.0	7.7	113	16	11	6.0	2.2	1.5
2	12.2	4.5	3.5	18	9.0	7.7	82	16	11	6.0	2.8	1.7
3	15.0	3.9	3.6	17	40	7.7	74	15	10	4.8	3.3	2.2
4	13.1	3.9	3.8	16	118	7.4	70	15	10	6.0	3.8	2.6
5	3.2	4.0	4.5	15	115	7.3	70	15	10	5.7	3.8	2.4
6	3.2	4.5	4.8	14	14	7.7	65	14	9.3	4.8	3.5	2.4
7	3.2	4.3	4.6	13	13	7.7	59	13	9.3	6.4	3.8	2.6
8	3.2	4.2	4.5	13	13	7.2	55	14	9.6	6.4	3.8	2.8
9	3.2	4.2	4.3	12	12	6.7	53	15	9.3	5.7	3.5	2.8
10	3.2	4.0	4.3	12	12	6.7	50	17	8.5	5.4	3.5	2.8
11	3.2	4.0	4.2	11	12	6.7	50	16	7.2	5.4	3.5	2.6
12	3.2	4.0	4.2	11	12	6.5	49	15	6.7	5.1	2.8	2.2
13	3.1	4.0	4.2	11	12	6.7	44	16	6.7	5.1	2.4	2.0
14	3.1	3.8	3.9	10	11	6.5	42	16	6.7	4.5	1.7	2.0
15	3.1	3.9	3.9	10	11	6.3	39	15	7.7	3.1	2.7	2.4
16	3.4	4.5	3.8	10	10	6.1	36	15	8.2	2.6	3.3	2.6
17	3.5	4.5	3.9	10	10	6.1	35	13	8.0	2.4	2.8	3.0
18	3.6	4.5	3.9	10	10	6.1	33	14	7.7	2.4	2.6	2.2
19	3.2	3.9	3.5	9.6	10	18	30	15	7.7	2.4	2.6	2.0
20	3.0	3.5	4.0	9.6	10	12	29	14	8.2	2.4	2.6	2.0
21	3.2	3.2	220	19.6	9.6	11	27	13	8.5	2.2	2.4	2.2
22	3.8	3.8	520	19.6	9.3	11	24	13	8.5	2.0	2.4	2.4
23	4.0	3.3	182	9.6	8.8	10	23	13	8.0	1.8	2.4	2.2
24	3.8	3.1	61	9.3	8.8	11	21	13	7.7	2.2	2.4	1.7
25	3.6	3.1	66	9.3	8.8	11	20	13	7.0	2.8	3.5	1.5
26	3.6	3.1	44	9.3	8.8	11	20	15	6.7	3.0	3.0	1.5
27	3.6	3.0	34	9.3	8.5	10	19	14	6.5	2.8	2.1	1.4
28	3.8	3.1	26	9.0	8.2	13	19	13	6.3	2.8	1.2	1.4
29	4.3	3.5	23	9.0	-	102	18	11	6.1	2.8	1.1	1.5
30	16.5	3.4	21	9.0	-	650	17	11	5.9	2.6	1.5	2.4
31	5.0	-	19	9.0	-	206	-	11	-	2.4	1.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	107.4	6.5	2.2	3.46	213
November.....	115.0	4.5	3.0	3.83	228
December.....	1,296.9	520	3.5	41.8	2,570
Calendar year 1945.....	6,728.1	880	1.6	18.4	13,350
January.....	352.2	18	9.0	11.4	699
February.....	333.8	40	8.2	11.9	662
March.....	1,200.8	650	6.1	38.7	2,380
April.....	1,286	113	17	42.9	2,550
May.....	439	17	11	14.2	871
June.....	244.0	11	5.9	8.13	464
July.....	120.0	6.4	1.8	3.87	238
August.....	84.0	3.8	1.0	2.71	167
September.....	65.0	3.0	1.4	2.17	129
Water year 1945-46.....	5,644.1	650	1.0	15.5	11,190

Peak discharge.- Dec. 21 (11 p.m.) 1,100 sec.-ft.; Feb. 3 (12 m.) 175 sec.-ft.; Mar. 30 (3:20 a.m.) 1,350 sec.-ft.

f Computed on basis of partly estimated gage-height record.

Matilija Creek at Matilija, Calif.

Location.- Water-stage recorder, lat. 34°28'50", long. 119°18'06", in SW $\frac{1}{4}$ sec. 28, T. 5 N., R. 23 W., 0.1 mile southeast of Matilija. Altitude of gage, about 950 feet.

Drainage area.- 55 square miles.

Records available.- October 1927 to September 1946.

Average discharge.- 19 years, 37.9 second-feet.

Extremes.- Maximum discharge during year, 4,500 second-feet Mar. 30 (gage height, 7.20 feet); minimum daily, 2.5 second-feet Sept. 16, 26-30.

1927-46: Maximum discharge, 15,900 second-feet Mar. 2, 1938, by slope-area method; minimum daily, 0.4 second-foot Oct. 28, 1930.

Remarks.- Records fair. No diversion above station.

Cooperation.- Twenty-nine discharge measurements by Ventura County Water Survey.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	5.1	5.1	27	14	11	210	30	15	8.9	4.3	5.4
2	2.8	5.1	4.8	26	14	11	143	30	16	8.1	3.8	3.8
3	2.8	4.8	4.8	26	56	11	115	29	14	7.7	3.8	3.2
4	2.8	4.8	5.5	23	33	11	98	28	14	7.7	4.0	3.2
5	2.8	5.1	5.5	22	26	11	84	29	14	7.4	4.0	3.2
6	2.8	5.8	5.5	22	23	11	77	28	13	7.4	4.3	3.2
7	2.8	5.8	5.5	22	21	10	72	26	13	7.4	4.5	3.2
8	2.8	5.5	5.8	21	19	9.5	64	26	14	7.0	4.5	3.4
9	3.1	5.1	5.8	21	17	9.5	60	25	14	6.7	4.3	3.6
10	3.1	5.1	5.8	20	16	9.5	54	24	14	6.4	4.3	3.6
11	3.3	5.1	5.8	20	16	9.5	51	23	14	5.8	4.0	3.2
12	3.3	5.1	5.8	19	15	9.5	50	22	12	5.5	3.6	3.2
13	3.3	5.1	5.8	19	14	10	49	20	12	5.5	3.8	3.2
14	3.3	a5.1	5.8	18	14	10	49	21	12	5.5	3.8	2.8
15	3.3	5.1	5.8	18	14	10	47	21	11	5.1	4.0	3.0
16	a3.4	5.1	5.8	18	15	9.5	45	22	11	5.2	4.0	2.5
17	a3.5	5.1	5.8	17	14	9.5	44	21	10	5.5	3.8	3.2
18	a3.6	5.1	5.8	18	14	11	43	22	11	5.8	3.8	2.8
19	a3.6	5.1	5.8	17	14	23	40	22	10	5.8	3.4	2.8
20	a3.7	5.1	6.2	17	13	21	39	23	10	5.8	3.6	2.8
21	a3.8	5.1	560	17	13	17	37	22	11	4.7	3.4	2.8
22	3.9	5.1	745	17	12	16	34	21	11	4.7	3.4	3.2
23	3.6	5.1	225	17	12	15	32	20	11	5.0	3.4	3.0
24	3.6	4.8	95	16	12	14	31	19	11	5.2	3.2	3.4
25	3.6	4.8	72	15	12	14	31	19	11	5.0	3.2	2.6
26	3.3	4.8	53	14	12	13	31	20	10	4.7	3.0	2.5
27	3.3	4.8	43	14	12	13	31	19	9.7	4.7	3.4	2.5
28	3.6	4.8	37	14	12	15	31	17	9.8	4.5	3.4	2.5
29	4.8	5.1	34	14	-	284	30	16	9.3	4.0	3.6	2.5
30	10	5.1	31	14	-	1,580	29	15	9.3	4.0	3.4	2.5
31	5.5	-	28	14	-	387	-	15	-	4.3	3.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	112.2	10	2.8	3.62	223
November.....	152.7	5.8	4.8	5.09	303
December.....	2,035.5	745	4.8	65.7	4,040
Calendar year 1945	8,418.5	1,260	2.8	25.1	16,690
January.....	577	27	14	18.6	1,140
February.....	479	56	12	17.1	950
March.....	2,595.5	1,580	9.5	83.7	5,150
April.....	1,751	210	29	58.4	3,470
May.....	695	30	15	22.4	1,380
June.....	356.1	16	9.5	11.9	706
July.....	192.1	8.9	4.0	5.67	361
August.....	116.4	4.5	3.0	3.75	231
September.....	90.8	3.8	2.5	3.03	180
Water year 1945-46	9,143.3	1,580	2.5	25.1	18,130

Peak discharge.- Dec. 21 (8:45 p.m.) 3,300 sec.-ft.; Feb. 3 (9:30 a.m.) 130 sec.-ft.; Mar. 30

(2 a.m.) 4,500 sec.-ft.

a No gage-height record; discharge interpolated.

Ventura River near Ventura, Calif.

Location.- Water-stage recorder, lat. 34°20'55", long. 119°18'20", in southern corner of Santa Ana Grant, in Foster Memorial Park, at abutment of former highway bridge 150 feet downstream from present highway bridge, 500 feet downstream from Coyote Creek, 3,000 feet downstream from Ventura diversion dam, and 5 miles north of Ventura, Ventura County. Altitude of gage, about 210 feet.

Drainage area.- 187 square miles.

Records available.- September 1911 to January 1914, October 1929 to September 1946.

Average discharge.- 19 years (1911-13, 1929-46), 77.6 second-feet.

Extremes.- Maximum discharge during year, 8,000 second-feet Mar. 30 (gage height, 6.5 feet); minimum daily, 0.5 second-foot several days in September.

1911-13, 1929-46: Maximum discharge, 39,200 second-feet Mar. 2, 1938 (gage height, 19.2 feet), computed by slope-area and contracted-opening methods; no flow at times during many years.

Remarks.- Records fair except those below 10 second-feet and those above 3,000 second-feet, which are poor. Water diverted from Ventura River and tributaries for irrigation and municipal supply.

Cooperation.- Four discharge measurements furnished by Ventura County Water Survey.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	2.4	1.4	d11	12	13	390	38	13	3.6	2.5	do.8
2	1.8	2.0	1.3	d11	12	13	237	36	12	3.6	2.5	d.6
3	1.4	1.8	1.3	11	12	12	172	34	11	3.2	2.5	.5
4	1.1	1.3	1.4	9.3	72	12	135	32	11	3.2	2.5	.5
5	1.0	1.3	1.4	8.1	42	12	121	32	11	3.2	2.5	.5
6	1.0	1.3	1.4	7.5	37	12	107	32	10	3.2	2.8	.5
7	1.3	1.1	1.6	7.5	30	12	98	30	9.3	3.2	3.2	.6
8	1.1	1.1	1.6	7.5	25	12	93	28	9.3	3.2	3.6	.8
9	1.4	1.6	1.6	7.5	23	12	87	d28	8.1	2.8	3.6	.8
10	1.8	1.6	1.6	8.1	22	12	79	d28	8.1	2.8	3.2	1.0
11	1.4	1.4	1.6	8.1	21	12	75	d28	7.5	2.8	3.2	.8
12	1.6	1.3	1.6	8.7	21	12	73	d27	5.3	3.6	3.2	.6
13	1.8	1.3	1.6	8.7	20	12	69	d27	5.8	3.6	d3.1	.5
14	1.8	1.3	1.6	9.3	18	12	67	27	6.4	3.6	d3.0	.5
15	1.6	1.6	1.1	9.3	17	11	65	25	6.4	4.0	d2.8	1.4
16	1.6	2.2	1.0	9.3	15	11	62	24	5.3	3.6	d2.7	1.4
17	1.6	1.8	1.0	9.3	15	11	58	23	5.3	3.6	d2.5	1.2
18	1.8	1.8	.9	10	15	11	57	22	5.3	3.6	d2.4	1.9
19	1.6	1.8	.8	10	15	18	57	21	4.4	3.2	d2.3	1.4
20	1.3	1.8	.8	11	15	22	55	20	4.4	3.2	d2.1	1.0
21	1.3	1.8	495	11	16	23	52	20	4.0	2.8	d1.9	1.0
22	1.4	1.6	1,550	11	15	20	52	19	4.4	2.5	d1.7	.8
23	1.6	1.6	550	11	15	18	47	18	4.0	2.8	d1.5	.6
24	1.6	1.6	130	11	15	18	45	17	3.6	3.2	d1.3	.5
25	1.8	1.6	95	11	15	15	44	17	d3.6	2.8	1.2	d.5
26	2.0	1.6	55	12	15	11	41	17	d3.6	2.5	1.2	d.5
27	2.0	1.6	32	12	15	10	42	17	d3.6	2.5	1.2	d.5
28	2.2	1.4	21	12	15	11	41	16	3.6	2.8	1.2	d.5
29	2.4	1.4	15	12	-	160	41	15	3.6	2.4	d1.1	.5
30	2.6	1.4	13	11	-	2,700	40	15	3.6	2.2	d1.0	.5
31	2.4	-	d12	11	-	700	-	14	-	2.5	d.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	51.1	2.6	1.0	1.65	101
November.....	47.2	2.4	1.1	1.57	94
December.....	2,994.6	1,550	.8	96.6	5,940
Calendar year 1945	16,711.8	5,000	.8	45.8	33,150
January.....	307.2	12	7.5	9.91	609
February.....	694	126	12	24.8	1,380
March.....	3,940	2,700	10	127	7,810
April.....	2,602	390	40	86.7	5,160
May.....	747	38	14	24.1	1,480
June.....	186.5	13	3.6	6.55	390
July.....	95.8	4.0	2.2	3.09	190
August.....	70.4	3.6	.9	2.27	140
September.....	23.2	1.9	.5	.77	46
Water year 1945-46	11,769.0	2,700	.5	32.2	23,340

Peak discharge.- Dec. 21 (10:30 p.m.) 4,500 sec.-ft.; Feb. 3 (2 p.m.) 450 sec.-ft.; Mar. 30 (4 a.m.) 8,000 sec.-ft.

d Doubtful gage-height record; discharge interpolated.

North Fork Matilija Creek at Matilija, Calif.

Location.- Water-stage recorder, lat. 34°29'15", long. 119°18'20", in NE $\frac{1}{4}$ sec. 29, T. 5 N., R. 23 W., at highway bridge, 0.5 mile upstream from mouth and 0.5 mile north of Matilija.

Drainage area.- 15.5 square miles.

Records available.- October 1928 to September 1932, October 1933 to September 1946.

Average discharge.- 17 years (1928-32, 1933-46), 11.0 second-feet.

Extremes.- Maximum discharge during year, 750 second-feet Mar. 30 (gage height, 9.85 feet); minimum daily, 0.9 second-foot Sept. 18-22, 24-30.

1928-32, 1933-46: Maximum discharge, 5,580 second-feet Mar. 2, 1938; minimum, 0.1 second-foot Aug. 27 to Sept. 9, 1929, July 27 to Aug. 16, 1931.

Cooperation.- Records furnished by Ventura County Water Survey.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	2.1	1.5	7.2	3.9	3.4	61	7.2	4.1	1.9	1.4	1.1
2	1.0	1.8	1.5	7.1	3.9	3.4	48	7.2	3.9	1.8	1.4	1.2
3	1.0	1.5	1.5	7.3	29	3.4	34	7.0	3.7	1.8	1.4	1.2
4	1.0	1.2	1.5	6.8	12	3.4	27	6.9	3.4	1.8	1.4	1.1
5	1.2	1.2	1.8	6.6	7.8	3.4	24	6.8	3.2	1.8	1.4	1.1
6	1.2	1.5	1.8	6.4	6.5	3.4	23	6.6	2.8	1.8	1.4	1.1
7	1.2	1.5	1.8	6.2	6.1	3.3	22	6.4	2.8	1.7	1.5	1.1
8	1.2	1.5	1.8	6.0	5.5	3.0	19	6.5	2.8	1.7	1.5	1.1
9	1.2	1.5	1.8	6.0	5.3	3.0	17	6.6	2.8	1.5	1.5	1.2
10	1.5	1.5	1.8	6.0	5.0	2.6	14	6.8	2.8	1.5	1.4	1.2
11	1.5	1.5	1.5	6.0	4.8	2.6	14	6.7	2.8	1.6	1.4	1.2
12	1.5	1.2	1.8	5.5	4.4	2.6	13	6.4	2.8	1.6	1.4	1.1
13	1.5	1.2	1.8	5.3	4.4	3.0	13	6.3	2.8	1.6	1.3	1.1
14	1.5	1.2	1.8	5.2	4.2	3.0	12	6.4	2.8	1.7	1.4	1.0
15	1.5	1.5	1.8	4.9	4.0	3.0	12	6.4	2.7	1.7	1.4	1.0
16	1.5	1.5	2.1	4.8	3.8	3.4	11	5.9	2.7	1.7	1.4	1.0
17	1.5	1.5	1.8	4.6	3.8	3.4	11	5.2	2.5	1.7	1.3	1.0
18	1.5	1.5	1.8	4.4	3.8	3.7	10	4.8	2.4	1.8	1.3	.9
19	1.5	1.5	1.8	4.4	3.6	9.4	10	5.7	2.2	1.8	1.3	.9
20	1.5	1.5	1.8	4.4	3.6	6.8	9.4	5.7	2.2	1.8	1.2	.9
21	1.5	1.5	128	4.2	3.6	5.4	8.8	5.4	2.4	1.8	1.2	.9
22	1.5	1.5	259	4.2	3.6	4.9	8.6	5.2	2.5	1.7	1.2	.9
23	1.5	1.2	68	4.2	3.6	4.4	8.4	4.8	2.5	1.7	1.2	1.0
24	1.5	1.2	21	4.2	3.6	3.9	8.2	4.5	2.5	1.7	1.2	.9
25	1.5	1.5	24	4.2	3.4	3.4	8.0	4.3	2.0	1.6	1.1	.9
26	1.2	1.5	15	4.1	3.4	3.0	8.0	4.8	2.2	1.6	1.1	.9
27	1.2	1.2	13	4.1	3.4	3.0	8.0	4.5	2.0	1.5	1.0	.9
28	1.5	1.2	11	3.9	3.4	4.6	8.0	4.3	2.0	1.4	1.2	.9
29	2.1	1.5	10	3.9	-	149	7.8	4.3	1.9	1.4	1.2	.9
30	4.1	1.5	8.6	3.9	-	367	7.4	4.3	1.8	1.4	1.1	.9
31	2.1	-	8.0	3.9	-	106	-	4.3	-	1.4	1.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	46.4	4.1	1.0	1.50	92
November.....	43.2	2.1	1.2	1.44	86
December.....	598.4	259	1.5	19.3	1,190
Calendar year 1945.....	2,627.7	290	1.0	7.20	5,220
January.....	159.9	7.3	3.9	5.16	317
February.....	153.4	29	3.4	5.48	304
March.....	727.8	367	2.6	23.5	1,440
April.....	485.6	61	7.4	16.2	963
May.....	178.2	7.2	4.3	5.75	353
June.....	80.0	4.1	1.8	2.67	159
July.....	51.5	1.9	1.4	1.66	102
August.....	40.3	1.5	1.0	1.30	80
September.....	30.6	1.2	.9	1.02	61
Water year 1945-46.....	2,595.3	367	.9	7.11	5,150

VENTURA RIVER BASIN

Coyote Creek near Ventura, Calif.

Location.- Water-stage recorder, lat. 34°21'20", long. 119°18'50", near southeast corner of Santa Ana Grant, 200 feet downstream from highway bridge, 0.5 mile upstream from Ventura River, and 5.5 miles northwest of Ventura, Ventura County. Altitude of gage, about 240 feet.

Drainage area.- 41.1 square miles.

Records available.- October 1927 to September 1932, October 1933 to September 1946.

Average discharge.- 18 years (1927-32, 1933-46), 15.7 second-feet.

Extremes.- Maximum discharge during year, 1,500 second-feet Mar. 30 (gage height, 4.91 feet); minimum daily, 0.1 second-foot on many days.
1927-32, 1933-46: Maximum discharge, 11,500 second-feet Mar. 2, 1938, by slope-area method; no flow Aug. 19 to Sept. 18, 1929.

Remarks.- Records good below 100 second-feet, fair to 500 second-feet and poor above.

Cooperation.- Four discharge measurements furnished by Ventura County Water Survey.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	0.2	3.9	1.9	2.3	57	3.3	1.1	0.4	0.2	0.1
2	.1	.2	.2	3.7	2.0	2.1	31	2.9	1.0	.4	.1	.1
3	.1	.1	.2	5.0	36	2.0	21	2.8	.9	.4	.1	.1
4	.1	.1	.2	3.9	14	2.0	17	2.4	.8	.4	.1	.1
5	.1	.1	.2	3.9	6.4	1.9	14	2.1	.8	.4	.1	.1
6	.1	.2	.2	3.5	5.3	1.9	12	2.0	.8	.4	.1	.1
7	.1	.1	.2	3.3	4.8	1.9	11	1.9	.8	.3	.1	.1
8	.1	.1	.2	3.3	4.3	1.9	10	2.0	.8	.3	.1	.1
9	.1	.1	.2	3.3	3.9	1.7	9.0	2.0	.8	.3	.1	.1
10	.1	.1	.2	3.1	4.1	1.6	7.0	2.1	.8	.3	.1	.1
11	.1	.1	.2	3.1	3.9	1.7	7.4	2.1	.8	.3	.1	.1
12	.1	.1	.2	2.9	3.3	1.6	7.0	2.0	.7	.3	.1	.1
13	.2	.1	.2	2.9	3.3	1.6	7.0	2.0	.7	.3	.1	.1
14	.2	.1	.3	2.8	3.3	1.5	6.7	2.0	.6	.2	.1	.1
15	.2	.1	.3	2.6	3.3	1.5	6.7	2.0	.5	.2	.2	.1
16	.2	.1	.4	2.4	3.3	1.4	6.4	1.9	.5	.2	.1	.1
17	.2	.2	.4	2.4	3.3	1.4	5.8	1.9	.4	.2	.1	.1
18	.2	.2	.4	2.4	3.3	1.4	5.5	1.9	.4	.2	.1	.1
19	.2	.2	.4	2.4	3.1	2.6	5.3	1.7	.4	.2	.1	.1
20	.2	.2	.5	2.4	2.9	2.9	5.0	1.7	.4	.2	.1	.1
21	.2	.2	32	2.4	2.9	2.8	4.3	1.6	.5	.2	.1	.1
22	.2	.1	330	2.4	2.6	2.6	4.1	1.5	.5	.2	.1	.1
23	.2	.1	140	2.4	2.6	2.3	3.9	1.6	.5	.2	.1	.1
24	.2	.2	30	2.3	2.6	2.1	3.5	1.6	.5	.2	.1	.1
25	.2	.2	24	2.2	2.6	2.0	3.3	1.6	.4	.2	.1	.1
26	.2	.2	14	2.1	2.6	1.9	3.1	1.6	.4	.2	.1	.1
27	.2	.1	9.1	2.0	2.6	1.9	3.3	1.6	.4	.2	.1	.1
28	.2	.1	7.0	1.9	2.4	2.3	3.5	1.6	.4	.2	.1	.1
29	.2	.2	5.8	1.9	-	4.0	3.5	1.6	.4	.2	.1	.1
30	.3	.2	4.8	1.9	-	440	3.5	1.3	.4	.2	.1	.1
31	.2	-	4.3	1.9	-	103	-	1.2	-	.2	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5.1	0.3	0.1	0.16	10
November.....	4.3	.2	.1	.14	8.5
December.....	606.3	330	.2	19.6	1,200
Calendar year 1945.....	4,079.6	1,570	.1	11.2	8,090
January.....	86.6	5.0	1.9	2.79	172
February.....	136.6	36	1.9	4.88	271
March.....	601.8	440	1.4	19.4	1,190
April.....	287.8	57	3.1	9.59	571
May.....	59.4	3.3	1.2	1.92	118
June.....	18.4	1.1	.4	.61	36
July.....	8.1	.4	.2	.26	16
August.....	3.3	.2	.1	.11	6.5
September.....	3.0	.1	.1	.10	6.0
Water year 1945-46.....	1,820.7	440	.1	4.99	3,600

Peak discharge.- Dec. 21 (11 p.m.) 650 sec.-ft.; Dec. 22 (8:45 a.m.) 700 sec.-ft.; Feb. 3 (3:15 p.m.) 100 sec.-ft.; Mar. 30 (3:30 a.m.) 1,500 sec.-ft.

Carpinteria Creek near Carpinteria, Calif.

Location.- Water-stage recorder, lat. 34°24'00", long. 119°29'25", at bridge on State Highway 150, in El Rincon Grant, 400 feet downstream from Gobernador Creek and 2.4 miles northeast of Carpinteria, Santa Barbara County. Altitude of gage, about 150 feet.

Drainage area.- 13.8 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge during year, 208 second-feet Mar. 30 (gage height, 3.67 feet); no flow during several months.
1941-46: Maximum discharge, 1,450 second-feet Jan. 22, 1943 (gage height, 7.30 feet), from rating curve extended above 600 second-feet; no flow at times each year.

Remarks.- Records good. Small lake upstream catches storm runoff from 0.74 square mile, which is drained past station by pumping.

Revisions.- Revised figures of discharge, in second-feet, and runoff, in acre-feet, superseding those published in Water-Supply Papers 981 and 1011, are given herewith:

Jan. 21 63

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
January 1943.....	1,451.11	724	0	46.8	2,880
Water year 1942-43.....	2,637.77	724	0	7.23	5,230
Calendar year 1943.....	2,648.99	724	0	7.26	5,250

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0	4.0	0				
2			0	0	0	0	1.1	0				
3			0	.1	4.5	0	.3	0				
4			0	.1	.7	0	.1	0				
5			0	d.1	.2	0	0	0				
6			0	0	.1	0	0	0				
7			0	0	0	0	.1	0				
8			0	0	0	0	0	0				
9			0	0	0	0	0	0				
10			0	0	0	0	0	0				
11			0	0	0	0	0	0				
12			0	0	0	0	0	.1				
13			0	0	0	0	0	0				
14			0	0	0	0	0	0				
15			0	0	0	0	0	0				
16			0	0	0	0	0	0				
17			0	0	0	0	0	0				
18			0	0	0	0	0	0				
19			0	0	0	.4	0	0				
20			0	0	0	.1	0	0				
21			24	0	0	.1	0	0				
22			52	.1	0	0	0	0				
23			d25	0	0	0	0	0				
24			d3.5	0	0	0	0	0				
25			2.2	0	0	0	0	0				
26			4.8	0	0	0	0	0				
27			4.2	0	0	0	0	0				
28			.1	0	0	0	0	0				
29			0	0	-	.3	0	0				
30			0	0	-	54	0	0				
31			0	0	-	9.3	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	107.8	52	0	3.48	214
Calendar year 1945	551.03	270	0	1.51	1,090
January.....	4	.1	0	.01	.8
February.....	5.5	4.5	0	.20	11
March.....	64.2	54	0	2.07	127
April.....	5.6	4.0	0	.19	11
May.....	.1	.1	0	.003	.2
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	183.6	54	0	.50	364

Peak discharge.- Dec. 21 (9 p.m.) 185 sec.-ft.; Dec. 22 (6 a.m.) 136 sec.-ft.; Mar. 30 (3 a.m.) 208 sec.-ft.
d Doubtful gage-height record; discharge interpolated.

ALASCADERO CREEK BASIN

Alascadero Creek near Goleta, Calif.

Location.- Water-stage recorder, lat. 34°25'25", long. 119°48'40", in La Goleta Grant, at Highway bridge just downstream from Maria Ygnacio Creek, 1 mile upstream from mouth and 1.3 miles southeast of Goleta, Santa Barbara County. Altitude of gage, about 40 feet (from topographic map).

Drainage area.- 18.3 square miles.

Records available.- October 1941 to September 1946.

Extremes.- Maximum discharge during year, 265 second-feet Dec. 22, Mar. 30 (gage height, 5.98 feet); no flow during several months.
1941-46: Maximum discharge, 1,300 second-feet Jan. 22, 1943 (gage height, 10.6 feet, from floodmarks), from rating curve extended above 550 second-feet plus computed overflow; no flow during large part of each year.

Remarks.- Records fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0	d1.5					
2			0	.2	0	0	d1.1					
3			0	1.0	3.7	0	d1.1					
4			0	.2	1.4	0	0					
5			0	0	0	0	0					
6			0	0	0	0	0					
7			0	0	0	0	d1.7					
8			0	0	0	0	.4					
9			0	0	0	0	.1					
10			0	0	0	0	.1					
11			0	0	0	.1	d1.1					
12			0	0	0	0	0					
13			0	0	0	0	0					
14			0	0	0	0	0					
15			0	.1	0	0	0					
16			0	0	0	0	0					
17			0	.1	0	0	0					
18			0	.2	0	.2	0					
19			0	0	0	0	0					
20			0	0	0	0	0					
21			42	0	.1	0	0					
22			137	0	0	0	0					
23			d60	0	0	0	0					
24			d3.5	0	0	0	0					
25			3.0	0	.2	0	0					
26			.7	0	0	0	0					
27			.1	.1	0	0	0					
28			0	0	0	0	0					
29			0	0	-	5.5	0					
30			0	0	-	75	0					
31			0	0	-	10	0					
Month	Second-foot-days		Maximum		Minimum		Mean		Runoff in acre-feet			
October.....	0		0		0		0		0		0	
November.....	0		0		0		0		0		0	
December.....	246.3		137		0		7.95		489			
Calendar year 1945.....	858.27		400		0		2.35		1,710			
January.....	1.9		1.0		0		.06		3.8			
February.....	5.4		3.7		0		.19		11			
March.....	90.8		75		0		2.93		180			
April.....	3.1		1.5		0		.10		6.1			
May.....	0		0		0		0		0			
June.....	0		0		0		0		0			
July.....	0		0		0		0		0			
August.....	0		0		0		0		0			
September.....	0		0		0		0		0			
Water year 1945-46.....	347.5		137		0		.95		690			

Peak discharge.- Dec. 21 (9:15 p.m.) 218 sec.-ft.; Dec. 22 (2:45 a.m.) 265 sec.-ft.; Mar. 30 (2 a.m.) 265 sec.-ft.
d Doubtful gage-height record; discharge interpolated.

San Jose Creek near Goleta, Calif.

Location.- Water-stage recorder, lat. 34°27'25", long. 119°48'30", in La Goleta Grant, at Patterson Avenue Bridge, 1.1 miles downstream from unnamed tributary and 1.7 miles north of Goleta, Santa Barbara County. Altitude of gage, about 120 feet (from topographic map).

Drainage area.- 5.54 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge recorded during year, 390 second-feet Mar. 29 (gage height, 4.37 feet); no flow during several months.

1941-46: Maximum discharge, 1,960 second-feet Apr. 4, 1941, from rating curve extended above 850 second-feet by logarithmic plotting; maximum gage height, 7.24 feet Jan. 21, 1943; no flow at times during each year.

Remarks.- Records fair except those for period of no gage-height record, which are poor. Many small diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	0.3	0.3	0.2	0.1	5.0	0.5				
2	0	.1	.3	.5	.1	.1	2.7	.5				
3	0	.1	.3	1.0	.7	.2	2.0	.6				
4	0	0	.3	.1	1.5	.1	1.5	.5				
5	0	.1	.3	.1	.5	.2	1.0	.5				
6	0	.3	.3	.2	.1	.1	.9	.4				
7	0	.1	.3	.2	.5	.1	.5	.4				
8	0	.1	.3	.1	.6	.1	.2	.5				
9	0	.1	.3	.1	.1	.1	.2	.4				
10	0	.1	.3	.2	.1	.1	.1	.4				
11	0	.2	.3	.3	.3	.1	.1	.5				
12	0	.2	.3	.4	.1	.1	.1	.6				
13	0	.1	.3	.4	.2	.1	.1	.6				
14	0	.1	.3	.3	.1	.2	.2	.7				
15	0	0	.3	.2	.3	.3	.1	.6				
16	0	.1	.3	.1	.1	.3	.4	.6				
17	0	.1	.3	.1	.2	.4	.3	.4				
18	.1	.1	.3	.1	.1	.4	.1	.5				
19	0	.2	.3	.1	.1	.5	.1	.6				
20	0	.2	.3	.1	.1	.1	.1	.6				
21	0	.2	35	.1	.1	.1	.3	.6				
22	0	.2	50	.1	.2	.1	.5	.2				
23	0	.1	10	.1	.1	.1	.4	.2				
24	0	.2	3	.1	.1	.2	.4	.1				
25	0	.3	2	.1	.1	d.1	.2	.1				
26	0	.3	1	.1	.1	d.1	.4	.1				
27	0	.2	.5	.1	.1	d.1	.4	.2				
28	0	.3	.4	.1	.1	.4	.4	.1				
29	.1	.5	.3	.1	-	23	.4	0				
30	.5	.4	.3	.1	-	49	.4	0				
31	.4	-	.3	.1	-	11	-	.1				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1.1	0.5	0	0.04	2.2
November.....	5.2	.5	0	.17	10
December.....	108.8	50	.3	3.51	216
Calendar year 1945	431.91	145	0	1.18	856
January.....	6.0	1.0	.1	.19	12
February.....	13.2	7.0	.1	.47	26
March.....	87.9	49	.1	2.84	174
April.....	19.5	5.0	.1	.65	39
May.....	12.1	.7	0	.39	24
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	253.8	50	0	.70	503

Peak discharge.- Dec. 21-23, four peaks, records lost; Mar. 29 (11:30 p.m.) 390 sec.-ft.

d. Doubtful gage-height record; discharge interpolated.

Note.- No gage-height record Dec. 3 to Jan. 4; discharge computed on basis of records for nearby stations.

SANTA YNEZ RIVER BASIN

Santa Ynez River at Jameson Lake, near Montecito, Calif.

Location.- Water-stage recorder on Jameson Lake at Juncal Dam, lat. 34°29'30", long. 119°30'25", 6.5 miles north of Carpinteria and 8 miles northeast of Montecito, Santa Barbara County. Altitude of spillway crest is about 2,225 feet. Datum of gage is mean sea level.

Drainage area.- 16.0 square miles (not including Alder Creek).

Records available.- December 1930 to September 1941 (monthly discharge), October 1941 to September 1946.

Average discharge.- 15 years (1931-46), 8.36 second-feet.

Remarks.- Records of discharge represent flow into Jameson Lake (capacity, about 7,000 acre-feet at approximate spillway elevation, 2,225 feet above mean sea level), computed on basis of records of storage, spillway discharge, controlled releases, evaporation, and rainfall. Part of flow of Alder Creek, which enters Santa Ynez River 2 miles downstream from Juncal Dam, is diverted from above elevation 2,250 feet to Jameson Lake, and is included in discharge records. During year Montecito County Water District diverted 2,110 acre-feet from Jameson Lake for municipal supply of city of Montecito.

Cooperation.- Records furnished by Montecito County Water District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.15	0.15	0.2	3.0	1.1	2.4	45	3.3	1.7	0.8	0.2	0.06
2	.15	.15	.2	2.8	1.1	2.4	31	3.3	1.6	.8	.2	.06
3	.15	.15	.2	3.5	26	2.3	27	3.4	1.6	.8	.2	.05
4	.15	.15	.2	1.9	11	2.0	23	3.2	1.5	.8	.1	.05
5	.15	.15	.2	1.8	4.0	2.1	20	3.1	1.5	.8	.1	.05
6	.15	.15	.2	2.7	3.9	2.0	18	2.9	1.5	.6	.1	.05
7	.15	.15	.2	2.0	3.2	2.1	14	2.8	1.5	.6	.1	.05
8	.15	.15	.2	1.8	3.2	2.2	10	2.7	1.4	.6	.1	.05
9	.15	.15	.2	2.0	3.3	2.2	8.2	2.8	1.4	.6	.1	.05
10	.15	.15	.2	1.8	2.5	2.2	7.7	2.8	1.3	.6	.1	.05
11	.15	.15	.2	2.1	2.0	2.2	7.8	2.6	1.3	.5	.1	.05
12	.14	.15	.2	1.8	2.3	2.2	7.4	2.7	1.3	.5	.1	.05
13	.15	.15	.2	1.9	2.2	2.0	7.3	2.5	1.3	.5	.1	.05
14	.15	.15	.2	1.8	2.1	1.8	7.3	2.3	1.1	.5	.1	.05
15	.15	.15	.2	2.1	1.6	1.8	6.5	2.3	1.1	.5	.1	.05
16	.15	.15	.2	2.1	2.1	1.8	5.6	2.4	1.1	.3	.1	.05
17	.15	.15	.2	1.8	2.0	1.5	4.9	2.1	1.1	.3	.1	.05
18	.15	.15	.2	1.7	2.0	1.2	5.2	2.4	1.1	.3	.1	.05
19	.15	.15	.2	1.7	2.1	3.4	5.2	2.2	1.0	.3	.1	.05
20	.15	.15	.2	2.0	2.0	2.5	5.2	1.9	1.0	.3	.1	.05
21	.15	.15	31	1.8	2.2	2.3	4.5	2.0	1.0	.3	.1	.05
22	.15	.15	294	1.4	2.2	2.3	4.7	2.1	1.0	.2	.1	.05
23	.15	.15	45	1.5	2.2	2.0	4.9	2.2	1.0	.2	.1	.05
24	.15	.15	15	2.0	2.2	1.7	5.1	1.8	1.0	.2	.1	.05
25	.15	.15	9.1	2.0	2.2	1.8	4.7	1.8	1.0	.2	.1	.05
26	.15	.15	6.1	2.0	2.3	1.8	4.0	1.8	1.0	.2	.1	.05
27	.15	.15	6.1	1.1	2.5	1.7	3.5	1.8	1.0	.2	.1	.05
28	.15	.15	4.7	1.1	2.4	1.8	3.5	1.7	1.0	.2	.1	.05
29	.15	.15	4.7	-	-	2.6	3.4	1.7	1.0	.2	.1	.05
30	.15	.15	4.0	1.1	-	603	3.4	1.8	.9	.2	.1	.05
31	.15	-	2.6	1.1	-	96	-	1.5	-	.2	.1	-

Month	Second-foot-days	Maxisum	Minimum	Mean	Runoff in acre-feet
October.....	4.64	0.15	0.14	0.150	9.2
November.....	4.50	.15	.15	.150	8.9
December.....	426.3	294	.2	13.8	846
Calendar year 1945.....	1,603.93	357	.14	4.39	3,180
January.....	58.5	3.5	1.1	1.89	116
February.....	97.9	26	1.1	3.50	194
March.....	759.3	603	1.2	24.5	1,510
April.....	308.0	45	3.4	10.3	611
May.....	73.9	3.4	1.5	2.38	147
June.....	36.3	1.7	.9	1.21	72
July.....	13.3	.8	.2	.43	26
August.....	3.4	.2	.1	.11	6.7
September.....	1.52	.06	.05	.051	3.0
Water year 1945-46.....	1,787.56	603	.05	4.90	3,550

Santa Ynez River above Gibraltar Dam, near Santa Barbara, Calif.

Location.- Water-stage recorder on reservoir at Gibraltar Dam, lat. 34°31'37", long. 119°41'10", 7 miles north of Santa Barbara, Santa Barbara County. Datum of gage is 21.60 feet above mean sea level (Bureau of Reclamation bench mark) and is datum used by city of Santa Barbara for works in this vicinity. Spillway of dam is 1,354.85 feet above datum of gage, or 1,376.45 feet above mean sea level.

Drainage area.- 219 square miles.

Records available.- November 1903 to April 1907, October 1907 to January 1908, February 1910 to November 1918, April 1920 to September 1946 (monthly discharge only April 1920 to September 1941).

Average discharge.- 32 years (1904-6, 1911-14, 1916-17, 1920-46), 58.0 second-feet.

Remarks.- Records of discharge represent flow into Gibraltar Reservoir (capacity, 7,720 acre-feet at spillway level in August 1944), computed on basis of records of storage, spillway discharge, controlled release, evaporation, and rainfall. Figures of daily discharge computed on basis of 24-hour interval ending at 6 p.m. on day for which they are shown. Daily figures are not given for periods of very low discharge where approximate figures for other factors disproportionately affect figures of computed inflow. Flow regulated and water diverted at Jameson Lake (see preceding page).

Cooperation.- Reservoir-operation records and related data furnished by, and records of discharge computed in conjunction with, city of Santa Barbara.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1				21	7.7	13	401	28	7.5	1.2			
2				20	8.2	13	283	29	7.4				
3				25	60	13	220	25	6.7				
4				24	73	13	189	23	5.4				
5				20	33	11	196	20	4.2				
6				19	24	14	168	18		3.8			
7				17	21	13	145	16					
8				15	22	13	125	17					
9				13	19	12	112	15					
10				15	19	12	105	13					
11			0.2	14	19	12	100	12		3.5			
12				13	17	11	96	9.7					
13				11	16	11	91	9.8					
14				9.0	15	14	85	8.8					
15				10	15	12	80	9.1					
16				12	15	12	75	8.2		2.7	1.0		
17				10	15	11	74	8.0					
18				10	13	11	69	7.6					
19				12	14	20	64	6.2					
20				13	15	18	59	6.8					
21				18	11	13	58	7.9		1.6	1.2		
22			1,920	9.8	13	15	54	9.2					
23			636	10	11	14	51	8.8					
24			168	10	12	13	46	8.6					
25			107	10	12	12	46	8.8					
26			83	11	12	12	42	9.9					
27			44	11	13	12	39	10					
28			45	11	13	13	35	7.9					
29			43	14	-	99	31	9.3					
30			26	12	-	2,890	32	8.4					
31			21	8.5	-	794	-	6.3					
Month						Second-foot-days	Maximum	Minimum	Mean		Runoff in acre-feet		
October.....						13.6	-	-	0.44		27		
November.....						6.0	-	-	.20		12		
December.....						3,115.0	1,920	-	100		6,180		
Calendar year 1945						12,855.3	2,780	0	35.2		25,500		
January.....						421.3	25	8.5	13.6		836		
February.....						539.9	73	7.7	19.3		1,070		
March.....						4,148	2,890	11	134		8,230		
April.....						3,171	401	31	106		6,290		
May.....						385.3	29	6.2	12.4		764		
June.....						97.2	7.5	-	3.24		193		
July.....						35.2	-	-	1.14		70		
August.....						24.0	-	-	.77		48		
September.....						24.0	-	-	.80		48		
Water year 1945-46						11,980.5	2,890	-	32.8		23,770		

Santa Ynez River below Gibraltar Dam, near Santa Barbara, Calif.

Location.- Water-stage recorder on reservoir at Gibraltar Dam, lat. 34°31'37", long. 119°41'10", and water-stage recorder and sharp-crested weir on outlet channel below dam, 7 miles north of Santa Barbara, Santa Barbara County. Datum of gage on reservoir is 21.60 feet above mean sea level (Bureau of Reclamation bench mark) and is datum used by city of Santa Barbara for works in this vicinity. Spillway of dam is 1,354.85 feet above datum of gage, or 1,376.45 feet above mean sea level.

Drainage area.- 219 square miles.

Records available.- April 1920 to September 1946 (monthly discharge only prior to October 1941).

Average discharge.- 26 years, 43.4 second-feet.

Remarks.- Records of discharge represent flow in Santa Ynez River passing Gibraltar Dam, computed on basis of records of spillway discharge and controlled release. Flow regulated by Gibraltar Reservoir and Jameson Lake. Figures of daily discharge are computed on basis of 24-hour interval ending at 6 p.m. on day for which they are shown. During year, the city of Santa Barbara diverted 4,770 acre-feet from Gibraltar Reservoir and Montecito County Water District diverted 2,110 acre-feet from Jameson Lake for municipal use.

Cooperation.- Gage-height records furnished by, and records of discharge computed in conjunction with, city of Santa Barbara.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.5	0.5	16	3.5	1.5	419	22	0	0.4	0.5	0.4
2	.5	.5	.5	15	3.0	1.5	292	22	0	.4	.4	.4
3	.5	.5	0	18	48	1.5	224	19	0	.4	.5	.4
4	.5	.5	0	19	31	1.5	192	16	0	.4	.5	.5
5	.5	.5	0	15	34	1.5	194	14	0	.4	.5	.5
6	.5	.5	0	13	24	1.5	170	12	0	.4	.5	.5
7	.5	.5	0	11	20	1.5	148	10	0	.4	.5	.5
8	.5	.5	0	9.0	18	1.5	126	10	0	.4	.5	.5
9	.5	.5	0	7.2	15	2.2	112	8.0	0	.4	.5	.5
10	.5	.5	0	7.2	14	2.2	103	6.5	0	.4	.4	.5
11	.5	.5	0	9.0	14	2.2	97	5.2	0	.4	.4	.5
12	.5	.5	0	10	13	2.2	91	4.0	0	.4	.4	.5
13	.5	.5	0	9.0	12	1.9	85	4.0	0	.4	.4	.5
14	.5	.5	0	7.2	12	1.7	80	3.0	0	.4	.5	.5
15	.5	.4	0	6.5	12	1.8	74	2.2	0	.4	.5	.5
16	.5	.4	0	6.5	12	1.7	70	1.5	0	.4	.5	.5
17	.5	.4	0	5.8	12	1.5	63	1.5	0	.5	.5	.5
18	.5	.4	0	5.2	11	1.5	30	1.0	0	.5	.5	.5
19	.5	.4	0	5.8	10	5.0	32	.6	.1	.5	.5	.4
20	.5	.4	0	7.2	10	15	51	.3	.4	.5	.5	.4
21	.5	.4	0	7.2	9.0	15	52	.3	.4	.5	.4	.4
22	.5	.4	217	5.8	8.0	13	48	.1	.4	.5	.4	.4
23	.5	.4	655	5.2	7.2	12	44	0	.4	.5	.4	.4
24	.5	.4	206	5.2	6.5	9.0	40	0	.4	.5	.4	.4
25	.5	.4	107	5.2	6.5	9.0	40	0	.4	.5	.4	.4
26	.5	.4	93	5.2	6.5	9.0	36	0	.4	.5	.4	.4
27	.5	.4	48	5.2	6.5	8.0	32	0	.4	.5	.4	.4
28	.5	.5	44	5.2	6.5	8.0	28	0	.4	.5	.4	.4
29	.5	.5	40	6.5	-	90	25	0	.4	.5	.4	.4
30	.5	.5	26	7.2	-	2,870	25	0	.4	.5	.4	.4
31	.5	-	18	5.2	-	866	-	0	-	.5	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	15.4	0.5	0.4	0.50	31
November.....	13.7	.5	.4	.46	27
December.....	1,455.0	655	0	46.9	2,890
Calendar year 1945.....	9,821.1	2,190	0	26.9	19,480
January.....	265.7	19	5.2	8.57	527
February.....	435.2	81	3.0	15.5	863
March.....	3,959.9	2,870	1.5	128	7,850
April.....	3,023	419	25	101	6,000
May.....	163.2	22	0	5.26	324
June.....	4.5	.4	0	.15	8.9
July.....	13.9	.5	.4	.45	28
August.....	13.9	.5	.4	.45	28
September.....	13.5	.5	.4	.45	27
Water year 1945-46.....	9,376.9	2,870	0	25.7	18,600

Santa Ynez River near Santa Ynez, Calif.

Location.- Water-stage recorder, lat. 34°35'20", long. 120°01'25", in Canada de los Pinos Grant, at San Lucas Bridge, 500 feet upstream from Santa Agueda Creek and 4 miles southeast of Santa Ynez, Santa Barbara County. Altitude of gage, about 500 feet.

Drainage area.- 435 square miles.

Records available.- December 1928 to September 1931, October 1932 to September 1946.

Average discharge.- 16 years (1929-31, 1932-46), 122 second-feet.

Extremes.- Maximum discharge during year, 7,000 second-feet Mar. 30 (gage height, 9.05 feet); minimum daily, 0.1 second-foot for many days during July, August, September, 1929-31, 1932-46: Maximum discharge, 43,700 second-feet Mar. 2, 1938 (gage height, 17.90 feet), from rating curve extended above float measurement of 34,100 second-feet; no flow at times in most years.

Remarks.- Records good except those below 1.0 second-foot, which are fair. Flow regulated by Jameson Lake and Gibraltar Reservoir. Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.2	0.3	32	13	17	824	41	7.0	0.7	0.3	0.1
2	.3	.2	.3	29	13	17	544	39	5.8	.6	.3	.1
3	.3	.2	.3	32	45	15	406	38	5.4	.6	.3	.1
4	.3	.2	.3	31	152	15	334	36	4.7	.4	.3	.1
5	.3	.2	.3	30	85	12	293	32	4.0	.4	.3	.1
6	.2	.3	.3	28	57	11	248	30	3.4	.3	.3	.1
7	.2	.3	.3	25	47	10	214	28	2.9	.2	.3	.1
8	.2	.3	.3	24	43	9.0	185	25	2.7	.2	.2	.1
9	.2	.3	.3	22	37	9.0	167	24	2.5	.2	.2	.1
10	.2	.3	.3	20	34	9.0	151	23	2.9	.2	.2	.1
11	.2	.3	.3	19	31	9.0	138	22	2.5	.2	.2	.1
12	.2	.3	.3	19	29	9.0	128	22	2.9	.2	.2	.1
13	.2	.3	.3	19	28	9.0	118	21	2.9	.2	.2	.1
14	.2	.3	.3	19	26	9.0	112	20	2.7	.2	.2	.1
15	.2	.3	.3	19	26	9.0	103	19	2.5	.2	.2	.1
16	.2	.3	.3	19	26	8.0	94	19	2.3	.1	.2	.1
17	.2	.3	.3	18	25	7.5	88	19	2.5	.1	.2	.1
18	.2	.3	.3	17	25	8.0	75	19	2.3	.1	.2	.1
19	.2	.3	.3	16	24	15	57	19	1.9	.1	.2	.1
20	.2	.3	.3	15	23	21	50	19	1.9	.1	.2	.1
21	.2	.3	1.5	15	22	35	62	18	1.9	.1	.2	.1
22	.2	.3	943	15	21	36	62	16	1.9	.1	.2	.1
23	.2	.3	1,120	15	20	31	59	13	1.9	.1	.2	.1
24	.2	.3	385	15	19	28	54	11	1.9	.1	.1	.1
25	.2	.3	183	14	19	25	53	11	1.7	.1	.1	.1
26	.2	.3	130	14	19	24	51	11	1.6	.1	.1	.1
27	.2	.3	94	14	19	22	48	11	1.3	.2	.1	.1
28	.2	.3	65	14	18	22	47	11	1.2	.2	.1	.1
29	.3	.3	51	13	-	226	44	9.5	1.0	.2	.1	.1
30	.3	.3	43	13	-	4,830	43	9.0	.9	.2	.1	.1
31	.2	-	38	13	-	1,470	-	8.0	-	.3	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6.9	0.3	0.2	0.22	14
November.....	8.5	.3	.2	.29	17
December.....	3,059.5	1,120	.3	98.7	6,070
Calendar year 1945	22,155.1	4,430	.2	60.7	43,940
January.....	609	32	13	19.6	1,210
February.....	946	152	13	33.8	1,880
March.....	6,977.5	4,830	7.5	225	13,840
April.....	4,852	824	43	162	9,820
May.....	643.5	41	8.0	20.8	1,260
June.....	81.0	7.0	.9	2.70	161
July.....	7.0	.7	.1	.23	14
August.....	6.1	.3	.1	.20	12
September.....	3.0	.1	.1	.10	6.0
Water year 1945-46	17,200.0	4,830	.1	47.1	34,120

Peak discharge.- Dec. 22 (6:30 a.m.) 2,000 sec.-ft.; Feb. 4 (3 a.m.) 170 sec.-ft.; Mar. 30 (6:45 a.m.) 7,000 sec.-ft.

a No gage-height record; discharge interpolated.

Note.- Doubtful gage-height record July 20 to Aug. 2; discharge computed on basis of 2 discharge measurements and records for station near Lompoc.

Santa Ynez River near Lompoc, Calif.

Location.- Water-stage recorder, lat. 34°38'30", long. 120°25'50", near boundary of La Mission Vieja de la Purisima Grant, at Robinson Bridge, 1.5 miles east of Lompoc, Santa Barbara County, and 2.5 miles downstream from Salsipuedes Creek. Datum of gage is 79.28 feet above mean sea level, datum of 1929.

Drainage area.- 790 square miles.

Records available.- November 1906 to September 1918 (1909, gage heights only), April 1925 to September 1946.

Average discharge.- 30 years (1907-8, 1910-18, 1925-46), 224 second-feet.

Extremes.- Maximum discharge during year, 5,000 second-feet Mar. 30 (gage height, 10.05 feet); no flow during several months.

1908-18, 1925-46: Maximum discharge, 45,000 second-feet Mar. 3, 1938 (gage height, 29.3 feet, site and datum then in use), from rating curve extended above float measurement of 38,000 second-feet. No flow at times in some years.

Maximum daily discharge, roughly estimated as 62,000 second-feet, occurred Jan. 9, 1907.

Remarks.- Records good except those for periods of doubtful gage-height record, which are fair. Flow regulated by Jameson Lake and Gibraltar Reservoir. Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara. Some water for irrigation pumped from wells along banks of river.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.7	67	f32	f29	1,200	58	8.0	1.0		
2		0	.7	62	34	28	730	54	7.5	d.9		
3		0	.7	70	48	26	570	52	6.5	d.8		
4		0	1.3	64	60	26	450	50	5.5	d.7		
5		0	2.3	62	92	25	375	47	4.7	d.6		
6		0	1.9	58	81	23	325	45	4.3	d.5		
7		0	1.5	52	74	22	d300	42	3.6	d.4		
8		0	1.8	48	67	21	d270	38	3.6	d.3		
9		0	2.4	48	61	20	d240	35	3.0	d.3		
10		0	2.9	47	56	18	f215	32	3.3	d.2		
11		0	3.0	46	55	17	d200	30	3.3	d.2		
12		0	3.4	44	54	16	d190	29	3.0	f.2		
13		0	3.6	43	51	16	d175	26	2.8	d.2		
14		0	3.8	42	48	17	d160	25	2.5	d.2		
15		0	4.0	40	48	16	d145	25	2.3	d.2		
16		0	4.2	39	46	15	d135	23	2.3	d.1		
17		.1	4.5	37	44	15	f120	22	2.3	d.1		
18		.2	5.0	f39	44	16	114	22	1.8	0		
19		.3	5.2	38	42	22	109	21	2.0	0		
20		.4	5.2	37	40	38	100	21	2.0	0		
21		.4	13	37	39	30	92	21	2.3	0		
22		.4	280	36	39	30	90	20	2.3	0		
23		.4	860	34	37	38	86	18	2.3	0		
24		.6	685	32	36	39	81	16	2.0	0		
25		.6	290	32	34	40	76	14	1.8	0		
26		.6	200	32	32	37	70	d13	1.6	0		
27		.6	157	d32	30	35	67	d12	1.5	0		
28		.7	128	d32	f29	38	85	d11	1.3	0		
29		.9	106	d32	-	163	62	d10	1.3	0		
30		.8	92	d32	-	2,800	60	d9.0	1.2	0		
31		-	79	d32	-	2,500	-	f8.0	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	7.0	.9	0	.23	14
December	2,948.1	860	.7	95.1	5,850
Calendar year 1945	26,677.7	3,690	0	73.1	52,920
January	1,346	70	32	43.4	2,670
February	1,353	92	29	48.3	2,680
March	6,176	2,800	15	199	12,250
April	6,872	1,200	60	229	13,630
May	849.0	58	8.0	27.4	1,680
June	91.9	8.0	1.2	3.06	182
July	6.9	1.0	0	.22	14
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1945-46	19,649.9	2,800	0	53.8	38,970

Peak discharge.- Dec. 23 (7:30 p.m.) 1,250 sec.-ft.; Mar. 30 (7:30 p.m.) 5,000 sec.-ft.

d Doubtful gage-height record; discharge interpolated, or computed on basis of normal recession.

f Fragmentary gage-height record; computed on basis of partly estimated gage-height record.

Santa Ynez River at Pine Canyon, near Lompoc, Calif.

Location.- Water-stage recorder, lat. 34°40'15", long. 120°29'40", in southwest portion of Mission la Purisima Grant at Dyer Bridge on Pine Canyon road, 2.7 miles northwest of Lompoc, Santa Barbara County. Altitude of gage, about 60 feet (from topographic map).

Drainage area.- 844 square miles.

Records available.- May 1941 to October 1946 (discontinued).

Extremes.- Maximum discharge during year, about 5,000 second-feet (based on maximum at station near Lompoc) Mar. 30 (gage height, 8.95 feet); minimum practically zero on many days July to October.

1941-46: Maximum discharge, 32,000 second-feet (based on maximum at station near Lompoc) Jan. 23, 1943 (gage height, 21.0 feet, from high-water marks); minimum discharge, that which occurred during July to October 1946.

Remarks.- Records fair. Flow regulated by Jameson Lake and Gibraltar Reservoir. Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara. Some water for irrigation pumped from wells along banks of river.

Discharge, in second-feet, 1945-46
1945-46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0.1	0.1	71	25	28	e1,250	52	a5.7			
2		.1	.1	61	25	26	e750	49	a4.8			
3	0.03	.1	.1	66	44	26	e580	46	a3.9			
4		.2	.5	59	52	24	e460	44	a3.0			
5		.2	.2	61	110	22	e375	41	a2.1			
6		.2	.1	56	102	20	e325	38	1.2	0.03	0.02	0.05
7		.2	.1	52	89	19	e300	36	.3			
8	.04	.1	.1	48	81	18	e275	33	.7			
9		.1	.1	43	50	15	240	29	.4			
10		.2	.1	41	45	14	224	26	.3			
11		.2	.1	39	59	13	195	28	.3			
12		.2	.1	37	52	11	177	26	.3			
13	.06	.2	.1	34	52	12	165	22	.3			
14		.2	.2	37	50	13	160	21	.2			
15		.2	.2	35	48	12	155	20	.2			
16		.2	.2	35	45	9.6	144	20	.1	.02	.03	.04
17		.2	.2	34	41	8.8	131	19	.1			
18	.04	.2	.2	35	39	9.6	131	19	.1			
19		.2	.2	37	37	16	116	21	.1			
20		.2	.2	37	37	30	92	20	.1			
21		.2	1.1	37	37	34	80	20	.1			
22		.2	240	34	35	29	82	19	.1			
23	.02	.2	e800	30	34	39	76	16	.1			
24		.2	e700	32	32	41	74	14	.1			
25		.2	e300	34	30	43	67	12	.1			
26		.1	e210	34	32	43	62	12		.02	.04	.05
27		.1	e165	34	30	41	60	12				
28	.02	.1	e135	32	29	45	60	10				
29		.2	e110	30	-	145	59	8.3	.05			
30		.2	e95	28	-	e2,500	56	7.7				
31	.1	-	81	26	-	e2,700	-	6.6	-			

a No gage-height record; discharge interpolated.

e Stage-discharge relation doubtful; discharge computed on basis of records of discharge for Santa Ynez River near Lompoc.

Note.- Daily discharge less than 0.1 sec.-ft., Oct. 1-29, 1945, June 26 to Oct. 21, 1946.

1946	
Oct. 1-20	0.07
11-21	.07

Monthly discharge, in second-feet, 1945-46

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1945	1.33	0.2	-	0.043	2.6
November	5.1	.2	.1	.17	10
December	2,840.3	800	.1	91.6	5,650
Calendar year 1945	25,111.23	3,880	-	68.6	49,810
January 1946	1,269	71	26	40.9	2,520
February	1,342	110	25	47.9	2,660
March	6,007.0	2,700	8.8	194	11,910
April	6,921.6	1,250	56	231	13,730
May	747.6	52	6.6	24.1	1,480
June	25.55	5.7	-	.852	51
July	.72	-	-	.023	1.4
August	.94	-	-	.030	1.9
September	1.40	-	-	.047	2.8
Water year 1945-46	19,161.94	2,700	-	52.5	38,000
October 1-21, 1946	1.47	-	-	.07	2.9

SANTA YNEZ RIVER BASIN

Santa Cruz Creek near Santa Ynez, Calif.

Location.- Water-stage recorder, lat. 34°34'40", long. 119°55'50", in Tequepis Grant, 0.5 mile upstream from mouth and 10 miles southeast of Santa Ynez, Santa Barbara County.

Altitude of gage, about 700 feet (from topographic map).

Drainage area.- 77.2 square miles.

Records available.- October 1941 to September 1946.

Extremes.- Maximum discharge during year, 1,300 second-feet Mar. 30 (gage height, 4.50 feet); minimum daily, 0.5 second-foot on many days.

1941-46: Maximum discharge not determined, occurred on Jan. 22, 1943; minimum daily discharge, 0.5 second-foot in 1942, 1945, 1946.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.5	0.5	5.9	5.2	5.0	90	11	a4.5	1.3	0.8	0.8
2	.5	.5	.5	5.9	5.2	4.8	67	11	a4.1	1.2	.8	.8
3	.5	.5	.5	8.2	16	5.0	58	11	a5.7	1.2	.9	.8
4	.5	.5	.5	7.0	16	5.4	59	10	a5.3	1.2	.9	.8
5	.5	.5	.5	8.4	9.1	5.2	60	9.5	3.0	1.2	.9	.8
6	.5	.5	.5	9.5	7.9	5.0	42	9.1	2.9	1.1	.9	.8
7	.5	.5	.5	7.3	7.3	4.8	36	8.8	2.6	1.1	.9	.7
8	.5	.5	.5	6.4	7.0	4.4	31	8.5	2.6	1.1	.8	.7
9	.5	.5	.5	6.1	7.0	4.2	28	8.8	2.6	1.1	.7	.7
10	.5	.5	.5	5.9	7.0	4.2	28	9.1	2.6	1.1	.7	.7
11	.6	.5	.5	5.7	6.7	4.2	28	9.5	2.6	1.1	.7	.7
12	.6	.5	.5	5.7	6.4	4.2	28	9.1	2.3	1.1	.7	.7
13	.6	.5	.5	5.7	6.1	5.0	28	8.8	2.1	1.1	.7	.6
14	.6	.5	.5	5.7	5.9	5.4	24	8.5	2.0	1.1	.7	.6
15	.6	.5	.5	5.4	6.1	5.0	24	8.5	2.0	1.0	.7	.6
16	.6	.5	.5	5.2	6.7	4.6	23	8.8	2.0	1.0	.7	.6
17	.6	.5	.5	5.2	6.1	4.4	21	8.2	1.8	1.0	.7	.6
18	.6	.5	.5	5.2	5.9	4.8	20	7.9	1.8	1.0	.7	.6
19	.6	.5	.5	5.2	5.7	11	18	7.6	1.8	.9	.7	.6
20	.6	.5	.5	5.2	5.7	9.8	17	7.0	1.8	.9	.7	.6
21	.6	.5	46	5.2	5.4	8.5	16	6.7	1.8	.9	.7	.6
22	.6	.5	358	5.2	5.4	7.0	14	6.4	1.7	.9	.7	.6
23	.6	.5	169	5.2	5.4	6.4	14	6.1	1.7	.9	.7	.6
24	.6	.5	39	5.0	5.4	6.1	13	6.1	1.6	.9	.7	.5
25	.6	.5	34	4.8	5.4	5.9	12	6.7	1.6	.9	.7	.5
26	.5	.5	21	4.8	5.4	5.4	12	6.7	1.6	.8	.7	.5
27	.5	.5	13	4.8	5.2	5.0	12	6.4	1.6	.9	.7	.6
28	.5	.5	9.8	5.0	5.0	5.4	12	6.4	1.5	.8	.7	.6
29	.5	.5	7.9	5.0	-	103	12	5.7	1.5	.9	.7	.6
30	.6	.5	6.7	5.0	-	563	12	5.2	1.4	.9	.7	.6
31	.5	-	6.1	5.2	-	134	-	a4.8	-	.9	.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	17.1	0.6	0.5	0.55	34
November	15.0	.5	.5	.50	30
December	720.5	358	.5	23.2	1,430
Calendar year 1945	6,204.5	1,200	.5	17.0	12,310
January	178.0	9.5	4.8	5.74	353
February	191.6	16	5.0	6.84	380
March	956.1	563	4.2	30.8	1,900
April	859	90	12	28.6	1,700
May	247.9	11	4.8	8.00	492
June	68.1	4.5	1.4	2.27	135
July	31.7	1.3	.9	1.02	63
August	23.0	.9	.7	.74	46
September	19.5	.8	.5	.65	39
Water year 1945-46	3,327.5	563	.5	9.12	6,600

Peak discharge.- Dec. 21 (11 p.m.) 900 sec.-ft.; Mar. 30 (2:30 a.m.) 1,300 sec.-ft.
a No gage-height record; discharge interpolated.

Santa Agueda Creek near Santa Ynez, Calif.

Location.- Water-stage recorder, lat. 34°35'40", long. 120°01'30", in Canada de los Pinos Grant, at highway bridge, 0.8 mile upstream from mouth and 3.5 miles southeast of Santa Ynez, Santa Barbara County. Altitude of gage, about 520 feet.

Drainage area.- 56.4 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge during year, 400 second-feet Mar. 29 (gage height, 2.35 feet); minimum daily, 0.1 second-foot June 25-29.
1941-46: Maximum discharge, 1,580 second-feet Mar. 3, 1941 (gage height, 4.60 feet); minimum daily, 0.1 second-foot on many days in 1942 and on several days in 1945, 1946.

Remarks.- Records fair except those above 10 second-feet, which are poor. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.6	a1.5	1.3	1.2	0.8	3.0	0.7	f0.6	0.2	0.7	1.0
2	.4	.5	a1.4	1.3	1.0	.9	2.1	.9	f.6	.3	.7	1.0
3	.4	.5	a1.4	1.3	1.0	.9	2.4	1.0	f.6	.5	.8	1.0
4	.4	.8	a1.4	1.3	f1.9	1.0	2.1	1.0	f.6	.5	.8	.9
5	.4	.9	a1.3	1.3	f1.1	1.0	1.4	1.0	f.7	.4	.8	.9
6	.4	1.2	a1.3	1.5	1.0	1.1	1.4	.9	1.0	.5	.8	.9
7	.5	1.3	1.3	1.5	1.1	.9	1.5	.5	.8	.7	.9	.9
8	.5	1.1	1.2	1.5	1.1	.9	1.5	.5	.7	1.2	.9	.9
9	.5	1.0	1.2	1.5	1.1	.7	1.3	.6	.5	.9	.8	.9
10	.5	1.0	1.2	1.5	1.1	1.0	1.3	1.0	.5	.9	.7	.9
11	.5	1.2	1.2	1.5	1.1	.9	1.3	f.9	.4	.8	.7	.9
12	.6	1.2	1.2	1.5	1.1	.8	1.3	f1.2	.4	.7	.7	.8
13	.6	1.3	1.2	1.3	1.1	.8	1.3	f1.2	.4	.5	.6	.8
14	.8	1.3	1.2	1.3	1.1	.8	1.3	f.8	.3	.5	.5	.8
15	.8	1.3	1.3	1.3	1.1	.8	1.3	.8	.3	.7	.5	.8
16	.9	1.3	1.3	1.3	1.1	.7	1.3	.8	.2	.7	.5	.8
17	1.0	1.3	1.3	1.3	1.1	.8	1.3	.8	.2	.7	.7	.7
18	.8	1.3	1.5	1.3	1.1	1.1	1.3	.7	.2	.8	.7	.7
19	.7	1.3	1.5	1.3	1.1	1.3	1.3	.7	.2	.7	.7	.7
20	.7	1.3	1.6	1.3	1.1	1.3	1.3	f.8	.2	.9	.7	.6
21	.9	1.3	4.2	1.3	1.2	1.2	1.2	.7	.3	.9	.7	.6
22	.7	1.3	15	1.3	1.3	1.1	1.2	.7	.2	.9	.8	.6
23	.7	1.2	20	1.2	1.0	1.1	1.2	.6	.2	1.0	.9	f.5
24	.9	1.2	3.5	1.2	1.0	1.1	1.0	f.6	.2	1.0	.9	a.5
25	.8	1.2	2.6	1.2	1.0	1.1	1.2	f.6	.1	.9	.9	a.5
26	.8	1.1	1.8	1.2	1.0	1.1	1.2	f.9	.1	.7	1.0	a.6
27	.7	1.1	1.6	1.2	1.0	1.0	1.2	a.7	.1	.8	1.0	a.6
28	.5	1.2	1.6	1.2	2.0	1.2	1.2	.5	.1	.7	1.0	a.6
29	.6	1.3	1.8	1.2	-	64	.8	.4	.1	.7	1.0	a.6
30	.6	1.5	1.5	1.2	-	f122	.7	.6	.2	1.0	1.0	a.7
31	.6	-	1.5	1.2	-	f7.3	-	f.6	-	.9	1.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	19.6	1.0	0.4	0.63	39
November.....	34.1	1.5	.5	1.14	68
December.....	81.4	20	1.2	2.63	161
Calendar year 1945.....	949.6	333	.1	2.60	1,880
January.....	40.8	1.5	1.2	1.32	81
February.....	32.1	2.0	1.0	1.15	64
March.....	220.6	122	.6	7.12	438
April.....	41.9	3.0	.7	1.40	83
May.....	23.7	1.2	.4	.76	47
June.....	11.0	1.0	.1	.37	22
July.....	22.6	1.2	.2	.73	45
August.....	24.4	1.0	.5	.79	48
September.....	22.7	1.0	.5	.76	45
Water year 1945-46.....	574.9	122	.1	1.58	1,140

Peak discharge.- Dec. 22 (6 a.m.) 115 sec.-ft.; Mar. 29 (12 p.m.) 400 sec.-ft.

a No gage-height record; discharge interpolated.

f Fragmentary gage-height record; computed on basis of partly estimated gage-height record.

SANTA YNEZ RIVER BASIN

La Zaca Creek at Buellton, Calif.

Location.- Water-stage recorder, lat. 34°36'35", long. 120°11'15", in San Carlos de Jonata Grant, at culvert on State Highway 150 in Buellton, Santa Barbara County. Altitude of gage, about 340 feet.

Drainage area.- 38.7 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge during year, 21 second-feet Mar. 29 (gage height, 2.89 feet); no flow during most of year.

1941-46: Maximum discharge, 874 second-feet Mar. 3, 1941; maximum gage height, 6.80 feet Mar. 4, 1941; no flow during most of each year.

Remarks.- Records poor. No diversion.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	0	0.04					
2			0		0	0	0					
3			0		.02	0	0					
4			0		0	0	0					
5			0		0	0	0					
6			0		0	0	0					
7			0		0	0	0					
8			0		0	0	0					
9			0		0	0	0					
10			0		0	0	0					
11			0		0	0	0					
12			0		0	0	0					
13			0		0	0	0					
14			0		0	0	0					
15			0		0	0	0					
16			0		0	0	0					
17			0		0	0	0					
18			0		0	0	0					
19			0		0	0	0					
20			0		0	0	0					
21			.01		0	0	0					
22			.06		0	0	0					
23			.2		0	0	0					
24			0		0	0	0					
25			0		0	0	0					
26			0		0	0	0					
27			0		0	0	0					
28			0		0	0	0					
29			0		-	1.5	0					
30			0		-	5.1	0					
31			0		-	3.2	-					
Month	Second-foot-days					Maximum	Minimum	Mean	Runoff in acre-feet			
October.....	0					0	0	0	0			
November.....	0					0	0	0	0			
December.....	.27					.2	0	.009	.5			
Calendar year 1945	13.15					11	0	.036	26			
January.....	0					0	0	0	0			
February.....	.02					.02	0	.001	.04			
March.....	9.8					5.1	0	.32	19			
April.....	.04					.04	0	.001	.08			
May.....	0					0	0	0	0			
June.....	0					0	0	0	0			
July.....	0					0	0	0	0			
August.....	0					0	0	0	0			
September.....	0					0	0	0	0			
Water year 1945-46	10.13					5.1	0	.028	20			

Salsipuedes Creek near Lompoc, Calif.

Location.- Water-stage recorder, lat. 34°34'55", long. 120°24'35", near northern edge of San Julian Grant, at highway bridge on Jalama road, just downstream from El Jaro Creek, and 5 miles southeast of Lompoc, Santa Barbara County. Altitude of gage, about 230 feet (from topographic map).

Drainage area.- 46.6 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge during year, 630 second-feet Mar. 29 (gage height, 6.24 feet); minimum daily, 0.1 second-foot on many days in July, August, September.
1941-46: Maximum discharge, 7,190 second-feet Mar. 3, 1941 (gage height, 19.95 feet); minimum daily, 0.1 second-foot during several months in 1945, 1946.

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

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.8	0.8	2.0	1.9	1.6	28	1.9	1.2	0.3	0.1	0.1
2	.2	.7	.8	2.0	1.9	1.6	14	1.9	1.0	.3	.1	.1
3	.2	.7	.8	3.8	7.4	1.6	8.5	1.9	.9	.3	.1	.1
4	.2	.6	2.3	2.5	4.2	1.6	6.6	1.8	.8	.3	.1	.1
5	.2	.6	3.5	3.8	2.5	1.6	5.4	1.7	.7	.3	.1	.1
6	.2	.7	1.9	2.8	2.1	1.6	4.8	1.5	.6	.3	.1	.1
7	.2	.7	1.4	2.4	2.1	1.6	4.6	1.5	.5	.3	.1	.1
8	.2	.7	1.1	2.2	2.0	1.6	4.0	1.4	.5	.3	.2	.1
9	.2	.6	1.1	2.1	2.0	1.6	3.8	1.4	.5	.3	.2	.1
10	.2	.6	1.1	2.0	2.1	1.6	3.6	1.5	.5	.2	.2	.1
11	.2	.6	1.1	2.1	2.2	1.6	3.2	1.5	.5	.2	.2	.1
12	.2	.6	1.1	2.0	2.1	1.6	3.0	1.5	.5	.2	.2	.1
13	.3	.6	1.1	2.0	2.0	1.7	2.9	1.5	.4	.2	.2	.1
14	.3	.5	1.1	2.0	2.0	1.8	2.9	1.5	.3	.2	.2	.1
15	.4	.5	1.1	2.0	2.1	1.7	2.9	1.5	.3	.2	.2	.1
16	.5	.5	1.1	2.0	2.2	1.7	2.9	1.7	1.4	.2	.2	.1
17	.5	.6	1.1	1.9	1.9	1.8	2.9	1.5	.6	.2	.2	.1
18	.5	.6	1.1	1.9	1.9	2.3	3.0	1.5	.4	.1	.2	.2
19	.5	.5	1.1	1.9	1.9	5.2	2.7	1.7	.4	.1	.2	.1
20	.4	.5	1.0	1.8	2.0	14	2.5	1.5	.5	.2	.2	.1
21	.3	.5	6.9	1.8	2.0	4.0	2.2	1.3	.5	.2	.2	.2
22	.3	.5	27	1.8	1.9	2.5	2.1	1.1	.6	.2	.1	.2
23	.3	.5	16	1.8	1.8	2.1	1.9	1.2	.5	.1	.1	.2
24	.2	.5	5.0	1.8	1.8	1.9	1.9	1.2	.3	.1	.1	.1
25	.2	.7	11	1.8	1.7	1.8	1.9	1.3	.3	.1	.1	.2
26	.2	.7	4.6	1.8	1.6	1.6	1.9	1.4	.3	.1	.1	.3
27	.2	.7	2.8	1.8	1.6	1.6	1.9	1.4	.3	.1	.1	.2
28	.3	.7	2.5	1.8	1.6	2.7	2.2	1.3	.3	.1	.1	.2
29	.4	.9	2.4	1.8	-	123	2.1	1.2	.3	.1	.1	.1
30	1.2	.8	2.2	1.8	-	142	1.9	1.0	.3	.1	.1	.1
31	1.2	-	2.1	1.8	-	95	-	1.1	-	.1	.1	-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October						10.6	1.2	0.2	0.34	21		
November						18.7	.9	.5	.62	37		
December						108.2	27	.8	3.49	215		
Calendar year 1945						1,056.0	175	.1	2.89	2,100		
January						65.0	3.8	1.8	2.10	129		
February						82.5	7.4	1.6	2.23	124		
March						427.6	142	1.6	13.8	848		
April						132.2	28	1.9	4.41	262		
May						45.4	1.9	1.0	1.46	90		
June						16.2	1.4	.3	.54	32		
July						6.0	.3	.1	.19	12		
August						4.5	.2	.1	.15	8.9		
September						3.9	.3	.1	.13	7.7		
Water year 1945-46						900.8	142	.1	2.47	1,790		

Peak discharge.- Dec. 22 (5:20 a.m. and 8 p.m.) 65 sec.-ft.; Mar. 29 (6:30 p.m.) 630 sec.-ft.; Mar. 30 (10:30 a.m.) 310 sec.-ft.; Mar. 31 (1:45 p.m.) 370 sec.-ft.

San Antonio Creek at Harris, Calif.

Location.- Water-stage recorder, lat. 34°45'45", long. 120°25'40", in Los Alamos Grant, at highway bridge 0.25 mile south of Harris, Santa Barbara County. Datum of gage is 306.56 feet above mean sea level, datum of 1929.

Drainage area.- 101 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge during year, 145 second-feet Mar. 31 (gage height, 4.48 feet), from rating curve extended above 10 second-feet by logarithmic plotting; no flow most of time except during March and April.

1941-46: Maximum discharge, 1,880 second-feet Mar. 3, 1941 (gage height, 10.1 feet at site and datum then in use), from rating curve extended above 480 second-feet by logarithmic plotting; no flow during large part of each year.

Remarks.- Records fair. Water pumped from wells above station for irrigation. Some irrigation water wasted into creek above station during June to September is not included in this record.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	0	24	0				
2			0		0	0	4.5	0				
3			0		1.2	0	3.2	0				
4			0		0.8	0	2.4	0				
5			0		0	0	1.6	0				
6			0		0	0	1.4	0				
7			0		0	0	1.2	0				
8			0		0	0	1.0	0				
9			0		0	0	.7	0				
10			0		0	0	.5	0				
11			0		0	0	.3	0				
12			0		0	0	.8	0				
13			0		0	0	.5	0				
14			0		0	0	.4	.1				
15			0		0	0	a.3	.2				
16			0		0	0	a.2	.1				
17			0		0	0	a.2	0				
18			0		0	0	.3	0				
19			0		0	.4	.4	0				
20			0		0	.2	.3	0				
21			0		0	0	0	0				
22			0.7		0	0	0	0				
23			2.9		0	0	0	0				
24			.3		0	0	0	0				
25			.4		0	0	0	0				
26			0		0	0	.1	0				
27			0		0	0	0	0				
28			0		0	0	0	0				
29			0		-	20	0	0				
30			0		-	45	0	0				
31			0		-	36	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	4.3	2.9	0	.14	8.5
Calendar year 1945	226.60	114	0	.621	449
January.....	0	0	0	0	0
February.....	2.0	1.2	0	.07	4.0
March.....	101.6	45	0	3.28	202
April.....	44.3	24	0	1.48	88
May.....	.4	.2	0	.01	.8
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	152.6	45	0	.42	303

a No gage-height record; discharge interpolated.

Cuyama River near Ventucopa, Calif.

Location.- Water-stage recorder, lat. 34°41'10", long. 119°21'30", in NE¼SW¼ sec. 19, T. 7 N., R. 23 W., at Ozena Bridge on U. S. Highway 399, 4.5 miles downstream from confluence of Dry Canyon and Alamo Creek, and 12 miles southeast of Ventucopa. Altitude of gage, about 3,500 feet.

Drainage area.- 90 square miles.

Records available.- November 1944 to September 1946. Miscellaneous discharge measurements June 1943 to September 1944.

Extremes.- Maximum discharge during year, 1,000 second-feet Mar. 30 (gage height, 5.40 feet); minimum daily discharge, 1.2 second-feet July 12, 13.

Remarks.- Records poor.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4				3.5	5.7	107	11	3.7	2.1		1.8
2	1.4				3.5	5.7	80	10	3.6	2.1		1.8
3	1.5				15	5.7	60	9.0	3.5	1.9		1.8
4	1.6				6.0	4.9	66	8.5	3.3	1.7		1.8
5	1.7			10	4.9	4.2	54	8.0	3.3	1.7		1.8
6	1.7	2.5			4.9	4.2	45	7.5	3.0	1.5		1.8
7	1.8				4.9	3.5	36		3.0	1.4		1.7
8	1.8				4.9	3.5	34		2.8	1.4	2.0	1.5
9	1.8		4.0		4.2	3.5	35	7.0	2.8	1.4		1.5
10	1.8				4.9	3.5	35		2.5	1.4		1.5
11	1.8			5.0	4.9	3.5	42		2.5	1.4		1.5
12	1.8				4.9	3.5	50		2.8	1.2		1.4
13	1.8				4.9	3.5	45	6.0	2.8	1.2		1.4
14	2.0				4.9	3.5	35		3.0	1.4		1.4
15	10	3.0			4.9	3.5	37		3.0	1.4		1.4
16	5.0				4.2	3.5	40		3.3	1.4		1.5
17			3.8	4.0	4.2	3.5	35		3.3	1.4		1.5
18	3.5		3.8		4.2	3.5	29	5.5	3.3	3.0		1.5
19			3.5		4.2	3.1	31		3.0	10		1.5
20			3.5		4.9	22	26		2.8	5.0		1.5
21			140		4.9	16	23	5.0	2.8	3.5		1.5
22		3.5	140		4.9	10	20	5.0	2.8	3.0		1.5
23	2.0		115		4.9	6.0	19	5.0	2.5	3.0	1.8	1.5
24			25		4.9	7.0	18	5.0	2.5	15		1.5
25			10	3.5	4.9	6.0	17	5.0	2.5			1.5
26			9.5		4.9	5.2	16	5.0	2.5			1.5
27		3.5	10		4.9	4.1	15	5.0	2.3	2.5		1.5
28			20		4.9	5.2	14	4.1	2.3			1.7
29					-	80	13	3.8	2.5			10
30			10		-	350	12	4.1	2.3			10
31					-	150	-	3.8	-			-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						83.9	10	1.4	2.71	166		
November.....						92.5	+	-	3.08	183		
December.....						578.1	140	-	18.6	1,150		
Calendar year.....						-	-	-	-	-		
January.....						166.5	-	-	5.37	330		
February.....						142.1	15	3.5	5.08	282		
March.....						766.9	350	3.5	24.7	1,520		
April.....						1,089	107	12	36.3	2,160		
May.....						190.3	11	3.8	6.14	377		
June.....						86.3	3.7	2.3	2.88	171		
July.....						86.0	15	1.2	2.77	171		
August.....						58.8	-	-	1.90	117		
September.....						63.8	10	1.4	2.13	127		
Water year 1945-46.....						3,404.2	350	1.2	9.33	6,750		

Peak discharge.- Dec. 21 (8 p.m.) 800 sec.-ft.; Mar. 30 (2:15 a.m.) 1,000 sec.-ft.

Cuyama River near Santa Maria, Calif.

Location.- Water-stage recorder, lat. 35°00'50", long. 120°16'45", in Suey Grant, at highway bridge, 3 miles upstream from Alamo Creek and 10 miles northeast of Santa Maria, Santa Barbara County. Datum of gage is 610.24 feet above mean sea level, unadjusted. A temporary water-stage recorder 150 feet downstream has been used since Feb. 3, 1945.

Drainage area.- 912 square miles.

Records available.- December 1929 to September 1946.

Average discharge.- 16 years (1930-46), 26.9 second-feet.

Extremes.- Maximum discharge during year, 1,000 second-feet Dec. 22 (gage height, 4.65 feet, from high-water mark), from rating curve extended above 100 second-feet by logarithmic plotting; minimum daily, 0.2 second-foot Sept. 28-30.
1929-46: Maximum discharge, 17,300 second-feet Mar. 3, 1938 (gage height, 16.6 feet), by slope-area method; no flow for long periods in some years.

Remarks.- Records fair except those above 100 second-feet, which are poor. Some water for irrigation pumped from wells along banks of river above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	9.4	8.4	14	11	11	a63	6.1	3.2	0.6	a1.6	0.5
2	7.7	7.7	8.4	14	11	11	39	6.1	3.2	.6	1.5	.6
3	7.7	7.0	8.0	14	21	11	a42	5.8	3.2	.6	1.1	.6
4	7.7	7.0	8.7	15	23	10	a28	5.2	3.0	.6	1.0	.6
5	7.7	7.0	10	15	20	11	a26	4.7	.6	1.0	.6	
6	7.7	7.4	a10	14	17	10	a24	4.4	a2.4	.5	1.0	.5
7	7.7	7.7	a9	15	15	9.5	a22	4.2	a2.1	.5	.9	.5
8	7.7	7.7	a8	14	14	9.5	a20	3.9	a1.8	.4	.9	.5
9	7.7	7.7	a8	14	13	9.8	a18	3.4	a1.5	.4	.8	.5
10	7.7	7.7	a8	14	13	10	a16	3.2	a1.3	.4	.7	.5
11	.8	8.4	a8	14	14	10	a14	3.4	1.3	.4	.6	.5
12	.8	8.7	a8	13	14	11	a12	3.7	1.5	.4	.6	.4
13	.8	8.4	a8	13	13	11	a11	3.9	1.3	.4	.6	.4
14	.8	8.4	a8	13	13	11	a10	3.9	1.2	.4	.6	.4
15	.8	8.4	a8	13	14	11	a10	4.4	1.1	.4	.6	.4
16	12	8.4	a8	12	14	10	9.8	3.9	.9	.4	.6	.4
17	30	7.7	a8	12	13	9.8	9.3	3.7	.8	.4	.6	.4
18	a18	7.4	a8	12	13	10	9.0	4.4	.8	.4	.6	.4
19	a10	7.7	a8	12	13	12	9.0	4.7	.8	.4	.6	.3
20	a7	7.7	a8	12	13	11	9.3	4.4	.8	.4	.6	.3
21	a6	8.0	12	12	13	10	9.3	4.4	.8	.4	.6	.3
22	a5.5	8.0	a250	12	13	9.8	9.6	4.4	.9	.3	.6	.3
23	a5.3	8.0	a230	12	13	9.2	9.3	4.2	.8	.2	.6	.3
24	a5.2	8.0	a63	12	13	8.5	9.0	4.2	.7	.2	.6	.3
25	5.2	8.7	a25	12	a12	7.9	8.0	4.4	.6	.2	.6	.3
26	5.2	8.7	a21	12	a12	8.1	7.3	4.7	.6	5.0	.6	.3
27	5.2	8.7	a18	11	a12	8.2	7.0	4.7	.6	6.0	.7	.3
28	5.5	8.7	a16	11	a12	10	6.7	4.7	.6	a4.0	.7	.2
29	5.8	10	a15	11	-	33	6.7	4.2	.6	a3.0	.7	.2
30	8.4	9.1	a15	11	-	200	6.4	3.4	.6	a2.0	.6	.2
31	7.7	-	a14	11	-	a200	-	3.4	-	a1.6	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	153.0	30	0.7	4.94	303
November.....	245.4	10	7.0	8.11	483
December.....	645.5	250	8.0	27.3	1,680
Calendar year 1945	5,358.5	515	.3	14.7	10,630
January.....	396	15	11	12.8	785
February.....	392	23	11	14.0	778
March.....	714.3	200	7.9	23.0	1,420
April.....	479.5	63	6.4	16.0	951
May.....	134.1	6.1	3.2	4.33	266
June.....	41.7	3.2	.6	1.39	83
July.....	32.1	6.0	.2	1.04	64
August.....	23.4	1.6	.6	.75	46
September.....	12.0	.6	.2	.40	24
Water year 1945-46	3,467.0	250	.2	9.50	6,880

Peak discharge.- Dec. 22 (about 1:30 p.m.) 1,000 sec.-ft.; Mar. 30 (7 p.m.) 785 sec.-ft.
a No gage-height record; discharge computed on basis of discharge measurements, intermittent periods of record, normal recession, or interpolation.

Santa Maria River at Guadalupe, Calif.

Location.- Water-stage recorder, lat. 34°58'25", long. 120°34'15", in Guadalupe Grant, at State highway bridge, 0.5 mile north of Guadalupe, Santa Barbara County. Datum of gage is 64.92 feet above mean sea level, datum of 1929, supplementary adjustment of 1934 (Corps of Engineers, War Department, bench mark).

Drainage area.- 1,763 square miles.

Records available.- January 1941 to September 1946.

Extremes.- Maximum discharge during year, 3,500 second-feet Mar. 30 (gage height, 4.95 feet); no flow for several months.

1941-46: Maximum discharge, 14,700 second-feet Mar. 5, 1941 (gage height, 8.00 feet); no flow during several months of each year.

Remarks.- Records good except those between 100 and 400 second-feet, which are fair, and those above 400 second-feet and those for periods of incomplete or no gage-height record, which are poor. Several small diversions above station for irrigation. Considerable losses of surface flow by infiltration to ground water.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	a0.2	0.1	0.2	a70					
2			0	.2	.1	.1	f7.5					
3			0	.7	1.7	0	f5.7					
4			0	.7	6.5	0	5.7					
5			0	.6	2.5	0	6.3					
6			0	.2	f.5	0	7.7					
7			0	.4	.2	0	a4.0					
8			0	.4	.2	0	a2.0					
9			0	.5	.2	0	a1.0					
10			0	2.3	.2	.1	a.5					
11			0	1.6	.2	.1	f.3					
12			0	1.1	.1	0	.2					
13			0	.8	.1	.2	.1					
14			0	.3	.1	.2	.1					
15			0	.3	.2	.4	.1					
16			0	.3	.2	.2	.1					
17			0	.1	.2	0	.1					
18			0	.1	.4	.1	.1					
19			0	.1	.5	.3	0					
20			0	.1	.5	.2	0					
21			0	.1	.3	0	0					
22			187	.1	.2	0	0					
23			f610	.1	.2	0	0					
24			127	.2	.1	0	0					
25			a50	.2	.1	0	0					
26			a10	.3	.1	0	0					
27			a5	.4	.1	0	0					
28			f2.8	.2	.2	0	0					
29			a1.0	.1	-	f23	0					
30			a.5	0	-	f850	0					
31			a.3	0	-	f450	-					
Month				Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet				
October.....				0	0	0	0	0				
November.....				0	0	0	0	0				
December.....				993.6	810	-	32.1	1,970				
Calendar year 1945				3,508.80	1,130	0	9.62	6,960				
January.....				12.7	2.3	0	.41	25				
February.....				16.0	6.5	.1	.57	32				
March.....				1,325.1	850	0	42.7	2,630				
April.....				111.5	70	0	3.72	221				
May.....				0	0	0	0	0				
June.....				0	0	0	0	0				
July.....				0	0	0	0	0				
August.....				0	0	0	0	0				
September.....				0	0	0	0	0				
Water year 1945-46				2,458.9	850	0	6.74	4,880				

Peak discharge.- Dec. 23 (12:30 a.m.) 2,100 sec.-ft.; Mar. 30 (1:30 p.m.) 3,500 sec.-ft.

a No gage-height record; discharge computed on basis of normal recession.

f Fragmentary gage-height record; computed on basis of partly estimated gage-height record.

SANTA MARIA RIVER BASIN

Alamo Creek near Santa Maria, Calif.

Location.- Water-stage recorder, lat. 35°00'40", long. 120°18'45", in Suey Grant, at highway bridge, 1.2 miles upstream from mouth and 9 miles northeast of Santa Maria, Santa Barbara County. Datum of gage is 581.14 feet above mean sea level, datum of 1929.

Drainage area.- 87.7 square miles.

Records available.- October 1943 to September 1946.

Extremes.- Maximum discharge during year, 10 second-feet Dec. 22, Mar. 29 (gage height, 2.14 feet); minimum daily, 1.1 second-feet on many days.
1943-46: Maximum discharge, 700 second-feet Feb. 2, 1945 (gage height, 4.34 feet); minimum daily, 1.1 second-feet on many days in 1946.

Remarks.- Records fair. No diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.8	1.8	2.1	1.6	1.9	3.9	2.1	1.6	1.3	1.4	1.1
2	2.0	1.8	1.8	2.1	1.8	1.8	3.4	2.1	1.6	1.4	1.4	1.1
3	2.0	1.8	1.8	2.1	2.6	1.8	3.1	2.1	1.6	1.4	1.4	1.1
4	2.0	1.6	2.0	2.1	2.3	2.0	2.9	2.0	1.6	1.4	1.3	1.1
5	2.0	1.8	2.1	2.0	2.1	2.0	2.7	1.8	1.4	1.1	1.3	1.3
6	2.0	2.0	2.2	2.0	2.1	1.8	2.7	2.0	1.4	1.1	1.3	1.3
7	2.0	1.8	1.8	2.0	2.0	1.8	2.5	2.0	1.4	1.1	1.3	1.3
8	2.0	1.6	1.8	2.0	2.0	1.8	2.5	2.0	1.4	1.3	1.3	1.3
9	2.1	1.6	2.0	2.0	2.0	1.8	2.5	2.0	1.4	1.3	1.1	1.3
10	2.1	1.6	2.0	2.0	2.0	1.8	2.5	2.0	1.4	1.3	1.1	1.3
11	2.3	1.8	2.0	2.0	2.0	1.8	2.3	2.0	1.3	1.3	1.1	1.3
12	2.3	1.8	2.0	2.0	2.0	2.0	2.3	2.0	1.3	1.3	1.1	1.3
13	2.3	1.8	2.0	2.0	2.0	2.3	2.3	2.0	1.3	1.3	1.1	1.3
14	2.3	1.8	2.0	2.0	2.0	1.8	2.3	2.0	1.4	1.3	1.1	1.3
15	2.3	2.0	2.0	2.1	2.0	1.8	2.1	2.0	1.3	1.3	1.2	1.4
16	2.3	2.0	2.0	2.0	2.0	1.8	2.1	1.8	1.3	1.3	1.3	1.3
17	2.3	2.0	2.0	2.1	2.0	1.8	2.1	1.8	1.3	1.3	1.3	1.1
18	2.3	2.0	2.0	2.1	2.0	1.8	2.1	1.8	1.4	1.3	1.3	1.1
19	2.1	2.0	2.0	2.1	2.0	2.0	2.1	1.8	1.3	1.1	1.3	1.1
20	2.0	2.0	2.0	2.0	2.0	1.8	2.1	1.8	1.3	1.1	1.3	1.1
21	1.8	2.1	3.4	2.0	2.0	1.8	2.0	1.8	1.4	1.1	1.3	1.1
22	1.8	2.1	8.7	2.0	2.0	1.8	2.0	1.8	1.4	1.1	1.4	1.1
23	1.8	2.1	5.0	2.0	2.0	1.8	2.0	1.8	1.4	1.1	1.4	1.3
24	1.9	2.1	3.1	2.1	2.0	1.8	2.0	1.8	1.4	1.1	1.6	1.3
25	2.0	2.1	2.5	2.1	2.0	1.8	2.1	1.8	1.3	1.1	1.6	1.3
26	2.1	2.1	2.0	2.0	2.0	1.6	2.1	1.8	1.1	1.3	1.4	1.3
27	2.0	2.0	2.0	1.6	2.0	1.6	2.1	1.6	1.1	1.3	1.4	1.3
28	1.8	2.0	2.0	1.6	2.0	1.8	2.1	1.4	1.1	1.3	1.3	1.3
29	1.8	2.0	2.0	1.6	-	4.9	2.1	1.4	1.1	1.3	1.3	1.1
30	2.3	2.0	2.0	1.6	-	5.7	2.1	1.4	1.3	1.3	1.3	1.1
31	2.0	-	2.0	1.8	-	4.7	-	1.6	-	1.3	1.1	-
Month					Second-foot-days		Maximum	Minimum	Mean		Runoff in acre-feet	
October.....					64.0		2.3	1.8	2.06		127	
November.....					57.2		2.1	1.6	1.91		113	
December.....					74.0		8.7	1.8	2.39		147	
Calendar year 1945					1,409.9		216	1.6	3.86		2,800	
January.....					61.2		2.1	1.6	1.97		121	
February.....					56.5		2.6	1.8	2.02		112	
March.....					66.7		5.7	1.6	2.15		132	
April.....					71.1		3.9	2.0	2.37		141	
May.....					57.3		2.1	1.4	1.85		114	
June.....					40.6		1.6	1.1	1.35		81	
July.....					38.6		1.4	1.1	1.25		77	
August.....					40.1		1.6	1.1	1.29		80	
September.....					38.7		1.4	1.1	1.22		73	
Water year 1945-46					664.0		8.7	1.1	1.82		1,320	

Huasna River near Santa Maria, Calif.

Location.- Water-stage recorder, lat. 35°01'20", long. 120°19'20", in Suey Grant, 0.5 mile upstream from mouth and 8 miles northeast of Santa Maria, Santa Barbara County. Altitude of gage, about 600 feet. Temporary gages at different datum about 400 feet downstream used continuously since Mar. 23, 1944.

Drainage area.- 119 square miles.

Records available.- December 1929 to September 1946.

Average discharge.- 16 years (1930-46), 25.1 second-feet.

Extremes.- Maximum discharge during year, 550 second-feet Mar. 30 (gage height, 3.80 feet at temporary gage currently in use); minimum daily, 0.1 second-foot on many days during July, August and September.

1929-46: Maximum discharge, 11,400 second-feet Feb. 11, 1938 (gage height, 11.26 feet), by slope-area method; no flow during parts of several years.

Remarks.- Records fair. No diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	1.5	1.5	2.5	2.0	2.0	87	3.4	1.7	d0.6	d0.1	0.2
2	.4	1.1	1.3	2.8	2.0	2.0	47	3.7	1.7	d.6	.1	.3
3	.4	.9	1.3	3.4	8.2	2.0	30	3.4	1.7	.6	.1	.3
4	.5	.9	1.7	2.8	5.6	2.0	23	d5.4	1.5	.8	.1	.3
5	.8	1.1	3.1	2.8	3.7	2.0	19	d5.3	d1.5	.9	.1	.2
6	.8	1.5	2.2	2.5	3.1	2.0	d15	d5.3	d1.5	1.1	.1	.2
7	.8	1.5	1.7	2.2	2.8	2.0	d14	d5.3	d1.5	1.1	.1	.2
8	.8	1.3	1.5	2.2	2.5	2.0	d12	d5.3	d1.5	.9	.1	.2
9	.8	1.1	1.5	2.2	2.2	2.0	10	d5.2	d1.5	.6	.2	.2
10	.8	1.1	1.5	2.2	2.5	2.0	8.0	d5.2	1.5	.5	.1	.2
11	.8	1.5	1.7	2.5	2.5	2.0	d7.6	d5.1	1.3	.5	.1	.3
12	.8	1.3	1.7	2.2	2.2	2.0	d7.2	d5.1	1.1	.4	.1	.2
13	.8	1.1	1.7	2.5	2.2	3.4	d6.8	d5.1	1.1	.3	.1	.1
14	.9	1.1	1.7	2.5	2.2	2.8	d6.4	2.8	1.1	.3	.1	.1
15	1.1	1.5	1.7	2.5	2.5	2.5	d6.0	2.8	.9	.3	.2	.2
16	1.3	1.7	1.7	2.5	2.5	2.0	5.6	2.5	.9	.2	.2	a.1
17	1.3	1.7	1.5	2.2	2.2	2.2	5.2	2.5	.8	.2	.2	a.1
18	1.3	1.3	1.5	2.2	2.0	2.2	4.8	2.5	d.8	.1	.2	a.1
19	1.3	1.1	1.7	2.5	2.0	3.4	4.8	2.5	d.6	.2	.1	.1
20	d1.2	1.1	1.7	2.5	2.2	2.5	d4.8	2.5	.6	.3	.1	a.1
21	d1.0	1.1	3.2	2.2	2.2	2.0	d4.8	2.2	1.1	.3	.1	a.1
22	d.8	1.1	12	2.2	2.0	2.0	d4.8	2.2	1.7	.3	.1	a.2
23	d.7	1.1	8.0	2.2	2.0	2.0	4.4	2.2	d1.3	.3	.1	a.2
24	d.6	1.5	5.2	2.2	2.0	2.0	4.4	2.0	d.9	.4	.1	.2
25	.8	2.0	8.0	2.2	2.0	2.0	4.0	2.2	.9	.4	.1	.2
26	.9	1.5	4.8	2.2	2.0	2.0	3.7	2.8	.9	.2	.1	.3
27	.9	1.3	4.0	2.2	2.0	2.2	3.7	2.2	d.9	.3	.1	.2
28	1.1	1.5	3.4	2.2	2.0	2.8	3.7	2.0	d.9	.3	.2	.2
29	1.1	2.2	3.1	2.2	-	28	3.7	1.7	d.8	.2	.3	.1
30	3.2	1.7	2.8	2.0	-	380	3.4	1.7	d.7	d.2	.2	a.1
31	2.2	-	2.5	2.0	-	154	-	1.7	-	d.1	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	30.6	3.2	0.4	0.99	61
November.....	40.4	2.2	.9	1.35	80
December.....	90.9	12	1.3	2.93	180
Calendar year 1945	3,449.6	574	.2	9.45	6,840
January.....	73.5	3.4	2.0	2.37	146
February.....	73.3	8.2	2.0	2.62	145
March.....	624.0	380	2.0	20.1	1,240
April.....	365.8	87	3.4	12.2	726
May.....	83.7	3.7	1.7	2.70	166
June.....	34.9	1.7	.6	1.16	69
July.....	13.5	1.1	.1	.44	27
August.....	4.0	.3	.1	.13	7.9
September.....	5.4	.3	.1	.18	11
Water year 1945-46	1,440.0	380	.1	3.95	2,860

a No gage-height record; discharge interpolated.

d Doubtful gage-height record; discharge interpolated.

Sisquoc River near Sisquoc, Calif.

Location.- Water-stage recorder, lat. 34°50'15", long. 120°10'10", in SE $\frac{1}{4}$ sec. 20, T. 9 N., R. 31 W., 2 miles upstream from Labrea Creek and 7 miles east of Sisquoc, Santa Barbara County. Datum of gage is 620.60 feet above mean sea level, datum of 1929 (Corps of Engineers, War Department, bench mark). A temporary gage at different datum, about 1,000 feet upstream, used for periods of low flow prior to Dec. 5, 1945.

Drainage area.- 290 square miles.

Records available.- October 1943 to September 1946. December 1929 to September 1933 at same site but below diversions; records comparable for high flow only.

Extremes.- Maximum discharge during year, 3,900 second-feet Mar. 30 (gage height, 4.57 feet); minimum daily discharge, 0.6 second-foot Sept. 9-11.

1930-33, 1943-46: Maximum discharge, 6,250 second-feet (including diversions) Feb. 8, 1932 (gage height, 6.17 feet); minimum not determined (previously published minima did not include diversions). Minimum discharge since 1943, that of Sept. 9-11, 1946.

Maximum discharge known, 11,000 second-feet Mar. 2, 1938 (gage height, 8.1 feet, from high-water mark in gage well), from rating curve extended above 2,800 second-feet.

Remarks.- Records fair prior to June, poor thereafter. Records show discharge of Sisquoc River above all diversions, and above area of percolation losses.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.1	1.1	8.0	6.5	8.5	300	24	9	1.8	0.8	0.9
2	1.2	1.0	1.1	7.5	6.5	8.5	225	23	8	1.7	.8	.9
3	1.2	1.0	1.1	8.0	25	9.0	190	22	8	1.6	.8	.8
4	1.2	1.0	1.1	8.5	60	10	185	21	7	1.6	.8	.8
5	1.2	1.0	1.3	9.5	36	11	195	18	6	1.5	.8	.8
6	1.2	1.0	1.2	14	29	11	160	17	5	1.5	.8	.7
7	1.2	1.0	1.1	17	27	8.5	140	17	5	1.5	.9	.7
8	1.2	1.0	1.1	15	22	8.5	125	16	5	1.4	.9	.7
9	1.1	1.0	1.1	14	17	8.5	110	16	5	1.4	.9	.6
10	1.1	1.1	1.1	13	18	8.5	110	17	4.5	1.4	.9	.6
11	1.1	1.1	1.1	13	17	8.0	100	16	4.0	1.3	.9	.6
12	1.1	1.1	1.1	12	15	8.0	90	17	3.5	1.3	.9	.7
13	1.0	1.1	1.1	11	13	10	80	17	3.5	1.3	.9	.7
14	1.0	1.1	1.1	11	12	10	80	16	3.0	1.3	.9	.7
15	1.0	1.1	1.1	11	13	9.5	75	16	3.0	1.2	.9	.7
16	1.0	1.1	1.1	11	14	8.5	72	15	3.0	1.2	.9	.8
17	1.0	1.1	1.1	10	13	7.5	68	14	3.2	1.2	.9	.8
18	1.1	1.1	1.1	10	13	8.5	60	14	3.2	1.1	1.0	.8
19	1.1	1.1	1.1	9.0	13	14	55	13	3.2	1.1	1.0	.8
20	1.1	1.1	1.1	8.5	13	16	50	12	4.0	1.1	1.0	.8
21	1.0	1.0	2.0	8.5	12	16	46	12	3.5	1.0	1.0	.8
22	.9	1.0	670	8.5	11	15	38	11	3.5	1.0	1.0	.8
23	.9	1.1	250	8.5	10	14	37	11	3.0	1.0	1.0	.8
24	.9	1.1	70	7.0	10	13	35	12	2.5	1.0	1.0	.8
25	.9	1.2	40	7.5	10	13	34	11	2.4	1.0	1.0	.8
26	1.0	1.2	35	7.5	10	12	32	12	2.3	.9	1.0	.8
27	1.1	1.2	20	7.0	10	12	30	11	2.2	.9	1.0	.8
28	1.0	1.2	15	7.5	10	14	28	11	2.1	.9	1.0	.8
29	1.1	1.4	12	7.0	-	75	27	10	2.0	.9	1.0	.8
30	1.4	1.2	10	6.5	-	2,270	24	10	1.9	.9	.9	.8
31	1.2	-	8.0	6.5	-	660	-	10	-	.8	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	33.7	1.4	0.9	1.09	67
November.....	32.8	1.4	1.0	1.09	65
December.....	1,154.3	670	1.1	37.2	2,290
Calendar year 1945	12,467.0	2,200	.9	34.2	24,730
January.....	303.0	17	6.5	9.77	601
February.....	466.0	60	6.5	16.6	924
March.....	3,306.0	2,270	7.5	107	6,560
April.....	2,804	300	24	93.5	5,560
May.....	462	24	10	14.9	918
June.....	122.5	9	1.9	4.08	243
July.....	37.8	1.8	.8	1.22	75
August.....	28.5	1.0	.8	.92	57
September.....	22.9	.9	.6	.76	45
Water year 1945-46	8,773.5	2,270	.8	24.0	17,400

Peak discharge.- Dec. 22 (7 a.m.) 1,600 sec.-ft.; Mar. 30 (6:30 a.m.) 3,900 sec.-ft.

Note.- No gage-height record Oct. 6-10, Nov. 3-14, Dec. 24-28, July 18-22; discharge computed on basis of 4 discharge measurements and normal recession. Intake obstructed or stages below intake Sept. 9-30; discharge computed on basis of 6 discharge measurements.

Sisquoc River near Gary, Calif.

Location.- Water-stage recorder, lat. 34°51'40", long. 120°15'45", in NE¼ sec. 17, T. 9 N., R. 32 W., 0.5 mile downstream from Tepusquet Creek and 3.5 miles southeast of Gary. Altitude of gage, about 450 feet.

Drainage area.- 442 square miles.

Records available.- February 1941 to September 1946.

Extremes.- Maximum discharge during year, 4,000 second-feet Mar. 30 (gage height, 5.87 feet); no flow during several months.
1941-46: Maximum discharge, 13,000 second-feet Jan. 23, 1943 (gage height, 8.46 feet), from rating curve extended above 2,000 second-feet on basis of records at upstream stations. No flow during several months of each year.

Remarks.- Records fair except those for December and February, which are poor. Some water is diverted above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	0	235					
2			0		0	0	100					
3			0		0	0	90					
4			0		a8	0	77					
5			0		a5	0	115					
6			0		1	0	80					
7			0		0	0	58					
8			0		0	0	44					
9			0		0	0	39					
10			0		0	0	33					
11			0		0	0	29					
12			0		0	0	33					
13			0		0	0	44					
14			0		0	0	39					
15			0		0	0	33					
16			0		0	0	26					
17			0		0	0	20					
18			0		0	0	17					
19			0		0	0	13					
20			0		0	0	10					
21					0	0	6.8					
22			a1		0	0	3.8					
23			a250		0	0	1.1					
24			a275		0	0	.1					
25			a40		0	0	0					
26			a12		0	0	0					
27			a5		0	0	0					
28			a2		0	0	0					
29			a1		-	3.0	0					
30			0		-	1,900	0					
31			0		-	600	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	586	275	0	18.9	1,160
Calendar year 1945.....	8,964.1	2,120	0	24.6	17,780
January.....	0	0	0	0	0
February.....	14	8	0	0.5	28
March.....	2,503.0	1,900	0	80.7	4,960
April.....	1,194.8	235	0	39.8	2,370
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	4,297.8	1,900	0	11.8	8,520

Peak discharge.- Dec. 22 (about 8 a.m.) 475 sec.-ft.; Mar. 30 (7:30 a.m.) 4,000 sec.-ft.
a No gage-height record except floodmarks of peak stages; discharge computed on basis of records of discharge at related stations.

SANTA MARIA RIVER BASIN

Labrea Creek near Sisquoc, Calif.

Location.- Water-stage recorder, 34°51'00", long. 120°12'00", in SE $\frac{1}{4}$ sec. 13, T. 9 N., R. 32 W., 2,100 feet upstream from mouth and 5.5 miles east of Sisquoc, Santa Barbara County. Altitude of gage, about 550 feet.

Drainage area.- 86.7 square miles.

Records available.- October 1943 to September 1946.

Extremes.- Maximum discharge during year, 155 second-feet Mar. 30 (gage height, 3.33 feet); no flow except Mar. 30 to Apr. 21.
1943-46: Maximum discharge, 1,600 second-feet Feb. 22, 1944 (gage height, 5.22 feet), from rating curve extended above 114 second-feet by logarithmic plotting; no flow during most of each year.

Remarks.- Records good. No diversion.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	2.9					
2						0	6.8					
3						0	6.0					
4						0	3.8					
5						0	2.5					
6						0	2.0					
7						0	1.7					
8						0	1.4					
9						0	1.1					
10						0	.9					
11						0	.7					
12						0	.6					
13						0	.6					
14						0	.5					
15						0	.5					
16						0	.4					
17						0	.3					
18						0	.2					
19						0	.2					
20						0	.1					
21						0	.1					
22						0	0					
23						0	0					
24						0	0					
25						0	0					
26						0	0					
27						0	0					
28						0	0					
29						0	0					
30						37	0					
31						.8	-					
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1945						1,499.0	262	0	4.11	2,960		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						37.8	37	0	1.22	75		
April.....						33.3	6.8	0	1.11	66		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1945-46						71.1	37	0	.20	141		

Tepusquet Creek near Sisquoc, Calif.

Location.- Water-stage recorder, lat. 34°52'05", long. 120°14'40", in NE $\frac{1}{4}$ sec. 9, T. 9 N., R. 32 W., 1.1 miles upstream from mouth and 3 miles east of Sisquoc, Santa Barbara County. Altitude of gage, about 500 feet.

Drainage area.- 28.9 square miles.

Records available.- October 1943 to September 1946.

Extremes.- Maximum discharge during year, 7.5 second-feet Mar. 30 (gage height, 2.23 feet); practically no flow part of Oct. 3.
1943-46: Maximum discharge, 200 second-feet Feb. 21, 1944 (gage height, 3.86 feet), from rating curve extended above 22 second-feet by logarithmic plotting; practically no flow part of Sept. 30, Oct. 3, 1945.

Remarks.- Records good. No diversion.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.3	0.2	0.3	0.4	.5	1.5	1.1	0.7	0.4	0.3	0.2
2	.1	.2	.2	.3	.4	.5	1.3	1.1	.7	.4	.3	.2
3	.1	.2	.2	.4	.8	.5	1.2	1.1	.6	.4	.3	.1
4	.1	.2	.2	.3	.5	.5	1.1	1.1	.7	.4	.3	.1
5	.2	.2	.3	.4	.4	.5	1.0	1.1	.7	.4	.3	.1
6	a.2	.3	.2	.3	.4	.5	1.1	1.1	.7	.4	.3	.1
7	a.2	.3	.2	.3	.4	.5	1.1	1.1	.7	.4	.3	.1
8	a.2	.3	.2	.3	.4	.4	1.0	1.1	.7	.4	.2	.1
9	a.3	.3	.2	.3	.4	.4	1.0	1.1	.7	.4	.2	.1
10	a.3	.3	.2	.3	.4	.4	1.0	1.1	.7	.4	.2	.1
11	.3	.3	.2	.3	.4	.4	1.1	1.1	.6	.4	.2	.1
12	.3	.3	.2	.4	.4	.5	1.1	1.1	.6	.4	.2	.1
13	.2	.3	.3	.4	.4	.6	1.1	1.1	.6	.4	.2	.1
14	.2	.3	.3	.4	.4	.5	1.1	1.1	.6	.4	.2	.1
15	.2	.3	.3	.4	.4	.4	1.1	1.1	.6	.4	.2	.1
16	.3	.3	.2	.4	.4	.4	1.1	1.1	.6	.5	.2	.1
17	.3	.3	.3	.4	.4	.5	1.1	1.1	.5	.5	.2	.1
18	.3	.3	.3	.4	.4	.7	1.1	1.1	.5	.5	.2	.1
19	.2	.2	.3	.4	.4	.7	1.1	1.0	.5	.5	.2	.1
20	.3	.2	.3	.4	.4	.6	1.1	1.0	.5	.5	.2	.1
21	.2	.2	.9	.4	.4	.6	1.1	1.0	.5	.5	.2	.1
22	.2	.2	.7	.4	.4	.6	1.1	1.0	.5	.4	.2	.1
23	.2	.3	.4	.4	.5	.6	1.1	.9	.5	.4	.2	.1
24	.2	.3	.4	.4	.5	.6	1.1	.9	.4	.4	.2	.1
25	.2	.3	.5	.4	.5	.6	1.1	.9	.4	.3	.2	.2
26	.2	.3	.4	.4	.5	.6	1.2	1.0	.4	.3	.2	.2
27	.3	.3	.4	.4	.5	.6	1.2	.9	.4	.3	.2	.2
28	.3	.3	.3	.4	.5	.6	1.2	.9	.4	.3	.2	.1
29	.3	.4	.3	.4	-	1.5	1.1	.8	.4	.3	.2	.1
30	.3	.3	.3	.4	-	5.2	1.1	.8	.4	.3	.2	.1
31	.3	-	.3	.4	-	2.3	-	.8	-	.3	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7.1	0.3	0.1	0.23	14
November	8.3	.4	.2	.28	16
December	9.7	.9	.2	.31	19
Calendar year 1945	425.4	25	.1	1.17	843
January	11.5	.4	.3	.37	23
February	12.4	.8	.4	.44	25
March	23.8	5.2	.4	.77	47
April	33.6	1.5	1.0	1.12	67
May	31.7	1.1	.8	1.02	63
June	16.8	.7	.4	.56	33
July	12.3	.5	.3	.40	24
August	6.9	.3	.2	.22	14
September	3.5	.2	.1	.12	6.9
Water year 1945-46	177.6	5.2	.1	.49	352

a No gage-height record; discharge interpolated.

Arroyo Grande at Arroyo Grande, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 35°07'25", long. 120°34'20", in Pismo Grant at Arroyo Grande, San Luis Obispo County, 0.25 mile upstream from Pacific Coast Railway bridge. Datum of gage is 98.3 feet above mean sea level, datum of 1929, supplementary adjustment of 1934.

Drainage area.- 106 square miles.

Records available.- December 1939 to September 1946.

Extremes.- Maximum discharge during year, 230 second-feet Mar. 30 (gage height, 2.66 feet); minimum daily, 0.7 second-foot Sept. 19.
1939-46: Maximum discharge, 3,100 second-feet Mar. 4, 1941 (gage height, 8.80 feet); minimum, 0.1 second-foot July 31, 1940.

Remarks.- Records fair. Many small and intermittent diversions by pumping from stream for irrigation above station.

Discharges, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	6.4	7.0	8.5	7.7	8.8	55	10	a8.2	2.7	1.1	3.5
2	5.4	5.8	7.0	9.0	7.8	8.8	36	9.5	a7.8	3.7	2.2	3.5
3	4.5	5.0	7.0	9.0	12	10	26	9.2	7.3	3.7	1.9	2.9
4	5.3	5.0	7.7	9.3	12	9.0	21	9.2	6.4	5.2	1.9	1.4
5	5.8	6.2	8.3	9.5	11	8.6	20	9.1	5.6	4.9	1.2	1.9
6	5.8	6.0	8.1	9.3	11	8.8	19	8.2	5.5	4.6	1.6	2.5
7	6.6	5.4	7.5	9.0	11	8.3	19	8.4	7.2	3.7	1.2	1.6
8	5.3	4.8	7.7	9.0	11	7.8	18	7.4	5.9	5.3	1.8	3.8
9	5.2	5.4	7.5	8.8	11	6.6	18	11	6.6	4.5	1.8	2.9
10	4.6	5.6	7.0	8.8	11	8.1	18	10	7.8	3.6	1.4	2.0
11	4.5	6.2	6.8	8.3	11	7.3	17	11	6.2	2.4	2.2	2.3
12	3.8	6.2	7.5	8.8	11	6.1	16	11	4.8	1.8	5.1	3.2
13	3.9	5.8	7.0	9.0	11	9.0	16	9.4	5.5	1.4	3.3	4.5
14	4.9	4.8	7.0	9.8	10	7.6	16	10	3.4	1.9	2.9	4.9
15	3.8	5.4	6.6	9.8	10	6.1	16	11	3.7	2.9	2.7	4.3
16	4.7	5.2	6.4	10	11	6.7	15	8.9	4.1	1.2	2.9	2.9
17	4.5	5.2	6.2	9.5	12	7.7	14	10	3.4	1.2	4.4	3.0
18	4.4	4.6	5.7	9.3	11	7.5	14	10	3.7	1.8	5.6	1.6
19	3.4	4.2	5.9	9.5	11	10	14	9.5	3.6	.9	3.4	.7
20	3.0	4.6	6.4	9.8	12	11	14	8.3	3.8	1.5	4.0	1.0
21	3.3	3.6	7.8	9.0	12	12	14	7.9	4.2	1.4	4.4	1.4
22	3.6	4.2	10	8.8	12	9.6	13	10	5.4	1.4	2.9	2.0
23	3.9	5.2	9.3	9.3	11	9.5	9.7	9.5	5.2	1.7	2.1	2.6
24	3.7	5.4	9.3	9.8	11	9.7	9.0	8.1	3.7	1.9	3.0	2.3
25	3.2	5.6	11	9.3	11	9.5	9.3	8.7	2.8	3.1	2.8	2.4
26	3.8	6.6	9.5	9.0	9.6	9.2	9.5	12	2.7	4.0	3.3	2.6
27	4.0	6.4	9.3	9.3	8.7	7.8	11	11	2.4	5.2	2.0	3.7
28	a4.5	6.2	9.0	9.3	8.6	10	9.8	9.0	2.5	6.2	2.1	3.5
29	a5.0	6.8	8.8	9.0	-	17	9.7	7.2	2.9	4.4	2.2	5.4
30	a5.5	7.0	8.3	9.0	-	130	9.6	8.7	2.6	2.9	1.5	4.6
31	a6.0	-	8.5	8.8	-	60	-	8.7	-	1.8	1.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	139.9	6.6	3.0	4.51	277
November.....	164.8	7.0	3.6	5.49	327
December.....	241.1	11	5.7	7.78	478
Calendar year 1945	5,789.1	500	3.0	15.9	11,480
January.....	284.6	10	8.3	9.18	564
February.....	299.4	12	7.7	10.7	594
March.....	448.1	130	6.1	14.5	889
April.....	506.6	55	9.0	16.9	1,000
May.....	291.9	12	7.2	9.42	579
June.....	144.9	6.2	2.4	4.83	287
July.....	92.9	6.2	.9	3.00	184
August.....	79.6	5.6	.9	2.57	158
September.....	64.9	5.4	.7	2.63	168
Water year 1945-46	2,778.7	130	.7	7.61	5,500

a No gage-height record; discharge interpolated.

Steiner Creek near San Luis Obispo, Calif.

Location.- Water-stage recorder and 90° V-notch weir, lat. 35°19', long. 120°41', in El Chorro Potrero de San Luis Obispo Grant, 2 miles upstream from Brizziolari Creek and 3 miles northwest of San Luis Obispo, San Luis Obispo County. Altitude of gage, about 440 feet (from topographic map).

Drainage area.- 4.1 square miles.

Records available.- June 1942 to October 1946 (low-water records only).

Extremes.- Minimum discharge during period June to October, 0.07 second-foot Sept. 30. 1942-46: Minimum discharge, that of Sept. 30, 1946.

Remarks.- Records good except those for periods of no gage-height record, which are poor. There was some release of water into creek from Cuesta tunnel.

Discharge, in second-feet, June to October 1946

Day			June	July	Aug.	Sept.	Oct.				
1			-	0.21	0.20	0.16	0.21				
2			-	.22	.21	.17	.15				
3			-	.24	.21	.18	.15				
4			-	.22	.20	.17	.15				
5			-	.25	.22	.17	.16				
6			-	.26	.24	.17	.14				
7			-	.24	.24	.16	.12				
8			-	.24	.24	.16	.14				
9			-	.22	.24	.17	.13				
10			-	.22	.22	.17	.12				
11			-	.22	.17	.16	.12				
12			-	.22	.17	.14	.10				
13			-	.21	.21	.12	.12				
14			-	.18	.22	.14	.15				
15			-	.20	.22	.14	.18				
16			-	.20	.21	a.12	.24				
17			-	.20	.20	.11	.18				
18			-	.25	.17	.10	.50				
19			-	.28	.20	.12	a.2				
20			-	.28	.22	.14	a.2				
21			-	.25	.22	.14	a.2				
22			-	.26	.21	.14	.15				
23			-	.26	.22	.14	.16				
24			-	.28	.21	.13	.13				
25			-	.31	.18	.13	.12				
26			-	.26	.20	.14	.14				
27			0.22	.26	.20	.13	.22				
28			.24	.25	.21	.11	.21				
29			.22	.22	.18	.10	-				
30			.20	.20	.16	.09	-				
31			-	.18	.16	-	-				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
June 27-30.....	0.88	0.24	0.20	0.220	1.75
July.....	7.29	.31	.18	.235	14.5
August.....	6.36	.24	.16	.205	12.6
September.....	4.22	.18	.09	.141	8.37
October 1-28.....	4.79	.50	.10	.171	9.50
The period.....	-	-	-	-	46.7

a No gage-height record; discharge estimated.

Salinas River near Pozo, Calif.

Location.- Water-stage recorder, lat. 35°18', long. 120°24', in SE $\frac{1}{4}$ sec. 18, T. 30 S., R. 15 E., 1.5 miles downstream from Pozo Creek, 1.7 miles west of Pozo, and 7 miles upstream from Salinas Dam. Altitude of gage, about 1,350 feet (from topographic map).

Drainage area.- 72.5 square miles.

Records available.- July 1942 to September 1946.

Extremes.- Maximum discharge during year, 1,540 second-feet Mar. 29 (gage height, 8.48 feet); minimum, 0.2 second-foot Sept. 20-30.

1942-46: Maximum discharge, 5,800 second-feet Jan. 21, 1943 (gage height, 13.35 feet), from rating curve extended above 2,500 second-feet on basis of storage increase in Salinas Reservoir and by logarithmic plotting; minimum, 0.2 second-foot Aug. 16, 17, 26, 1945, Sept. 20-30, 1946.

Remarks.- Records fair. No storage or diversion above station. Water is stored in Salinas Reservoir below station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	1.1	1.4	3.7	2.9	2.9	153	2.9	2.2	0.9	0.7	0.6
2	.6	1.1	1.4	3.7	2.9	2.9	82	2.9	1.9	.9	.7	.5
3	.6	.9	1.6	3.7	9.6	2.9	50	2.9	1.6	.7	.6	.5
4	.6	.9	2.0	3.7	4.1	2.9	36	2.9	1.6	.9	.6	.5
5	.8	1.1	2.5	3.7	3.2	2.9	26	2.5	1.6	.9	.6	.4
6	.8	1.4	2.0	3.2	2.9	2.9	22	2.5	1.6	.9	.5	.4
7	.8	1.4	2.0	3.2	2.9	2.9	18	2.9	1.9	1.1	.5	.4
8	.8	1.4	2.0	3.2	2.9	2.5	16	2.9	1.9	.9	.6	.4
9	.8	1.2	2.0	3.2	2.9	2.5	13	3.2	1.9	.7	.6	.4
10	.8	1.2	1.8	3.2	2.9	2.5	12	3.2	2.2	.7	.6	.3
11	.9	1.4	1.8	2.9	2.9	2.5	10	3.2	2.2	.7	.6	.4
12	.9	1.4	1.8	2.9	2.9	2.5	8.9	2.9	2.2	.7	.6	.4
13	.8	1.4	1.8	2.9	2.9	2.9	8.2	2.9	1.9	.9	.6	.3
14	.8	1.4	1.8	2.9	2.9	2.9	7.6	2.9	1.9	.9	.6	.3
15	.8	1.4	1.8	2.9	3.2	2.5	7.1	2.9	1.9	.7	.6	.3
16	.8	1.4	1.8	2.9	3.2	2.5	6.5	2.9	1.9	.7	.5	.3
17	.9	1.2	1.8	2.9	3.2	2.5	6.0	2.5	1.6	.7	.5	.3
18	.9	1.2	2.0	2.9	3.2	2.5	5.5	2.5	1.6	.9	.5	.3
19	.9	1.4	1.8	2.9	2.9	2.9	5.5	2.5	1.6	.9	.5	.3
20	.8	1.4	1.8	2.9	2.9	2.5	5.0	2.5	1.6	.9	.5	.2
21	.8	1.6	5.4	2.9	2.9	2.5	4.5	2.5	1.9	.7	.6	.2
22	.8	1.4	17	2.9	2.9	2.5	4.5	2.5	1.6	.7	.5	.2
23	.8	1.4	6.4	2.9	2.9	2.5	4.5	2.5	1.6	.7	.5	.2
24	.9	1.6	13	2.9	2.9	2.5	4.1	2.5	1.4	.9	.5	.2
25	.9	1.8	39	2.9	2.9	2.5	4.1	2.5	1.1	.9	.4	.2
26	.9	1.8	7.6	2.9	2.9	2.2	4.1	2.5	1.1	.7	.5	.2
27	1.1	1.6	6.0	2.9	2.9	2.2	4.1	2.5	.9	.7	.5	.2
28	1.1	1.6	5.0	2.9	2.9	2.5	4.1	2.5	.9	.7	.6	.2
29	1.2	1.8	4.5	2.9	-	3.45	3.2	2.5	.9	.7	.6	.2
30	2.0	1.4	4.1	2.9	-	831	3.2	2.2	.9	.7	.5	.2
31	1.4	-	4.1	2.9	-	320	-	2.2	-	.7	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	27.6	2.0	0.6	0.89	55
November.....	41.3	1.8	.9	1.38	82
December.....	149.0	39	1.4	4.81	296
Calendar year 1945.....	4,920.1	1,460	.2	13.5	9,760
January.....	25.4	3.7	2.9	3.08	189
February.....	90.6	9.6	2.9	3.24	180
March.....	1,569.4	831	2.2	50.6	3,110
April.....	538.7	153	3.2	18.0	1,070
May.....	83.4	3.2	2.2	2.69	165
June.....	49.1	2.2	.9	1.64	97
July.....	24.7	1.1	.7	.80	49
August.....	17.2	.7	.4	.55	34
September.....	9.5	.6	.2	.32	19
Water year 1945-46.....	2,695.9	831	.2	7.39	5,350

Peak discharge.- Dec. 25 (3 a.m.) 98 sec.-ft.; Mar. 29 (9 p.m.) 1,540 sec.-ft.; Mar. 31 (3:45 p.m.) 567 sec.-ft.

Salinas Reservoir near Pozo, Calif.

Location.- Water-stage recorder, lat. 35°20', long. 120°30', in sec. 5, T. 30 S., R. 14 E., at dam on Salinas River, 2 miles upstream from Pilitas Creek and 7.5 miles northwest of Pozo. Datum of gage is at mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 111 square miles.

Records available.- December 1941 to September 1946.

Extremes.- Maximum contents during year, 19,290 acre-feet Apr. 17-19 (elevation, 1,291.56 feet); minimum, 11,740 acre-feet Sept. 30.

1941-46: Maximum contents, 24,120 acre-feet Mar. 19, 1945 (elevation, 1,298.45 feet); minimum, 1,730 acre-feet Nov. 6-10, 1943.

Remarks.- Reservoir is formed by concrete-arch dam; outlet closed on Dec. 6, 1941. Usable capacity, 26,000 acre-feet between elevations 1,220.3 feet (bottom of outlet pipe) and 1,301.0 feet (spillway crest) above mean sea level. Water diverted at dam into pipe line to small reservoir 10 miles below from which it is pumped to Camp San Luis Obispo and city of San Luis Obispo for water supply; water is also released down natural channel of river. Records show usable contents at 12 p.m.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Nar.	Apr.	May	June	July	Aug.	Sept.
1	15,890	14,000	13,260	13,620	13,680	13,920	18,590	19,180	18,840	18,070	15,160	13,210
2	15,780	13,960	13,250	13,620	13,680	13,920	18,790	19,170	18,830	18,020	15,090	13,150
3	15,670	13,940	13,250	13,620	13,780	13,920	18,890	19,160	18,820	17,960	15,020	13,100
4	15,550	13,900	13,260	13,630	13,800	13,910	18,980	19,160	18,800	17,890	14,960	13,040
5	15,450	13,860	13,250	13,640	13,810	13,910	19,050	19,160	18,770	17,830	14,900	12,980
6	15,340	13,820	13,240	13,640	13,820	13,900	19,110	19,140	18,750	17,770	14,840	12,930
7	15,240	13,780	13,240	13,640	13,820	13,900	19,150	19,120	18,750	17,690	14,770	12,870
8	15,150	13,740	13,220	13,640	13,820	13,910	19,190	19,120	18,700	17,600	14,720	12,820
9	15,060	13,710	13,210	13,650	13,820	13,900	19,220	19,100	18,680	17,500	14,650	12,760
10	14,970	13,670	13,190	13,650	13,830	13,900	19,230	19,080	18,670	17,380	14,600	12,700
11	14,880	13,640	13,180	13,650	13,830	13,890	19,240	19,070	18,640	17,260	14,540	12,640
12	14,780	13,600	13,180	13,650	13,840	13,890	19,250	19,050	18,620	17,100	14,480	12,580
13	14,750	13,570	13,150	13,660	13,840	13,900	19,260	19,050	18,600	16,950	14,410	12,520
14	14,680	13,530	13,140	13,660	13,840	13,900	19,260	19,030	18,580	16,800	14,340	12,470
15	14,640	13,500	13,130	13,660	13,850	13,900	19,280	19,020	18,560	16,640	14,280	12,420
16	14,600	13,480	13,120	13,660	13,860	13,900	19,280	19,000	18,530	16,500	14,220	12,360
17	14,560	13,460	13,120	13,660	13,860	13,900	19,290	19,000	18,520	16,400	14,160	12,300
18	14,510	13,450	13,100	13,660	13,870	13,910	19,290	19,000	18,490	16,290	14,100	12,250
19	14,470	13,430	13,090	13,660	13,880	13,920	19,290	18,990	18,470	16,180	14,040	12,210
20	14,430	13,410	13,090	13,670	13,880	13,920	19,280	18,980	18,440	16,080	13,980	12,160
21	14,400	13,400	13,200	13,680	13,890	13,920	19,280	18,960	18,410	15,980	13,900	12,120
22	14,350	13,380	13,300	13,680	13,900	13,910	19,280	18,940	18,380	15,860	13,840	12,070
23	14,300	13,360	13,360	13,680	13,900	13,900	19,280	18,940	18,360	15,760	13,780	12,030
24	14,260	13,350	13,440	13,680	13,900	13,900	19,260	18,920	18,350	15,670	13,720	11,990
25	14,220	13,340	13,460	13,680	13,900	13,900	19,250	18,910	18,320	15,610	13,650	11,940
26	14,180	13,320	13,560	13,680	13,910	13,900	19,240	18,900	18,290	15,550	13,580	11,900
27	14,120	13,300	13,580	13,680	13,910	13,900	19,240	18,890	18,250	15,490	13,520	11,860
28	14,100	13,300	13,580	13,690	13,910	13,930	19,220	18,880	18,200	15,410	13,450	11,820
29	14,060	13,280	13,600	13,680	-	14,870	19,200	18,880	18,160	15,340	13,380	11,780
30	14,080	13,270	13,600	13,680	-	17,160	19,190	18,860	18,110	15,270	13,320	11,740
31	14,050	-	13,610	13,680	-	18,190	-	18,850	-	15,210	13,260	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	1,288.17	16,000	-
Oct. 31.....	1,282.50	14,050	-1,950
Nov. 30.....	1,280.94	13,270	-780
Dec. 31.....	1,281.62	13,610	+340
Calendar year 1945...	-	-	-1,390
Jan. 31.....	1,281.75	13,680	+70
Feb. 29.....	1,282.22	13,910	+230
Mar. 31.....	1,289.62	18,190	+4,280
Apr. 30.....	1,291.42	19,190	+1,000
May 31.....	1,290.91	18,850	-340
June 30.....	1,289.69	18,110	-740
July 31.....	1,284.82	15,210	-2,900
Aug. 31.....	1,280.91	13,260	-1,950
Sept. 30.....	1,277.53	11,740	-1,520
Water year 1945-46...	-	-	-4,260

Salinas River above Pilitas Creek, near Santa Margarita, Calif.

Location.- Water-stage recorder and concrete control, lat. 35°21', long. 120°31', in NE $\frac{1}{4}$ sec. 8, T. 30 S., R. 14 E., immediately upstream from Pilitas Creek and 6 miles south-east of Santa Margarita. Altitude of gage, about 1,150 feet, unadjusted.

Drainage area.- 125 square miles.

Records available.- July 1942 to September 1946.

Extremes.- Maximum discharge during year, 61 second-feet (regulated) July 11-16 (gage height, 1.35 feet); minimum, 0.7 second-foot Jan. 17-31, Feb. 2, 9, 10, 12-14, 1942-46; Maximum discharge, 562 second-feet (regulated) Jan. 28, 1943 (gage height, 2.49 feet); no flow May 23 to June 9, June 12 to July 3, 1944.

Remarks.- Records good except those for period of doubtful gage-height record, which are fair. Flow regulated by Salinas Reservoir (see p. 157). Small amount of water diverted to Camp San Luis Obispo and city of San Luis Obispo.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	16	6.7	1.0	0.8	0.8	3.6	1.4	1.1	16	19	21
2	42	16	6.7	1.0	.7	.9	3.0	1.4	1.1	17	19	21
3	42	16	6.7	.9	2.2	1.4	2.7	1.4	1.1	19	20	21
4	42	16	7.7	.9	1.1	1.4	2.0	1.3	1.1	21	20	21
5	42	16	7.7	.9	.9	1.4	2.0	1.3	1.1	20	21	22
6	42	16	6.7	.8	.9	1.4	2.0	1.3	1.4	20	21	22
7	42	16	6.2	.8	.8	1.4	2.0	1.3	2.7	20	21	22
8	42	16	6.2	.8	.8	1.4	1.8	1.3	2.7	29	21	22
9	42	16	6.2	.8	.7	1.4	1.4	1.3	2.7	42	21	22
10	42	16	6.2	.8	.7	1.4	1.4	1.3	2.7	40	21	22
11	41	16	6.2	.8	.8	1.4	1.4	1.3	2.4	49	21	22
12	40	16	6.2	.8	.7	1.4	1.4	1.3	2.7	61	21	22
13	32	16	6.2	.8	.7	2.0	1.4	1.3	2.4	61	22	22
14	18	16	6.2	.8	.7	1.4	1.4	1.3	2.7	61	22	22
15	17	16	6.2	.8	1.0	1.4	1.6	1.4	2.7	61	22	22
16	17	11	6.2	.8	1.0	1.6	1.4	1.3	2.7	56	23	22
17	17	7.2	6.2	.7	.8	1.8	1.3	1.3	2.7	38	23	22
18	17	6.7	6.2	.7	.8	2.0	1.4	1.3	2.7	38	22	18
19	16	6.7	6.2	.7	.8	2.2	1.4	1.3	2.7	38	22	14
20	16	6.7	6.2	.7	1.0	2.2	1.4	1.3	2.4	38	21	14
21	16	6.7	7.7	.7	.8	2.0	1.3	1.3	2.7	38	22	15
22	16	6.7	8.7	.7	.8	1.8	1.4	1.3	2.7	38	22	15
23	16	6.7	8.2	.7	.8	1.8	1.3	1.3	2.7	38	21	15
24	16	6.7	8.2	.7	.8	1.8	1.3	1.3	2.4	32	22	15
25	16	6.7	8.2	.7	.9	1.8	1.1	1.4	2.4	20	22	15
26	16	6.7	6.7	.7	.9	1.8	1.1	1.4	2.4	20	22	15
27	16	6.2	3.9	.7	.8	1.6	1.1	1.3	9.6	20	21	15
28	16	6.2	1.4	.7	.8	1.8	1.3	1.3	16	20	21	15
29	17	6.7	1.4	.7	-	12	1.3	1.3	16	20	21	15
30	19	6.7	1.3	.7	-	11	1.3	1.4	16	20	21	15
31	18	-	1.3	.7	-	6.2	-	1.1	-	19	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	833	42	16	26.9	1,650
November.....	344.3	16	6.2	11.5	683
December.....	186.0	8.7	1.3	6.00	369
Calendar year 1945	5,765.3	158	-	15.8	11,430
January.....	24.0	1.0	.7	.77	48
February.....	24.5	2.2	.7	.88	49
March.....	74.1	12	.8	2.39	147
April.....	48.5	3.6	1.1	1.62	96
May.....	40.8	1.4	1.1	1.32	81
June.....	116.7	16	1.1	3.89	231
July.....	1,030	61	16	33.2	2,040
August.....	659	23	19	21.3	1,310
September.....	566	22	14	18.9	1,120
Water year 1945-46	3,946.9	61	.7	10.8	7,820

Note.- Doubtful gage-height record Oct. 1-21; discharge computed on basis of unpublished record of release from Salinas Reservoir and records for station near Santa Margarita.

Salinas River near Santa Margarita, Calif.

Location.- Water-stage recorder, lat. 35°24'20", long. 120°34'05", in N½ sec. 15, T. 29 S., R. 13 E., 250 feet downstream from Calif Canyon highway bridge, 250 feet upstream from Morano Creek, and 2.5 miles northeast of Santa Margarita. Datum of gage is 959.41 feet above mean sea level, datum of 1929.

Drainage area.- 148 square miles.

Records available.- April to September 1922, February 1932 to September 1946.

Average discharge.- 14 years (1932-46), 50.1 second-feet.

Extremes.- Maximum discharge during year, 902 second-feet Mar. 30 (gage height, 8.76 feet); from rating curve extended above 600 second-feet; minimum, 0.5 second-foot June 6.

1932-46: Maximum discharge, 11,000 second-feet Feb. 11, 1938 (gage height, 17.0 feet), from rating curve extended above 3,000 second-feet on basis of velocity-area studies; no flow during several months of each year except 1942-46.

Remarks.- Records fair. Regulation by Salinas Reservoir (see p. 157). Small amount of water diverted to Camp San Luis Obispo and city of San Luis Obispo.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	18	7.4	2.9	2.1	2.2	63	3.3	1.4	14	23	21
2	42	18	7.4	2.9	2.2	2.2	31	3.3	1.4	14	23	23
3	42	18	7.4	3.1	10	2.2	21	3.3	1.3	15	22	23
4	42	18	9.6	2.7	8.0	2.4	17	2.9	1.2	24	22	22
5	43	18	11	2.7	4.1	2.5	12	2.5	1.1	23	23	23
6	43	18	9.2	2.7	3.5	2.5	11	2.4	1.0	23	22	23
7	42	18	7.0	2.5	3.1	2.5	10	2.1	1.4	23	22	23
8	42	18	7.0	2.4	2.9	2.5	8.8	1.9	2.4	26	22	22
9	42	18	7.4	2.4	2.9	2.4	6.7	2.2	2.5	39	22	23
10	42	18	7.4	2.4	2.7	2.4	6.4	2.7	2.7	40	22	23
11	41	18	7.4	2.4	2.7	2.4	6.4	2.7	2.4	41	21	22
12	41	18	7.4	2.2	2.5	2.2	5.8	2.2	2.2	59	21	22
13	33	19	7.4	2.2	2.5	3.1	5.5	2.4	2.1	60	21	22
14	18	19	7.4	2.2	2.4	3.1	5.2	2.5	2.1	60	21	21
15	17	19	7.4	2.1	3.1	2.5	4.9	2.5	2.1	60	21	21
16	17	18	7.4	2.1	3.5	2.5	4.9	2.5	2.1	60	21	22
17	17	8.0	7.4	2.1	2.7	2.7	4.6	2.1	1.8	44	21	21
18	17	7.4	7.4	2.1	2.7	3.1	4.6	2.2	1.7	40	21	20
19	16	7.0	7.4	2.1	2.5	4.6	4.6	2.4	1.5	40	21	14
20	16	7.0	8.0	2.1	2.7	4.1	4.4	2.4	1.5	40	20	14
21	16	7.0	13	2.1	2.7	3.3	4.4	2.4	1.9	40	20	14
22	16	6.7	27	2.1	2.4	3.1	4.1	2.4	2.7	40	20	14
23	16	6.7	26	2.1	2.4	2.9	4.1	2.5	2.7	40	20	14
24	16	6.7	14	2.1	2.4	2.9	3.9	2.4	2.1	39	20	14
25	16	8.0	68	2.1	2.2	2.7	3.7	2.4	1.7	24	20	14
26	16	7.7	14	2.1	2.2	2.5	3.7	2.9	1.4	23	20	14
27	17	7.4	12	1.9	2.2	2.5	3.5	2.7	1.3	23	21	13
28	17	7.4	5.2	2.1	2.2	2.7	3.5	2.1	1.3	23	21	13
29	18	8.0	3.7	2.1	-	164	3.5	1.8	14	23	22	13
30	23	7.7	3.3	2.1	-	308	3.3	1.7	14	23	21	14
31	20	-	3.1	2.1	-	112	-	1.5	-	23	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	847	43	16	27.3	1,680
November.....	393.7	19	6.7	13.1	761
December.....	344.7	68	3.1	11.1	684
Calendar year 1945	7,986.9	405	.1	21.9	15,840
January.....	71.2	3.1	1.9	2.30	141
February.....	87.5	10	2.1	3.12	174
March.....	650.7	308	2.2	21.3	1,310
April.....	275.5	63	3.3	9.18	546
May.....	75.3	3.3	1.5	2.43	149
June.....	90.7	14	1.0	3.02	180
July.....	1,066	60	14	34.4	2,110
August.....	658	23	20	21.2	1,310
September.....	561	23	13	18.7	1,110
Water year 1945-46	5,131.3	308	1.0	14.1	10,180

Peak discharge.- Dec. 25 (6 a.m.) 161 sec.-ft.; Mar. 30 (9 p.m.) 902 sec.-ft.; Mar. 31 (4:15 p.m.) 226 sec.-ft.

Salinas River at Paso Robles, Calif.

Location.- Wire-weight gage, lat. 35°37'40", long. 120°41'05", at bridge on State Highway 41 in Paso Robles, 3.5 miles upstream from Huerhuero Creek. Datum of gage is 670.61 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 389 square miles.

Records available.- October 1939 to September 1946.

Extremes.- Maximum discharge observed during year, 2,500 second-feet Mar. 30 (gage height, 9.62 Feet); no flow June 5 to Sept. 30.

1939-46: Maximum discharge, 14,200 second-feet Mar. 9, 1943 (gage height, 16.2 feet), from rating curve extended above 6,000 second-feet on basis of velocity-area studies and logarithmic plotting; no flow during several months in each year.

Maximum stage known, 16.9 feet during flood of Feb. 10-13, 1938.

Remarks.- Records fair except those below 20 second-feet, which are poor. Gage read twice daily with additional readings in periods of high water. Small diversion above station. Flow regulated by Salinas Reservoir (see p. 157).

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	21	5.5	78	21	31	758	19	1.6			
2	28	21	5.5	70	20	31	445	18	1.4			
3	28	20	7.3	75	24	31	305	17	.7			
4	29	18	16	75	68	30	257	14	.3			
5	29	18	26	65	60	26	220	13	0			
6	29	18	25	61	70	24	110	11	0			
7	31	18	23	54	62	24	110	10	0			
8	31	18	20	48	55	23	97	9.3	0			
9	29	18	18	46	52	23	86	8.8	0			
10	27	18	18	43	44	23	75	8.8	0			
11	27	18	18	40	43	23	70	8.8	0			
12	27	18	16	37	41	21	65	8.8	0			
13	27	19	8.2	37	40	23	62	8.2	0			
14	26	19	7.3	37	36	26	64	7.1	0			
15	22	19	18	35	36	25	61	6.2	0			
16	17	19	18	32	41	24	55	5.4	0			
17	13	19	12	32	43	24	51	5.0	0			
18	11	19	7.3	30	40	24	48	5.0	0			
19	d10	17	d5	30	36	26	46	5.0	0			
20	d10	16	d5	30	36	28	43	5.0	0			
21	d10	13	17	28	36	28	42	5.0	0			
22	d10	9.1	120	25	38	28	40	4.6	0			
23	d10	7.3	380	24	43	28	36	3.8	0			
24	d10	7.3	200	24	40	28	31	3.0	0			
25	d10	7.3	1,120	24	38	28	29	2.6	0			
26	d10	6.4	379	23	32	27	28	2.6	0			
27	d10	5.5	248	22	31	27	26	5.8	0			
28	d10	5.5	139	22	31	27	24	4.2	0			
29	d10	5.5	124	22	-	89	23	2.6	0			
30	20	5.5	95	22	-	1,680	21	2.4	0			
31	21	-	78	22	-	1,220	-	2.1	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	610	31	10	19.7	1,210
November.....	443.4	21	5.5	14.8	879
December.....	3,179.1	1,120	5	103	6,310
Calendar year 1945.....	28,260.3	3,930	0	77.4	56,050
January.....	1,213	78	22	39.1	2,410
February.....	1,197	88	20	42.8	2,370
March.....	3,720	1,680	21	120	7,380
April.....	3,328	758	21	111	6,600
May.....	232.1	19	2.1	7.49	460
June.....	4.0	1.6	0	.13	7.9
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	13,926.6	1,680	0	38.2	27,630

d Doubtful gage-height record; discharge computed on basis of records for station near Santa Margarita.

Salinas River near Spreckels, Calif.

Location.- Water-stage recorder and wire-weight gage, lat. 36°37'50", long. 121°40'40", in El Toro Grant, at bridge on Salinas-Montsrey highway, 0.5 mile upstream from Toro Creek, 2 miles west of Spreckels, Monterey County, and 4 miles south of Salinas. Datum of gage is 22.64 feet above mean sea level, adjustment of 1912.

Drainage area.- 4,231 square miles.

Records available.- January 1900 to August 1901, December 1929 to September 1946.

Average discharge.- 16 years (1930-46), 666 second-feet.

Extremes.- Maximum discharge during year, 10,900 second-feet Dec. 23 (gage height, 11.7 feet), from rating curve extended above 1,200 second-feet on basis of previous rating curve; minimum daily discharge, 0.8 second-foot June 26 to July 14.
1929-46: Maximum discharge, 75,000 second-feet Feb. 12, 1936 (gage height, 25.0 feet), from rating curve extended above 25,800 second-feet on basis of velocity-area studies verified by slope-area determination; no flow at times during period 1929-40. Maximum stage known, 26.6 feet Mar. 7, 1911, as indicated at oil pumping station opposite gage.

Remarks.- Records poor. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				880	79	152	2,480	20	1.2	0.8		
2				768	72	140	1,820	20	1.2	.8		
3				683	110	131	1,450	18	1.2	.8		
4			16	583	131	113	1,160	16	1.1	.8		
5				560	131	100	1,030	14	1.1	.8		
6				545	138	96	866	12	1.1	.8		
7				486	357	86	758	10	1.1	.8		
8		9		443	301	79	640	8	1.1	.8		
9				412	265	67	541	6	1.1	.8		
10				373	239	65	468	4.1	1.1	.8		
11				345	231	61	412	4.0	1.1	.8		
12				301	211	51	373	3.8	1.1	.8		
13				284	192	46	333	3.6	1.1	.8		
14			30	262	177	43	293	3.4	1.1	.8		
15				246	179	40	273	3.4	1.2	1.0		
16		14		221	173	37	268	3.2	1.1	1.0	1.0	2.0
17				199	166	35	231	3.0	1.1	1.0		
18				184	150	32	195	3.0	1.1	1.0		
19				173	148	35	166	2.8	1.1	1.0		
20				152	171	35	146	2.6	1.1	1.0		
21				144	181	35	127	2.4	1.1	1.0		
22			1,360	134	186	36	111	2.2	1.1	1.0		
23		12	5,600	125	184	34	96	2.0	1.0	1.0		
24			5,500	122	184	32	80	1.5	1.0	1.0		
25			4,120	120	195	36	62	2.0	1.0	1.0		
26			6,200	115	184	39	48	1.7	.9	1.0		
27			4,400	106	173	39	39	1.6	.9	1.0		
28			2,590	103	166	32	27	1.4	.8	1.0		
29			1,780	95	-	36	22	1.4	.8	1.0		
30			1,380	89	-	39	20	1.3	.8	1.0		
31			1,060	85	-	329	-	1.3	-	1.0		-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	327	-	-	10.5	649
November.....	420	-	-	14.0	833
December.....	34,536	6,200	-	1,114	68,500
Calendar year 1945.....	191,413.1	37,800	-	524	379,600
January.....	9,338	880	85	301	18,520
February.....	5,074	357	72	181	10,060
March.....	2,131	329	32	68.7	4,230
April.....	14,535	2,480	20	484	28,830
May.....	179.7	20	1.3	5.80	358
June.....	31.8	1.2	.8	1.06	63
July.....	28.2	1.0	.8	.31	55
August.....	31.0	-	-	1.0	61
September.....	60.0	-	-	2.0	119
Water year 1945-46.....	66,691.7	6,200	.8	183	132,300

Note.- No gage-height record Oct. 1 to Dec. 21, May 3-9, 11-22; discharge computed on basis of 4 discharge measurements, weather records, and records for tributary streams. Stage-discharge relation indefinite Aug. 1 to Sept. 30; discharge computed on basis of 4 field estimates of discharge.

SALINAS RIVER BASIN

Toro Creek near Pozo, Calif.

Location.- Water-stage recorder and 90° V-notch weir, lat. 35°20', long. 120°25', in sec. 12, T. 30 S., R. 14 E., immediately upstream from mouth and 3 miles northwest of Pozo. Altitude of gage, about 1,310 feet (from topographic map).

Drainage area.- 9.5 square miles.

Records available.- June 1942 to October 1946 (low-water records only).

Extremes.- June to October 1946: Minimum discharge, 0.13 second-foot Sept. 26.

1942-46: Minimum discharge, 0.07 second-foot (regulated) Sept. 16, 1945.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Some regulation from small diversion dam above station.

Discharge, in second-feet, June to October 1946

Day	June	July	Aug.	Sept.	Oct.	Day	June	July	Aug.	Sept.	Oct.	Day	June	July	Aug.	Sept.	Oct.
1	-	0.34	0.28	0.28	0.31	11	-	0.29	0.28	0.23	0.30	21	-	a.3	0.22	0.23	0.35
2	-	.32	.25	.28	.31	12	-	.30	.25	.25	.30	22	-	f.3	.26	.23	.35
3	-	.35	.23	.26	.33	13	-	.28	.26	.23	.31	23	-	a.3	.28	.25	.37
4	-	.32	.25	.30	.33	14	-	.30	.25	.25	.26	24	-	a.3	.26	.25	.35
5	-	.31	.30	.28	.31	15	-	.36	.28	.26	.33	25	-	a.3	.25	.25	.39
6	-	.36	.28	.31	.31	16	-	a.3	.25	.25	.39	26	0.34	a.2	.23	.22	.31
7	-	.36	.28	.31	.31	17	-	a.3	.30	.28	.37	27	.36	a.2	.26	.26	.37
8	-	.33	.26	.30	.33	18	-	a.3	.26	.26	.37	28	.31	a.2	.25	.28	.37
9	-	.34	.26	.25	.31	19	-	a.3	.23	.26	.37	29	.32	a.2	.25	.28	-
10	-	.32	.25	.20	.30	20	-	a.3	.25	.26	.37	30	.36	.20	.26	.26	-
												31	-	.28	.28	-	-
Month						Second-foot-days		Maximum		Minimum		Mean		Runoff in acre-feet			
June 26-30.....						1.69		0.36		0.31		0.338		3.35			
July.....						9.14		.36		.20		.295		18.1			
August.....						8.03		.30		.22		.259		15.9			
September.....						7.79		.31		.20		.280		15.5			
October 1-28.....						9.38		.39		.26		.335		18.6			
The period.....						-		-		-		-		71.4			

a No gage-height record; discharge estimated.

f Fragmentary gage-height record; discharge computed on basis of partially estimated gage-height record.

Santa Margarita Creek near Santa Margarita, Calif.

Location.- Water-stage recorder and 90° V-notch weir, lat. 35°23', long. 120°39', in Santa Margarita Grant, immediately upstream from Tassajera Creek and 2.5 miles southwest of Santa Margarita, San Luis Obispo County. Altitude of gage, about 1,050 feet (from topographic map).

Drainage area.- 2.4 square miles.

Records available.- June 1942 to October 1946 (low-water records only).

Extremes.- June to October 1946: No flow July 11 to Oct. 31.

1942-46: No flow part of each season except 1942.

Remarks.- Records fair. No storage or diversion.

Discharge, in second-feet, June to October 1946

Day	June	July	Day	June	July	Day	June	July
1	-	a0.02	11	-	0	21	-	0
2	-	.04	12	-	0	22	-	0
3	-	.01	13	-	0	23	-	0
4	-	.01	14	-	0	24	-	0
5	-	.02	15	-	0	25	-	0
6	-	.03	16	-	0	26	-	0
7	-	.02	17	-	0	27	0.03	0
8	-	.02	18	-	0	28	.02	0
9	-	.01	19	-	0	29	a.02	0
10	-	.01	20	-	0	30	a.02	0
						31	-	0
Month			Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	
June 27-30.....			0.09	0.03	0.02	0.022	0.18	
July.....			.19	.04	0	.006	.36	
August.....			0	0	0	0	0	
September.....			0	0	0	0	0	
October.....			0	0	0	0	0	
The period.....			-	-	-	-	0.56	

a No gage-height record; discharge estimated.

Tassajera Creek near Santa Margarita, Calif.

Location.- Water-stage recorder and 90° V-notch weir, lat. 35°23', long. 120°39', in Santa Margarita Grant, 300 feet upstream from mouth and 2.5 miles southwest of Santa Margarita, San Luis Obispo County. Altitude of gage, about 1,060 feet (from topographic map).

Drainage area.- 4.4 square miles.

Records available.- June 1942 to October 1946 (low-water records only).

Extremes.- June to October 1946: No flow July 15 to Oct. 31.

1942-46: No flow parts of each season except 1942.

Remarks.- Records fair except those for period of no gage-height record, which are poor. No storage or large diversion.

Discharge, in second-feet, of Tassajera Creek near Santa Margarita, Calif., June to October 1946

Day	June	July	Day	June	July	Day	June	July	Day	June	July	Day	June	July	Day	June	July
1	-	0.05	8	-	0.04	11	-	a0.02	18	-	0	21	-	0	28	-	0
2	-	.07	7	-	a.03	12	-	a.01	17	-	0	22	-	0	27	0.10	0
3	-	.04	8	-	a.03	13	-	a.01	18	-	0	23	-	0	28	.12	0
4	-	.04	9	-	a.02	14	-	a.01	19	-	0	24	-	0	29	.09	0
5	-	.04	10	-	a.02	15	-	a.01	20	-	0	25	-	0	30	.06	0
															31	-	0
Month						Second-foot-days		Maximum		Minimum		Mean		Runoff in acre-feet			
June 27-30.....						0.37		0.12		0.06		0.092		0.73			
July.....						.44		.07		0		.014		.87			
August.....						0		0		0		0		0			
September.....						0		0		0		0		0			
October.....						0		0		0		0		0			
The period.....						-		-		-		-		1.60			

a No gage-height record; discharge interpolated.

Nacimiento River near San Miguel, Calif.

Location.- Water-stage recorder and concrete control, lat. 35°47'00", long. 120°47'24", in SE $\frac{1}{4}$ sec. 4, T. 25 S., R. 11 E., 4 miles upstream from mouth and 5.5 miles northwest of San Miguel. Datum of gage is 555.48 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 354 square miles.

Records available.- October 1939 to September 1946.

Extremes.- Maximum discharge during year, 16,500 second-feet Dec. 22 (gage height, 6.82 feet), from rating curve extended above 520 second-feet; no flow Oct. 1 to Dec. 2, July 10 to Sept. 30.

1939-46: Maximum discharge, 50,800 second-feet Jan. 21, 1943 (gage height, 10.45 feet), from rating curve extended above 17,000 second-feet by logarithmic plotting; no flow for several months in each year except possibly 1942-44.

Remarks.- Records fair. No storage or large diversion.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	346	59	89	1,060	43	17	0.5		
2			0	298	57	86	726	43	14	.3		
3			23	397	224	84	540	41	13	.3		
4			28	352	510	78	424	41	9.3	.3		
5			1,370	298	277	75	330	39	8.0	.2		
6			1,300	298	203	72	277	35	7.0	.1		
7			406	257	163	70	250	33	6.2	.1		
8			203	224	141	64	224	32	5.2	.1		
9			137	203	128	61	198	32	4.4	.1		
10			103	162	117	59	182	28	3.5	0		
11			92	168	110	55	168	26	3.3	0		
12			75	154	103	52	150	28	2.8	0		
13			64	146	99	59	128	26	2.6	0		
14			55	141	92	59	128	24	2.6	0		
15			50	146	106	70	128	22	2.5	0		
16			46	128	a130	59	121	21	2.5	0		
17			43	117	a145	52	114	21	2.3	0		
18			48	110	a155	61	103	22	2.3	0		
19			37	106	159	103	96	22	2.2	0		
20			35	99	168	84	89	21	2.1	0		
21			115	92	198	92	86	21	2.0	0		
22			10,800	89	154	96	84	19	1.8	0		
23			5,590	81	132	89	81	19	1.7	0		
24			1,860	75	124	81	75	18	1.6	0		
25			6,700	75	117	70	67	19	1.4	0		
26			2,420	72	110	64	61	38	1.3	0		
27			1,290	70	99	59	57	32	1.1	0		
28			946	64	96	61	55	22	1.0	0		
29			803	62	-	889	50	21	.7	0		
30			530	62	-	3,650	48	19	.5	0		
31			424	59	-	1,630	-	17	-	0		
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						35,593	10,800	-	1,148	70,600		
Calendar year 1945						116,143.7	21,800	0	318	230,400		
January.....						4,981	397	59	161	9,880		
February.....						4,176	510	57	149	8,280		
March.....						8,173	3,650	52	264	16,210		
April.....						6,100	1,060	48	203	12,100		
May.....						845	43	17	27.3	1,680		
June.....						125.9	17	.5	4.20	250		
July.....						2.0	.5	0	.06	4.0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1945-46						59,995.9	10,800	0	164	119,000		

a No gage-height record; discharge interpolated.

San Antonio River at Pleyto, Calif.

Location.- Water-stage recorder, lat. 35°51'55", long. 120°59'30", in Pleyto Grant, at highway bridge at old town site of Pleyto, Monterey County, 1.1 miles downstream from Copperhead Creek and 15 miles west of Bradley. Altitude of gage, about 720 feet (from topographic map).

Drainage area.- 282 square miles.

Records available.- April to September 1922, December 1929 to September 1946.

Average discharge.- 16 years (1930-46), 106 second-feet.

Extremes.- Maximum discharge during year, 1,870 second-feet Dec. 22 (gage height, 3.82 feet); no flow Oct. 1-20, July 6 to Sept. 30.
1929-46: Maximum discharge, 11,400 second-feet Feb. 11, 1941 (gage height, 5.58 feet), from rating curve extended above 8,000 second-feet; no flow for several months each year except possibly 1942, 1943.

Remarks.- Records fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.5	1.0	154	45	48	153	24	6.0	0.1		
2	0	.4	1.0	145	43	47	137	23	5.2	.1		
3	0	.4	1.1	142	60	47	130	22	4.3	.1		
4	0	.4	1.4	131	67	47	113	21	3.5	.1		
5	0	.4	1.2	123	58	43	107	20	3.2	.1		
6	0	.4	2.1	115	47	40	96	20	2.6	0		
7	0	.4	6.8	108	35	36	92	19	2.1	0		
8	0	.4	3.5	108	32	35	88	18	1.8	0		
9	0	.4	2.0	103	42	32	85	17	1.5	0		
10	0	.4	1.8	100	42	29	81	17	1.4	0		
11	0	.6	1.8	93	36	25	79	15	1.4	0		
12	0	.5	1.7	80	36	24	76	14	1.3	0		
13	0	.6	1.6	69	38	26	72	14	1.0	0		
14	0	.6	1.4	65	36	26	71	13	.9	0		
15	0	.6	1.4	63	40	24	66	13	.8	0		
16	0	.6	1.4	63	48	20	60	13	.7	0		
17	0	.6	1.4	63	56	19	55	12	.7	0		
18	0	.7	1.4	61	50	20	54	12	.3	0		
19	0	.7	1.6	61	47	25	50	12	.3	0		
20	0	.8	1.6	61	50	30	44	11	.2	0		
21	.1	.8	4.0	60	71	30	40	10	.2	0		
22	.1	.8	970	56	65	24	37	10	.2	0		
23	.2	.8	797	63	61	20	38	9.8	.3	0		
24	.2	.8	398	63	56	17	38	8.6	.2	0		
25	.3	1.0	887	58	52	16	37	8.6	.2	0		
26	.3	1.0	540	56	52	16	33	9.8	.2	0		
27	.4	1.0	345	56	52	16	33	9.2	.2	0		
28	.4	1.1	266	54	52	16	31	8.2	.2	0		
29	.5	1.2	219	52	-	41	28	8.2	.2	0		
30	.7	1.0	173	50	-	166	26	6.9	.2	0		
31	.6	-	164	46	-	182	-	6.4	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3.8	0.7	0	0.12	7.5
November.....	19.9	1.2	.4	.66	39
December.....	4,800.2	970	1.0	155	9,520
Calendar year 1945	33,507.6	6,580	0	91.8	66,460
January.....	2,524	154	48	81.4	5,010
February.....	1,369	71	32	48.9	2,720
March.....	1,191	182	16	38.4	2,360
April.....	2,050	153	26	68.3	4,070
May.....	425.7	24	6.4	13.7	844
June.....	41.3	6.0	.2	1.38	82
July.....	.5	.1	0	.02	1.0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	12,425.4	970	0	34.0	24,650

Peak discharge.- Dec. 22 (10 a.m.) 1,870 sec.-ft.; Dec. 25 (10:30 a.m.) 1,300 sec.-ft.; Mar. 30 (4 to 5 p.m.) 190 sec.-ft.

Note.- Doubtful gage-height record Oct. 1-24, June 28 to July 5; discharge computed on basis of field observation made on Oct. 9, measurement made on July 3, and weather records.

Arroyo Seco near Soledad, Calif.

Location.- Water-stage recorder, lat. 36°16'50", long. 121°19'20", in sec. 16, T. 19 S., R. 6 E., 1.5 miles downstream from Vaquero Creek and 10 miles south of Soledad. Datum of gage is 344.20 feet above mean sea level (Corps of Engineers, War Department, bench mark).

Drainage area.- 241 square miles.

Records available.- November 1901 to September 1946.

Average discharge.- 44 years (1902-46), 181 second-feet.

Extremes.- Maximum discharge during year, 11,600 second-feet Dec. 21 (gage height, 10.47 feet); no flow Aug. 15 to Sept. 30.

1901-46: Maximum discharge observed, about 22,000 second-feet Feb. 21, 1917, Nov. 25, 1926 (gage height, 16.5 feet, site and datum then in use), from rating curve extended above 7,500 second-feet; no flow at times during several years.

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

Rating tables, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 4)

Oct. 1 Dec. 21						Dec. 22 to Sept. 30					
1.1	0.3	1.8	12	4.0	388	0.9	0	1.5	6.6	3.2	197
1.2	.8	2.0	23	4.5	595	1.0	.1	1.6	10	3.6	291
1.3	1.4	2.2	38	5.0	840	1.1	.4	1.8	19	4.0	407
1.4	2.3	2.5	72	5.5	1,160	1.2	1.0	2.0	34	4.5	590
1.5	3.8	2.9	123	6.0	1,560	1.3	1.9	2.4	73	5.0	840
1.6	5.8	3.2	170	7.0	2,700	1.4	3.8	2.8	124		
1.7	8.5	3.6	264	8.0	4,240						

Note.- Same as preceding table above
5.0 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	117	66	360	91	98	385	70	35	10	1.3	
2	1.0	67	56	317	92	95	317	69	33	10	1.1	
3	1.0	47	50	314	135	92	288	68	32	9.3	.8	
4	.8	36	331	286	135	90	240	65	30	8.6	.6	
5	.8	30	1,000	323	113	87	217	64	28	8.3	.6	
6	1.2	26	486	286	106	84	199	60	28	8.0	.6	
7	1.5	24	242	259	104	81	187	59	26	7.6	.5	
8	1.7	23	167	240	102	78	175	55	25	7.6	.5	
9	1.8	22	133	221	100	77	184	54	25	6.6	.5	
10	2.0	22	115	206	96	74	153	53	25	6.3	.4	
11	2.3	23	104	193	96	72	144	55	25	6.0	.3	
12	2.8	26	100	183	92	71	137	54	24	5.5	.2	
13	3.2	23	89	173	90	77	130	52	22	5.2	.1	
14	3.6	22	82	168	87	90	126	51	20	4.6	.1	
15	3.8	21	78	158	98	75	120	50	20	4.1	0	
16	5.2	22	74	149	147	72	114	50	20	3.6	0	
17	4.4	24	71	142	117	71	110	50	20	3.6	0	
18	4.6	24	68	137	109	71	106	48	18	3.6	0	
19	4.6	22	65	132	106	79	102	46	16	3.4	0	
20	4.6	22	62	127	134	84	98	45	15	3.2	0	
21	4.8	22	2,240	123	135	80	95	45	14	2.8	0	
22	5.0	21	1,170	118	127	78	92	45	14	2.7	0	
23	5.0	21	1,730	114	120	75	89	46	14	2.3	0	
24	5.0	21	1,210	113	114	72	85	46	15	2.1	0	
25	5.0	67	2,210	107	111	71	81	45	14	1.7	0	
26	5.2	66	1,220	105	107	69	79	48	13	1.6	0	
27	5.6	49	912	102	104	66	77	50	12	1.5	0	
28	6.3	42	745	100	102	69	75	45	11	1.3	0	
29	7.4	75	604	97	-	232	73	41	10	1.4	0	
30	382	64	503	95	-	579	71	39	10	1.5	0	
31	185	-	424	92	-	458	-	36	-	1.4	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	668.3	382	0.8	21.6	1,330
November.....	1,109	117	21	37.0	2,200
December.....	19,408	4,170	50	626	38,500
Calendar year 1945.....	70,059.0	10,800	-	192	139,000
January.....	5,540	360	92	179	10,990
February.....	3,090	155	87	110	6,130
March.....	3,466	579	66	112	6,870
April.....	4,309	385	71	144	8,550
May.....	1,604	70	36	51.7	3,180
June.....	614	35	10	20.5	1,220
July.....	145.4	10	1.3	4.69	288
August.....	7.6	1.3	0	.25	15
September.....	0	0	0	0	0
Water year 1945-46.....	39,961.3	4,170	0	109	79,270

Peak discharge.- Oct. 30 (10:30 a.m.) 1,120 sec.-ft.; Dec. 4 (11 p.m.) 1,260 sec.-ft.; Dec. 5 (5 p.m.) 1,880 sec.-ft.; Dec. 21 (10 p.m.) 11,600 sec.-ft.; Dec. 25 (4 a.m.) 3,260 sec.-ft.; Mar. 30 (8:30 a.m.) 640 sec.-ft.

Pajaro River near Chittenden, Calif.

Location.- Wire-weight gage, lat. 36°54'00", long. 121°35'50", at State highway bridge, 0.6 mile downstream from Pescadero Creek, 1 mile southeast of Chittenden, and 2.5 miles downstream from San Benito River. Datum of gage is 82.06 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 1,188 square miles.

Records available.- December 1939 to September 1946.

Extremes.- Maximum discharge observed during year, 1,500 second-feet Dec. 25 (gage height, 11.82 feet); minimum observed, 1.8 second-feet Sept. 23.

1939-46: Maximum discharge, 11,100 second-feet Apr. 4 or 5, 1941 (gage height, 26.2 feet, from floodmarks); minimum observed, that of Sept. 23, 1946.

Flood in February 1938 reached a stage of 31.3 feet, from floodmarks.

Remarks.- Records fair except those for periods of no gage-height record, which are poor.

Gage read twice daily with additional readings in periods of high water. Small amount of storage and many diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	18	18	286	45	50	155	24	11	3.8	6.0	4.0
2	8.0	14	17	200	46	47	134	23	10	4.2	6.0	4.7
3	8.2	13	17	232	78	44	120	24	10	4.5	5.8	5.2
4	8.2	12	19	208	76	44	112	24	10	5.4	4.4	4.7
5	8.7	12	130	354	73	44	104	24	10	5.6	4.5	5.2
6	9.2	13	90	304	66	43	90	24	9.5	4.7	5.8	4.7
7	9.8	14	70	304	66	40	82	24	9.0	6.0	5.6	4.7
8	9.8	14	60	280	59	40	78	22	9.2	5.6	5.2	4.7
9	9.8	14	50	235	55	39	75	21	9.2	6.3	5.8	4.7
10	9.8	15	45	220	56	38	70	21	9.2	5.2	5.8	4.7
11	10	17	40	205	59	38	67	19	9.2	4.9	6.5	5.6
12	10	16	35	182	57	37	64	19	9.0	4.9	6.3	5.2
13	10	15	32	157	57	41	57	19	9.2	3.9	5.8	5.6
14	9	16	30	146	51	46	54	18	9.0	3.9	5.8	5.2
15	10	17	28	135	56	46	51	18	8.7	3.8	5.4	5.6
16	11	17	25	120	66	44	50	17	8.7	2.9	5.4	5.2
17	11	19	23	107	64	44	50	17	8.2	4.2	5.2	5.4
18	11	17	22	99	57	43	47	17	8.2	3.3	4.5	4.9
19	10	17	21	92	59	40	44	16	8.0	3.3	4.4	4.7
20	10	17	20	89	67	40	42	16	7.4	3.0	4.2	4.2
21	9	17	34	85	66	40	39	16	7.7	4.2	4.4	4.5
22	9	16	594	74	62	39	37	15	6.0	4.4	4.4	4.2
23	9	17	1,290	69	59	38	36	15	5.2	2.6	4.4	2.8
24	8.5	15	1,220	66	56	37	34	15	5.4	3.0	4.7	3.6
25	8.5	17	1,450	64	56	36	32	14	5.2	3.0	5.2	4.2
26	8	17	1,140	60	56	35	30	16	4.7	2.8	4.4	5.4
27	8	17	690	56	55	34	28	15	4.5	3.6	4.0	4.9
28	8	17	638	55	53	35	27	14	4.4	4.2	3.2	5.2
29	8	20	499	53	-	49	26	14	4.5	4.4	4.7	5.4
30	12	20	388	51	-	344	24	13	4.9	6.0	4.0	6.0
31	30	-	331	48	-	224	-	12	-	7.2	4.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	309.7	30	8.0	9.99	614
November.....	480	20	12	16.0	952
December.....	9,066	1,450	17	292	17,980
Calendar year 1945	53,585.7	9,450	5.4	147	106,300
January.....	4,616	334	48	149	9,160
February.....	1,677	78	45	59.9	3,330
March.....	1,759	344	34	56.7	3,490
April.....	1,860	155	24	62.0	3,690
May.....	566	24	12	18.3	1,120
June.....	235.2	11	4.4	7.84	467
July.....	134.8	7.2	2.6	4.35	267
August.....	156.5	6.5	3.2	5.05	310
September.....	145.1	6.0	2.8	4.84	288
Water year 1945-46	21,005.3	1,450	2.6	57.5	41,670

Note.- No gage-height record Oct. 14 to Nov. 8, Dec. 5-20; discharge computed on basis of 2 discharge measurements and records for Uvas Creek near Morgan Hill and San Benito River near Willow Creek School.

Pacheco Creek near Dunneville, Calif.

Location.- Staff gage, lat. 36°58'50", long. 121°22'50", in Ausaymas Y San Felipe Grant, at private road bridge 3.3 miles northeast of Dunneville, Santa Clara County. Altitude of gage, about 240 feet (from topographic map).

Drainage area.- 146 square miles.

Records available.- January 1940 to September 1946.

Extremes.- Maximum discharge observed during year, 642 second-feet Dec. 23 (gage height, 3.7 feet); no flow at various times.

1940-46: Maximum discharge, 7,200 second-feet Feb. 2, 1945, by slope-area method; no flow at times in 1940, 1943-46.

Remarks.- Records fair except those for period of doubtful gage-height record, which are poor. Gage read twice daily with additional readings during high water. Detaining reservoir (capacity, about 6,000 acre-feet) several miles above station stores flood water for release during low flow. Small diversions above station for irrigation.

Rating tables, water year 1945-46 (gage height,
in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 26)

Oct. 1 to Mar. 31

Apr. 1 to Sept. 30

0.6	0.4	1.1	13	2.5	208	0.5	0	0.9	4.7
.7	1.5	1.3	25	2.9	336	.6	.1	1.0	8.2
.8	3.2	1.5	42	3.2	446	.7	.9	1.1	13
.9	5.7	1.8	75			.8	2.3	1.3	25
1.0	8.9	2.1	123						

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	2.0	d0.7	69	2.0	4.1	25	0.5	5.3	2.3		0.7
2	2.0	2.2	d.6	61	1.7	3.6	22	.3	5.0	2.3		.7
3	2.0	2.4	d.6	26	5.4	3.2	16	.8	4.7	2.3		.7
4	2.2	2.4	d.5	86	17	3.2	13	1.2	4.2	2.3		.5
5	2.4	2.8	d.4	336	15	3.2	11	2.9	3.6	2.0		.5
6	2.6	2.8	d.4	105	13	2.8	11	5.0	3.4	2.0		.5
7	2.8	2.4	d.3	73	12	2.8	10	7.8	3.2	1.7		.3
8	2.8	2.0	d.2	60	11	2.8	9.2	9.6	3.2	1.7		.3
9	2.8	2.0	d.2	50	10	2.4	8.2	12	2.7	1.7		.3
10	2.4	1.7	d.1	38	8.9	2.4	7.4	11	2.7	1.7		.3
11	2.4	1.3	0	28	7.6	2.4	6.6	10	3.2	1.7		.2
12	2.4	1.3	0	20	7.9	2.4	5.6	9.1	3.6	1.4		.2
13	2.8	1.3	0	18	8.2	2.8	4.4	8.2	4.2	1.4		.2
14	2.8	1.3	0	17	8.9	2.8	3.4	7.4	4.7	1.4		.2
15	2.8	1.3	0	16	9.7	2.8	2.3	6.6	4.2	1.4		.2
16	2.8	1.3	0	15	10	2.4	2.0	6.0	3.9	1.1		.2
17	2.8	1.1	0	14	9.7	2.4	1.7	5.3	3.6	.9		.2
18	2.8	1.1	0	8.9	8.9	2.4	1.7	6.3	3.2	.9		.2
19	2.8	1.1	0	8.2	8.9	2.4	1.7	7.4	3.2	.9		.1
20	2.8	.9	0	7.6	8.9	2.4	1.4	8.2	3.6	.9		0
21	2.6	.7	0	6.9	8.2	2.4	1.4	6.3	3.6	.9		0
22	2.4	.7	121	6.3	8.2	2.4	1.4	3.9	3.2	.9		0
23	2.4	.8	419	5.7	7.6	2.4	1.4	3.4	3.2	.9		0
24	1.9	.9	121	5.2	7.6	2.4	1.1	3.4	2.7	.9		0
25	1.9	1.1	356	4.6	6.9	2.4	.9	4.2	2.7	.9		0
26	2.2	1.1	146	4.1	6.3	2.4	.8	4.7	2.7	.9		0
27	2.4	d1.0	123	4.1	5.7	2.0	.7	5.3	2.3	.9		0
28	2.6	d.9	114	3.6	4.9	2.0	.7	6.0	2.3	.9		0
29	3.0	d.8	89	3.2	-	2.0	.7	6.6	2.3	.9		0
30	3.0	d.8	82	2.8	-	2.4	.7	6.6	2.3	.9		0
31	2.6	-	74	2.4	-	2.8	-	6.0	-	.9		0

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	78.4	3.0	1.9	2.53	156
November	43.5	2.8	.7	1.45	86
December	1,628.0	419	-	52.5	3,230
Calendar year 1945	13,959.8	4,710	0	38.2	27,690
January	1,105.6	336	2.4	35.7	2,190
February	240.1	17	1.7	8.58	476
March	81.3	4.1	2.0	2.62	161
April	173.4	25	.7	5.78	344
May	182.0	12	.3	5.87	361
June	102.7	5.3	2.3	3.42	204
July	41.9	2.3	.9	1.35	83
August	6.5	.7	0	.21	13
September	0	0	0	0	0
Water year 1945-46	3,684.4	419	0	10.1	7,300

d Doubtful gage-height record; discharge computed on basis of 1 discharge measurement.

Uvas Creek near Morgan Hill, Calif.

Location.- Water-stage recorder, lat. 37°04'00", long. 121°41'30", in Las Uvas Grant, 500 feet upstream from Uvas Dam, 0.6 mile downstream from Eastman Canyon, and 4.8 miles southwest of Morgan Hill, Santa Clara County. Altitude of gage, about 390 feet (from topographic map).

Drainage area.- 30.2 square miles.

Records available.- December 1930 to September 1946.

Average discharge.- 15 years, 38.6 second-feet.

Extremes.- Maximum discharge during year, 1,660 second-feet Dec. 21 (gage height, 7.46 feet); no flow Oct. 1-15.

1930-46: Maximum discharge, 8,630 second-feet Dec. 11, 1937 (gage height, 13.70 feet), from rating curve extended above 3,000 second-feet; no flow at times during 1931-34, 1943-46.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No storage or large diversion above station. Water diverted at Uvas Dam for municipal supply of Gilroy.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 21					Dec. 22 to Sept. 30				
2.0	0	2.6	14	3.4	110'	2.9	37	3.4	105
2.1	.4	2.7	20	3.6	146	3.0	48	3.6	142
2.2	1.4	2.8	27	4.0	234	3.2	73	4.0	234
2.3	3.0	2.9	37	4.4	346				
2.4	5.6	3.0	49	5.0	544				
2.5	9.1	3.2	77						

Note.- Same as preceding table below 2.9 and above 4.0 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.7	5.9	72	17	14	72	12	5.3	1.9	0.7	0.3
2	0	2.4	5.0	69	20	14	59	12	5.0	1.8	.6	.3
3	0	1.8	4.2	70	24	14	50	12	4.7	1.7	.6	.3
4	0	1.5	186	68	24	13	46	11	4.4	1.6	.5	.3
5	0	1.4	297	73	21	13	42	11	4.2	1.5	.5	.4
6	0	1.2	65	64	20	13	39	10	4.0	1.4	.5	.4
7	0	1.2	31	59	21	13	36	8.7	4.0	1.3	.6	.4
8	0	1.1	21	54	18	12	34	8.3	3.9	1.2	.6	.4
9	0	1.1	16	49	18	12	31	8.3	3.8	1.2	.6	.4
10	0	1.1	14	46	18	12	29	8.3	3.7	1.4	.6	.4
11	0	1.5	12	42	17	12	27	8.7	3.6	1.2	.6	.4
12	0	1.6	11	40	16	11	26	8.7	3.5	1.1	.6	.4
13	0	1.5	9.9	37	15	15	25	8.3	3.4	1.1	.6	.4
14	0	1.5	9.1	35	15	12	24	8.3	3.3	1.1	.6	.4
15	0	5.2	8.7	33	20	12	23	8.3	3.2	1.1	.6	.4
16	.1	8.3	8.3	31	21	11	21	8.3	3.1	1.1	.7	.4
17	.2	39	7.5	30	18	11	20	7.9	3.0	1.0	.7	.4
18	.2	10	7.1	27	18	11	20	7.9	3.0	1.0	.6	.4
19	.4	6.2	6.8	26	19	11	20	7.5	2.9	.8	.6	.4
20	.4	4.7	6.5	25	20	11	19	7.5	2.8	.8	.6	.3
21	.6	4.0	381	25	18	11	18	7.5	2.7	.8	.6	.3
22	.6	3.4	478	23	18	10	17	7.5	2.6	.8	.6	.3
23	.7	2.8	464	22	18	9.9	16	7.5	2.6	.8	.5	.2
24	.7	2.8	428	22	17	9.9	16	7.1	2.5	.8	.5	.2
25	.7	7.1	400	22	16	9.5	15	6.8	2.4	.8	.5	.2
26	.7	5.6	221	22	16	9.5	14	9.1	2.3	.8	.5	.2
27	.7	4.7	203	20	15	9.1	14	8.5	2.2	.8	.5	.2
28	.6	4.2	173	20	15	28	13	6.8	2.1	.8	.4	.2
29	.6	9.1	131	19	-	149	13	6.2	2.0	.8	.4	.2
30	17	7.1	103	18	-	158	13	5.6	2.0	.8	.4	.2
31	7.9	-	82	18	-	93	-	5.3	-	.8	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	32.1	17	0	1.04	64
November	147.8	39	1.1	4.93	293
December	3,796	478	4.2	122	7,530
Calendar year 1945	15,583.4	2,970	0	42.7	30,910
January	1,181	73	18	38.1	2,340
February	523	34	15	18.7	1,040
March	743.9	158	9.1	24.0	1,480
April	812	72	13	27.1	1,610
May	280.7	12	5.3	8.41	517
June	98.2	5.3	2.0	3.27	195
July	34.1	1.9	.8	1.10	68
August	17.2	.7	.3	.55	34
September	9.7	.4	.2	.32	19
Water year 1945-46	7,655.7	478	0	21.0	15,190

Peak discharge.- Dec. 21 (10 p.m.) 1,660 sec.-ft.; Dec. 23 (3:30 a.m.) 1,080 sec.-ft.; Dec. 24 (9 p.m.) 1,100 sec.-ft.

Note.- No gage-height record June 7 to July 8; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

San Benito River near Willow Creek School, Calif.

Location.- Water-stage recorder, lat. 36°36'55", long. 121°12'50", in SW $\frac{1}{4}$ sec. 21, T. 15 S., R. 7 E., 1.8 miles downstream from Willow Creek, 1.8 miles northwest of Willow Creek School, and 10 miles northwest of San Benito. Datum of gage is 896.8 feet above mean sea level, unadjusted.

Drainage area.- 250 square miles.

Records available.- December 1939 to September 1946.

Extremes.- Maximum discharge during year, 928 second-feet Dec. 22 (gage height, 3.57 feet); minimum, 0.6 second-foot Aug. 25.
1939-46: Maximum discharge, 6,200 second-feet Apr. 4, 1941 (gage height, 7.8 feet), from rating curve extended above 1,600 second-feet; minimum observed, 0.4 second-foot (regulated) Aug. 25, 1944.
Maximum stage known, about 9.0 feet (present datum), from floodmarks left by high-water of 1937-38.

Remarks.- Records fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	4.2	4.2	18	4.6	5.6	112	4.6	2.3	1.3	1.0	1.0
2	1.7	3.4	4.0	14	4.6	5.3	71	4.6	2.3	1.3	.9	1.0
3	1.7	3.0	3.6	14	12	4.9	51	3.9	2.1	1.3	.8	.9
4	1.9	2.8	11	19	12	5.3	44	3.9	2.1	1.3	.9	.9
5	2.2	2.8	9.1	42	11	5.3	44	4.2	1.9	1.3	.9	.9
6	2.6	3.0	10	42	9.8	4.9	44	3.9	2.3	1.1	.9	.9
7	3.0	3.4	7.8	29	7.7	4.6	37	3.6	2.3	1.1	.9	.9
8	2.8	3.4	6.8	23	6.8	4.2	30	3.6	2.1	1.1	.9	.8
9	2.6	3.2	6.2	19	6.8	4.2	24	3.6	2.5	1.0	.9	.8
10	2.6	3.2	5.6	18	6.8	4.2	22	3.6	2.5	1.0	.9	.9
11	2.6	4.2	5.4	15	7.3	3.9	18	3.6	2.3	1.0	.8	1.0
12	2.4	3.8	5.2	14	6.4	3.9	16	3.6	2.3	1.0	.8	1.0
13	2.2	3.6	5.0	12	6.4	4.9	13	3.6	1.9	1.0	.8	.9
14	2.4	3.6	5.0	10	5.6	4.9	12	2.5	1.9	1.0	.9	1.0
15	2.4	3.4	4.8	9.2	8.7	4.2	10	2.5	1.1	1.0	.9	1.0
16	2.4	3.4	4.4	8.7	14	3.9	8.7	2.1	1.0	1.3	1.0	1.1
17	2.4	3.6	4.4	8.2	16	3.9	8.2	1.7	.9	1.1	1.0	1.3
18	2.4	3.4	4.4	7.3	14	3.9	7.3	2.1	1.5	1.3	1.0	1.3
19	2.4	3.2	4.4	6.8	14	6.0	6.4	2.5	1.5	1.5	1.0	1.3
20	2.2	3.2	4.2	6.4	12	4.6	6.0	2.5	1.5	1.7	1.0	1.1
21	2.2	3.0	14	6.0	11	4.6	5.6	2.3	1.5	1.7	1.0	1.1
22	2.2	3.2	478	5.6	10	4.2	5.3	2.5	1.9	1.5	.9	1.1
23	2.1	3.2	211	5.3	9.8	4.2	4.9	2.5	2.1	1.7	.9	1.1
24	2.1	4.2	114	5.3	8.7	4.2	4.6	2.3	1.9	1.9	.9	1.1
25	2.1	6.2	174	5.3	8.2	4.2	4.6	2.3	1.7	1.5	.8	1.1
26	2.1	4.4	126	5.3	7.7	3.9	4.6	3.6	1.3	1.1	1.0	1.1
27	2.1	4.0	59	4.9	7.3	3.6	4.2	3.3	1.7	1.0	1.1	1.1
28	2.2	4.5	45	4.9	6.4	4.2	4.6	2.3	1.9	1.0	1.1	1.1
29	3.4	6.2	32	4.9	-	7.3	4.6	2.3	1.7	1.5	1.1	1.1
30	7.2	4.4	24	4.9	-	130	4.6	2.1	1.5	1.3	1.0	1.1
31	4.4	-	20	4.9	-	144	-	1.9	-	1.3	1.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	78.7	7.2	1.7	2.54	156
November.....	110.8	6.2	2.8	3.69	220
December.....	1,412.5	478	3.6	45.6	2,800
Calendar year 1945.....	5,054.7	1,410	1.0	16.6	12,010
January.....	392.9	42	4.9	12.7	779
February.....	255.6	16	4.6	9.13	507
March.....	407.0	144	3.6	13.1	807
April.....	632.2	112	4.2	21.1	1,250
May.....	94.0	4.6	1.7	3.03	186
June.....	55.5	2.5	.9	1.85	110
July.....	39.2	1.9	1.0	1.26	78
August.....	29.0	1.1	.8	.94	58
September.....	31.0	1.3	.8	1.03	61
Water year 1945-46.....	3,538.4	478	.8	9.69	7,010

Tres Pinos Creek near Tres Pinos, Calif.

Location.- Water-stage recorder, lat. 36°45'20", long. 121°17'00", in Santa Ana y Quien Sabe Grant, 3.5 miles southeast of Tres Pinos, San Benito County, and 5.5 miles upstream from mouth. Altitude of gage, about 570 feet (from topographic map).

Drainage area.- 209 square miles. *

Records available.- December 1940 to September 1946: December 1922 to May 1923 and December 1939 to November 1940 at site 1 mile downstream (records of low flow not equivalent on account of diversions for irrigation and some subsurface flow at former site).

Extremes.- Maximum discharge during year, 400 second-feet Jan. 5 (gage height, 2.55 feet); minimum, 0.6 second-foot (regulated) Apr. 15, Aug. 8 to Sept. 1, Sept. 20, 21, 27-29, 1922-23, 1939-46: Maximum discharge, 8,060 second-feet Apr. 4, 1941 (gage height, 7.75 feet), from rating curve extended above 3,500 second-feet; no flow at times at former site; minimum discharge at present site since December 1940, 0.5 second-foot (regulated) Sept. 7, 1945.

Flood in February 1938 reached a stage of about 9.0 feet, from floodmarks, present site and datum.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	3.8	3.4	3.8	3.6	4.0	3.4	1.0	0.8	2.8	2.8	0.6
2	3.4	3.6	3.2	3.6	3.6	4.0	3.4	.9	.8	2.5	3.0	1.3
3	3.4	3.6	3.2	3.6	3.8	4.0	3.4	2.7	.8	1.2	2.8	1.7
4	3.4	3.6	3.6	4.0	3.6	4.0	3.4	3.2	.8	.7	2.8	1.7
5	2.6	3.6	3.6	153	3.6	4.0	3.4	3.4	.9	.7	2.3	1.7
6	1.8	3.6	3.6	57	3.6	3.8	3.4	3.4	.9	.7	2.3	1.7
7	2.5	3.6	3.4	26	3.6	3.8	3.4	3.4	.9	.7	1.7	1.7
8	3.4	3.6	3.4	14	3.6	3.6	3.4	3.4	.9	.7	.6	1.8
9	3.4	3.6	3.4	9.6	3.6	3.6	3.4	3.4	.9	.7	.6	2.1
10	3.4	3.6	3.4	7.0	3.6	3.6	3.4	3.4	1.3	.7	.6	2.1
11	3.4	3.6	3.4	5.2	3.6	3.6	3.4	3.2	2.6	.7	.6	2.2
12	3.0	3.4	3.4	4.5	3.6	3.6	3.4	3.2	2.6	.7	.6	2.2
13	3.0	3.4	3.4	3.8	3.6	3.6	3.4	3.2	2.5	.7	.6	2.2
14	3.0	3.4	3.4	3.8	3.6	3.6	3.4	3.2	2.2	.7	.6	2.2
15	3.2	3.4	3.4	3.8	4.0	3.6	2.9	3.2	2.1	1.6	.6	2.3
16	3.2	3.2	3.4	3.8	4.5	3.6	3.4	3.2	2.1	1.9	.6	2.3
17	3.2	3.6	3.4	3.6	5.0	3.6	3.4	2.2	2.1	1.9	.6	2.3
18	3.2	3.6	3.4	3.6	3.8	3.6	3.4	2.2	2.1	1.8	.6	2.3
19	3.2	3.4	3.4	3.6	3.8	3.6	3.2	3.0	1.2	1.9	.6	1.4
20	3.2	3.6	3.6	3.6	3.8	3.6	3.2	1.9	a.7	2.3	.6	.6
21	3.4	3.4	3.8	3.8	3.8	3.4	3.2	2.0	a.7	2.5	.6	.6
22	1.9	3.4	30	3.8	4.0	3.4	2.0	1.6	.7	2.6	.6	.7
23	.8	3.4	23	3.8	4.0	3.4	1.0	.8	.7	2.6	.6	1.1
24	.8	3.6	46	3.8	4.0	3.6	.9	.8	1.9	2.8	.6	2.3
25	.9	3.8	159	3.8	4.0	3.4	.9	.8	2.6	3.0	.6	2.2
26	.9	3.6	139	3.8	4.0	3.4	.9	.9	2.6	3.0	.6	1.6
27	1.0	3.6	44	3.8	4.0	3.4	.9	1.0	2.6	3.0	.6	.6
28	1.0	3.6	43	3.8	4.0	3.4	.9	1.2	2.6	3.0	.6	.6
29	1.1	3.6	26	3.6	-	3.4	1.0	1.2	2.6	3.0	.6	.6
30	1.8	3.4	11	3.6	-	3.4	1.0	1.4	2.6	2.8	.6	.7
31	3.8	-	5.5	3.6	-	3.4	-	.8	-	2.8	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	79.7	3.8	0.8	2.57	158
November	106.2	3.8	3.2	3.54	211
December	598.7	159	3.2	19.3	1,190
Calendar year 1945	2,919.4	232	.6	8.00	5,800
January	362.1	153	3.6	11.7	718
February	107.3	5.0	3.6	3.83	213
March	112.0	4.0	3.4	3.61	222
April	79.8	3.4	.9	2.66	158
May	69.2	3.4	.8	2.23	137
June	48.8	2.6	.7	1.63	97
July	56.7	3.0	.7	1.83	112
August	32.1	3.0	.6	1.04	64
September	47.4	2.3	.6	1.58	94
Water year 1945-46	1,700.0	159	.6	4.66	3,370

a No gage-height record; discharge interpolated.

San Lorenzo River at Big Trees, Calif.

Location.- Water-stage recorder, lat. 37°01'40", long. 122°03'30", in Canada del Rincon Grant, Santa Cruz County, 0.5 mile south of Big Trees station on Southern Pacific Railroad, 1.6 miles downstream from Zayante Creek, and 4 miles north of Santa Cruz. Altitude of gage, about 150 feet (from topographic map).

Drainage area.- 110 square miles.

Records available.- April 1937 to September 1946.

Extremes.- Maximum discharge during year, 2,810 second-feet Dec. 27 (gage height, 8.35 feet); minimum, 14 second-feet (regulated) Sept. 21.

1937-46: Maximum discharge, 24,000 second-feet Feb. 27, 1940 (gage height, 21.1 feet, from floodmarks), from rating curve extended above 5,000 second-feet on basis of slope-area studies and logarithmic plotting; minimum, 0.8 second-foot (regulated) June 25, 1939.

Remarks.- Records good except those above 1,000 second-feet, which are fair. Many small diversions above station for domestic supply.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Oct. 30				Oct. 30 to Sept. 30					
0.8	15	2.0	92	0.8	15	1.8	67	4.0	550
1.0	22	2.3	127	.9	17	2.0	84	5.0	900
1.2	32	2.6	180	1.0	21	2.3	121	6.0	1,300
1.4	44	3.0	278	1.2	30	2.6	171	7.0	1,850
1.8	58			1.4	40	3.0	256		
				1.6	52	3.5	394		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	47	41	278	78	91	270	61	41	28	19	16
2	16	34	38	258	88	88	221	81	42	27	19	16
3	16	30	37	263	127	85	185	60	42	27	19	16
4	16	27	457	378	101	81	166	58	40	27	18	16
5	16	26	544	451	88	80	150	57	39	25	18	16
6	17	26	206	323	92	78	139	55	38	26	19	16
7	16	28	114	278	117	77	132	54	38	25	19	18
8	19	27	88	247	96	74	124	51	38	27	17	16
9	18	26	73	223	91	73	117	53	38	27	17	16
10	18	29	65	202	87	73	111	54	38	27	17	17
11	19	36	59	183	88	71	105	54	38	22	17	17
12	19	36	56	167	70	70	100	53	37	24	18	16
13	19	34	52	157	80	91	96	51	36	23	16	16
14	20	30	50	148	79	80	94	51	36	22	17	16
15	21	40	48	139	125	72	91	52	35	23	17	16
16	21	53	47	133	139	70	88	51	33	22	18	16
17	21	82	47	127	106	69	85	51	30	23	17	17
18	21	53	44	120	99	88	83	50	32	22	17	16
19	21	41	43	115	110	86	80	30	30	22	17	16
20	21	37	46	110	121	82	78	46	30	22	21	16
21	21	34	646	105	121	77	76	48	32	21	16	16
22	22	32	1,300	100	120	73	73	52	32	21	15	15
23	21	34	833	97	111	71	73	53	32	21	16	15
24	20	38	588	95	107	69	70	51	30	21	16	16
25	18	62	1,120	93	103	69	69	50	29	21	16	16
26	18	46	747	91	99	66	66	85	29	21	17	16
27	18	40	1,540	87	97	65	65	57	29	20	17	15
28	18	44	1,020	86	97	91	65	51	29	20	17	15
29	53	62	613	82	-	206	64	47	28	21	17	16
30	212	47	436	80	-	280	62	43	28	19	17	15
31	73	-	334	79	-	278	-	40	-	19	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	868	212	16	28.0	1,720
November.....	1,181	82	26	39.4	2,344
December.....	11,330	1,540	37	365	22,470
Calendar year 1945.....	52,612	7,250	16	144	104,300
January.....	5,291	451	79	171	10,490
February.....	2,850	139	78	102	5,650
March.....	2,904	280	65	93.7	5,760
April.....	3,198	270	62	107	6,340
May.....	1,646	85	40	53.1	3,260
June.....	1,029	42	28	34.3	2,040
July.....	716	28	19	23.1	1,420
August.....	535	21	15	17.3	1,080
September.....	480	18	15	16.0	952
Water year 1945-46.....	32,028	1,540	15	87.7	63,500

Peak discharge.- Dec. 22 (2:30 a.m.) 2,140 sec.-ft.; Dec. 24 (10:30 p.m.) 1,960 sec.-ft.; Dec. 27 (3 p.m.) 2,810 sec.-ft.

Stevens Creek near Cupertino, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°18'20", long. 122°04'25", in SW 1/4 sec. 22, T. 7 S., R. 2 W., at county highway bridge, 0.2 mile downstream from Stevens Creek Dam and 4 miles west of Cupertino. Altitude of gage, about 385 feet (from topographic map).

Drainage area.- 18.1 square miles.

Records available.- January 1930 to September 1946.

Average discharge.- 16 years, 13.0 second-feet.

Extremes.- Maximum discharge during year, 39 second-feet (regulated) Dec. 5 (gage height, 2.02 feet); minimum, 1.7 second-feet (regulated) Oct. 24-27.
1930-46: Maximum discharge, 2,390 second-feet Feb. 28, 1940 (gage height, 7.05 feet), from rating curve extended above 350 second-feet; no flow at times during 1930-34, 1936, 1939, 1944.

Remarks.- Records excellent. Flow regulated by Stevens Creek Reservoir (capacity, 4,000 acre-feet); water released during summer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	1.8	6.4	11	11	9.0	5.3	10	7.8	3.7	18	10
2	7.8	1.8	4.1	10	11	9.0	7.0	10	7.8	3.7	18	10
3	7.8	1.8	4.4	10	11	9.0	8.0	12	7.8	3.7	18	10
4	7.8	1.9	10	11	all	9.0	11	15	7.4	3.5	18	9.9
5	7.4	2.0	31	11	11	7.8	11	18	7.4	3.5	18	9.9
6	7.4	2.3	36	11	11	4.7	11	17	7.4	3.5	18	9.9
7	7.4	2.8	25	11	11	4.4	11	17	7.4	3.5	18	9.9
8	7.4	3.7	8.2	11	11	5.3	11	17	7.4	3.5	18	9.9
9	7.4	3.7	8.2	11	11	6.4	11	17	7.4	3.5	18	9.9
10	4.4	3.7	8.2	11	11	6.7	11	15	6.0	14	18	9.9
11	2.7	3.7	8.2	11	11	6.7	11	13	4.7	23	18	9.9
12	2.5	3.4	7.8	11	11	5.6	10	13	4.1	23	17	9.9
13	2.5	3.1	7.8	11	11	5.3	8.2	13	3.5	21	17	9.9
14	2.5	2.9	7.8	11	11	5.3	11	13	3.5	16	17	9.9
15	2.5	2.9	7.8	11	11	5.3	15	12	3.5	17	17	9.9
16	2.5	4.5	7.8	all	11	5.3	13	12	3.5	19	16	9.9
17	2.5	7.4	7.8	all	11	5.3	10	12	3.5	19	16	9.9
18	2.3	7.4	7.8	all	11	6.4	9.0	12	3.5	19	16	9.5
19	2.2	7.4	7.8	all	11	8.2	7.0	12	3.5	19	16	9.5
20	2.2	7.4	7.8	11	11	9.5	7.0	12	3.5	19	15	9.5
21	2.2	7.4	10	11	11	8.6	7.0	12	3.5	19	14	9.0
22	2.0	7.4	11	11	11	7.4	7.4	12	3.5	18	14	8.2
23	1.9	7.4	11	11	11	7.4	8.2	12	3.5	18	14	8.2
24	1.7	7.4	12	11	11	7.4	11	12	3.5	18	14	8.2
25	1.7	7.4	12	11	11	7.8	13	10	3.5	18	14	8.2
26	1.7	7.4	11	11	10	9.5	13	9.9	3.5	18	13	8.2
27	1.7	7.4	13	11	9.9	9.5	12	9.9	3.5	18	12	8.2
28	1.8	7.4	12	11	9.0	9.5	11	9.9	3.7	18	12	8.2
29	1.9	7.4	11	11	-	8.2	11	9.9	3.7	18	12	8.2
30	1.8	7.4	all	11	-	6.0	10	9.9	3.7	18	12	8.2
31	1.8	-	all	11	-	4.7	-	9.0	-	18	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	117.2	7.8	1.7	3.78	232
November.....	149.6	7.4	1.8	4.99	297
December.....	345.9	36	4.1	11.2	686
Calendar year 1945.....	3,493.5	36	1.7	9.57	6,930
January.....	339	11	10	10.9	672
February.....	303.9	11	9.0	10.9	603
March.....	220.2	9.5	4.4	7.10	437
April.....	302.1	15	5.3	10.1	599
May.....	398.5	18	9.0	12.5	771
June.....	146.2	7.8	3.5	4.87	290
July.....	440.1	23	3.5	14.2	873
August.....	488	18	12	15.7	968
September.....	279.9	10	8.2	9.33	555
Water year 1945-46.....	3,520.6	36	1.7	9.65	6,980

a No gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Alamitos Creek near Edenvale, Calif.

Location.- Water-stage recorder, lat. 37°14'20", long. 121°52'15", in SW $\frac{1}{4}$ sec. 16, T. 8 S., R. 1 E., 0.4 mile upstream from confluence with Los Capitancillos Creek and 4 miles southwest of Edenvale. Altitude of gage, about 200 feet (from topographic map).

Drainage area.- 35.0 square miles.

Records available.- January 1930 to September 1946.

Average discharge.- 16 years, 20.2 second-feet.

Extremes.- Maximum discharge during year, 500 second-feet Dec. 21 (gage height, 4.81 feet); no flow for several months.

1930-46: Maximum discharge, 2,670 second-feet Dec. 27, 1931 (gage height, 6.60 feet), from rating curve extended above 1,800 second-feet; no flow for several months each year except 1942, 1943.

Remarks.- Records good December to March, fair thereafter. Small diversions above station. Flow regulated by Calero Reservoir (capacity, 9,000 acre-feet) and Almaden Reservoir (capacity, 2,500 acre-feet); water released during summer.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	27	13	15	5.1	12		0	18	
2			0	27	13	15	6.0	11		0	17	
3			0	27	16	15	8.8	11		0	17	
4			0	27	15	15	13	11		0	17	
5			46	30	14	15	7.0	11		0	17	
6			20	27	14	19	8.1	9.7		0	19	
7			9.7	29	13	19	8.1	7.8		0	19	
8			6.7	36	13	19	9.7	7.8		0	18	
9			4.9	39	13	19	13	6.7		0	18	
10			4.4	37	13	19	13	6.3		0	17	
11												
12			3.8	33	13	19	13	7.4		0	18	
13			3.2	30	12	20	13	8.8		0	14	
14			2.9	29	12	23	13	8.5		d1	5.8	
15			2.6	29	13	21	13	10		d8	2.4	
16			2.4	30	15	20	13	8.8		d13	1.8	
17												
18			2.1	28	15	19	14	8.5		d16	1.1	
19			1.9	27	15	19	14	9.7		d18	.3	
20			1.6	26	15	19	14	7.0		d20	1.0	
21			1.3	26	15	20	14	4.4		d20	3.5	
22			.4	25	15	19	14	1.8		d20	4.2	
23												
24			114	24	15	18	14	.2		d20	6.7	
25			146	24	15	18	14	.1		d20	9.2	
26			71	23	15	18	14	0		d19	8.1	
27			55	22	15	18	14	0		d19	2.6	
28			60	21	15	17	14	0		d19	.9	
29												
30			26	19	16	17	15	0		d19	0	
31			28	16	16	17	14	.1		d19	0	
			26	14	15	18	14	0		d19	0	
			49	13	-	18	14	0		19	0	
			23	13	-	8.1	13	0		19	0	
			22	12	-	5.1	-	0		18	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	733.9	146	0	23.7	1,460
Calendar year 1945.....	6,423.3	1,100	0	17.6	12,740
January.....	790	39	12	25.5	1,570
February.....	399	16	12	14.2	791
March.....	541.2	23	5.1	17.5	1,070
April.....	368.8	15	0	12.2	728
May.....	169.6	12	0	5.47	338
June.....	0	0	0	0	0
July.....	326	20	0	10.5	647
August.....	254.6	19	0	8.21	505
September.....	0	0	0	0	0
Water year 1945-46.....	3,581.1	146	0	9.81	7,110

d Doubtful gage-height record; discharge computed on basis of unpublished record of release into creek.

Guadalupe River at San Jose, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°20'00", long. 121°54'00", at San Jose, Santa Clara County, 100 feet downstream from Los Gatos Creek. Altitude of gage, about 80 feet (from topographic map).

Drainage area.- 131 square miles.

Records available.- January 1930 to September 1946.

Average discharge.- 16 years, 40.7 second-feet; affected by storage and spreading since 1936.

Extremes.- Maximum discharge during year, 1,640 second-feet Dec. 22 (gage height, 5.52 feet); no flow for several months.

1930-46: Maximum discharge, 8,680 second-feet Feb. 27, 1940 (gage height, 11.88 feet), from rating curve extended above 3,200 second-feet by logarithmic plotting; no flow during parts of each year.

Remarks.- Records fair. Small diversions above station. Flow regulated by several reservoirs.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	69	0	0	23					
2	0		0	33	0	0	3.6					
3	0		0	3.0	0	0	0					
4	0		37	13	0	0	0					
5	0		167	37	0	0	0					
6	0		57	34	0	0	0					
7	0		2.9	27	0	0	0					
8	0		0	9.8	0	0	0					
9	0		0	2.2	0	0	0					
10	0		0	2.4	0	0	0					
11	0		0	.7	0	0	0					
12	0		0	0	0	0	0					
13	0		0	0	0	0	0					
14	0		0	0	0	0	0					
15	0		0	0	.8	0	0					
16	0		0	0	25	0	0					
17	0		0	0	3.0	0	0					
18	0		0	0	0	0	0					
19	0		0	0	0	0	0					
20	0		0	0	5.0	0	0					
21	0		332	0	0	0	0					
22	0		875	0	0	0	0					
23	0		666	0	0	0	0					
24	0		366	0	0	0	0					
25	0		597	0	0	0	0					
26	0		366	0	0	0	0					
27	0		398	0	0	0	0					
28	0		366	0	0	0	0					
29	0		255	0	-	35	0					
30	12		166	0	-	143	0					
31	3.6		102	0	-	60	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	15.6	12	0	0.50	31
November.....	0	0	0	0	0
December.....	4,752.9	875	0	153	9,430
Calendar year 1945.....	15,194.7	4,570	0	41.6	30,140
January.....	231.1	69	0	7.45	458
February.....	33.8	25	0	1.21	67
March.....	238	143	0	7.68	472
April.....	26.6	23	0	.89	53
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	5,298.0	875	0	14.5	10,510

Peak discharge.- Dec. 22 (2:30 a.m.) 1,640 sec.-ft.; Dec. 24 (12 p.m.) 975 sec.-ft.

Los Capitancillos Creek at Guadalupe, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°13'05", long. 121°54'35", in SW¹/₄ sec. 19, T. 8 S., R. 1 E., 0.5 mile northwest of Guadalupe and 3.5 miles upstream from confluence with Alámitos Creek. Altitude of gage, about 325 feet (from topographic map).

Drainage area.- 12.6 square miles.

Records available.- January 1930 to September 1946.

Average discharge.- 16 years, 11.5 second-feet.

Extremes.- Maximum discharge during year, 181 second-feet Dec. 21 (gage height, 2.04 feet); no flow during part or all of many days in October, August, September.

1930-46: Maximum discharge, 1,160 second-feet Dec. 28, 1931 (gage height, 4.05 feet), from rating curve extended above 840 second-feet; no flow during part of each year except 1937, 1938, 1941-45.

Remarks.- Records good except those for period of no gage-height record, which are fair. Small diversions above station. Flow regulated by Guadalupe Reservoir (capacity, 3,500 acre-feet); water released during summer.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Dec. 4 to Jan. 29)

0.3	0.03	0.7	6.2	1.1	31
.4	.5	.8	10.7	1.2	40
.5	1.4	.9	16.3	1.4	62
.6	3.2	1.0	23	1.5	75

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	a3	2.6	12	18	13	12	6.6	11	0.2	0.1	0.1
2	0	a2	2.4	11	20	13	13	6.6	13	.1	.1	.1
3	0	a1.7	2.0	11	21	13	12	6.6	14	.1	.1	.1
4	0	a1.4	12	10	20	13	12	6.2	16	.1	.1	.1
5	0	a1.3	20	10	19	13	11	6.2	19	.1	.1	.1
6	.1	a1.3	15	9.2	20	12	11	5.8	19	6.0	.1	.1
7	.1	1.3	13	8.7	20	12	10	5.8	18	1.6	.1	.1
8	.1	1.3	12	8.7	20	12	9.7	6.2	20	.6	.1	0
9	.1	1.3	12	8.7	19	12	9.7	6.2	22	.6	.1	0
10	.1	1.3	11	8.3	19	12	9.2	6.2	21	.5	.1	.1
11	.3	1.7	11	8.3	19	12	8.7	5.8	21	.5	.1	.1
12	.3	1.5	11	7.8	19	13	8.7	6.2	20	.5	.2	0
13	.3	1.5	10	7.8	19	14	8.3	6.2	20	.5	.2	0
14	.3	1.4	7.1	7.8	19	13	8.3	6.2	20	.5	.2	.1
15	.3	2.0	2.4	7.4	29	13	7.8	6.2	20	.5	.2	.1
16	.4	2.8	2.4	7.4	19	13	7.4	6.2	20	.5	.2	.1
17	.4	2.8	2.4	7.4	11	13	7.4	6.2	20	.5	.2	0
18	.4	2.4	2.4	7.0	10	13	7.4	6.2	19	.3	.2	0
19	.5	2.0	2.4	7.4	13	11	7.4	6.2	18	.3	.2	0
20	.4	1.8	2.4	7.8	15	9.7	7.0	6.2	16	.3	.2	0
21	.4	1.7	71	8.3	14	9.7	7.0	5.8	10	.3	.2	0
22	.3	1.7	67	8.7	14	9.2	7.0	6.2	1.4	.3	.2	0
23	.2	1.7	49	8.7	14	9.2	7.0	6.2	1.4	.3	.2	0
24	.2	2.0	41	8.7	14	9.2	7.0	5.8	1.4	.3	.2	0
25	.2	2.6	41	12	14	9.2	7.0	5.8	1.3	.5	.2	0
26	.2	2.2	28	14	14	8.7	7.0	6.6	.5	.5	.1	0
27	.2	2.0	23	13	13	8.7	7.0	6.2	.2	.5	.1	0
28	a.2	2.2	20	12	13	14	7.0	7.0	.3	.5	.1	0
29	a3	3.2	17	13	-	25	7.0	7.4	.3	.5	.1	0
30	a8	3.0	14	16	-	22	7.0	7.4	.2	.3	.1	0
31	a4	-	13	18	-	13	-	7.4	-	.3	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	21.0	8	0	0.68	42.
November.....	58.1	3.2	1.3	1.94	115
December.....	538.5	71	2.0	17.4	1,070
Calendar year 1945.....	3,965.19	262	0	10.9	7,860
January.....	306.1	18	7.0	9.87	607
February.....	479	29	10	17.1	950
March.....	387.6	25	8.7	12.5	769
April.....	258.0	13	7.0	8.60	512
May.....	195.8	7.4	5.8	6.32	388
June.....	384.0	22	.2	12.8	762
July.....	18.7	6.0	.1	.60	37
August.....	4.5	.2	0	.15	8.9
September.....	1.2	.1	0	.04	2.4
Water year 1945-46.....	2,653.5	71	0	7.27	5,260

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

Los Gatos Creek below Los Gatos, Calif.

Location.- Water-stage recorder, lat. $37^{\circ}14'$, long. $121^{\circ}58'$, in Rinconada de Los Gatos Grant, 0.9 mile northeast of railroad station in Los Gatos, Santa Clara County.

Altitude of gage, about 310 feet (from topographic map).

Drainage area.- 43.6 square miles.

Records available.- June 1944 to September 1946. January 1930 to May 1944 at site at Los Gatos.

Extremes.- Maximum discharge during year, 1,980 second-feet Dec. 21 (gage height, 7.05 feet), from rating curve extended above 560 second-feet; no flow many days during October, August, September.

1930-46: Maximum discharge, 7,110 second-feet Feb. 27, 1940 (gage height, 14.71 feet, former site and datum), from rating curve extended above 2,300 second-feet by logarithmic plotting; no flow during part of most years.

Remarks.- Records good. Several small reservoirs and diversions above station; Vasona percolation reservoir is just below station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	14	2.1	110	20	18	101	6.3	1.4	0.6	0.2	
2	0	6.9	2.4	103	35	16	76	6.3	1.3	.5	.2	
3	0	1.0	2.8	105	68	18	62	5.3	1.3	.5	.2	
4	0	.9	158	110	37	17	49	4.1	1.3	.4	.2	
5	0	.5	263	115	24	14	44	3.4	1.2	.3	.2	
6	0	.5	77	94	22	15	38	3.2	1.2	.4	.1	
7	0	.4	34	89	34	11	35	2.5	1.1	.4	.1	
8	0	.4	22	79	24	8.1	33	2.2	1.1	.4	.1	
9	0	.4	16	66	23	7.2	29	2.2	1.1	.4	.1	
10	0	.4	15	60	23	6.9	28	2.0	1.1	.4	.1	
11	0	4.5	8.5	57	23	8.1	25	2.2	1.0	.4	0	
12	0	.6	5.9	51	20	7.2	22	1.8	1.0	.4	0	
13	0	.6	4.7	46	17	18	21	1.6	1.0	.4	0	
14	0	.6	3.1	42	17	13	23	1.6	1.0	.4	0	
15	0	12	2.4	37	64	9.3	22	1.6	1.0	.5	0	
16	0	36	2.1	41	45	9.7	18	1.8	.9	.6	.1	
17	0	27	1.7	45	27	6.9	17	2.0	.8	.6	.1	
18	0	12	1.7	42	24	6.9	16	1.8	.7	.6	.1	
19	0	3.3	1.7	38	39	9.3	15	1.8	.6	.6	.1	
20	0	1.2	1.9	36	36	9.7	15	1.8	.6	.6	.1	
21	0	.8	800	35	25	8.7	13	1.8	.6	.6	0	
22	0	.7	858	31	24	8.7	12	8.4	.6	.5	0	
23	0	.8	472	31	24	7.8	11	2.9	.6	.5	0	
24	0	5.2	521	30	24	7.2	14	2.2	.6	.5	0	
25	0	16	611	27	24	6.6	16	3.1	.6	.6	0	
26	0	7.7	342	26	21	4.1	8.4	20	.6	.5	0	
27	0	5.0	456	24	20	3.6	7.8	10	.6	.4	0	
28	0	6.6	342	24	20	29	6.9	2.3	.6	.4	0	
29	34	18	234	22	-	115	7.2	1.6	.6	.3	0	
30	123	6.5	178	22	-	164	6.9	1.4	.6	.3	0	
31	43	-	134	21	-	124	-	1.4	-	.2	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	200	123	0	6.45	397
November.....	188.5	36	.4	6.28	374
December.....	5,574.0	858	1.7	180	11,060
Calendar year 1945.....	18,615.0	3,090	0	51.0	36,930
January.....	1,659	115	21	53.5	3,290
February.....	804	68	17	28.7	1,590
March.....	708.0	164	3.6	22.8	1,400
April.....	792.2	101	6.9	26.4	1,570
May.....	110.6	20	1.4	3.57	219
June.....	26.7	1.4	.6	.89	53
July.....	14.2	.6	.2	.46	28
August.....	2.0	.2	0	.06	4.0
September.....	0	0	0	0	0
Water year 1945-46.....	10,079.2	858	0	27.6	19,980

Peak discharge.- Dec. 21 (11:30 p.m.) 1,980 sec.-ft.; Dec. 22 (4 p.m.) 1,280 sec.-ft.; Dec. 24 (6 p.m.) 1,280 sec.-ft.

Campbell Creek at Saratoga, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°15'15", long. 122°02'25", in Quito Grant, 0.5 mile southwest of Saratoga post office, Santa Clara County.
Altitude of gage, about 500 feet (from topographic map).

Drainage area.- 8.8 square miles.

Records available.- October 1933 to September 1946.

Average discharge.- 13 years, 10.5 second-feet.

Extremes.- Maximum discharge during year, 287 second-feet Dec. 21 (gage height, 3.13 feet); no flow Oct. 1, 3, Sept. 21-25.
1933-46: Maximum discharge, 1,650 second-feet Jan. 21, 1943 (gage height, 4.80 feet), from rating curve extended above 300 second-feet by logarithmic plotting; maximum gage height, 5.35 feet Feb. 27, 1940; no flow during part of each year, except possibly 1941, 1943, 1945.

Remarks.- Records excellent except those above 20 second-feet and those for periods of no gage-height record, which are fair. Diversion and regulation above station by San Jose Water Works.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.7	0.04	1.3	6.1	1.9	34
.8	.3	1.4	8.8	2.0	42
.9	.8	1.5	12	2.2	62
1.0	1.6	1.6	16	2.4	90
1.1	2.6	1.7	21	2.6	127
1.2	4.1	1.8	27		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.3	3.0	24	6.8	8.4	25	5.3	2.1	0.5	0.2	a0.1
2	.1	2.9	2.9	22	9.1	8.0	21	5.3	2.1	.4	.2	a.1
3	0	2.3	2.6	20	10	7.7	19	4.5	2.0	.3	.2	a.1
4	.1	1.7	26	26	8.4	7.4	17	4.1	2.0	.4	.2	.1
5	.2	1.5	43	28	7.2	7.2	15	3.6	1.9	.4	.2	.2
6		1.5	18	24	7.2	7.0	14	3.0	1.7	.4	.1	.2
7	.4	1.7	11	22	9.1	6.8	13	2.9	1.7	.4	.1	.1
8	.5	1.6	8.8	20	7.7	6.8	12	3.0	1.7	.4	.2	.1
9	.5	1.3	6.8	18	7.7	6.5	12	3.3	1.7	.4	.1	.2
10	.6	1.6	5.5	17	7.7	6.1	11	3.6	1.6	.4	.1	a.1
11	.7	2.2	4.9	16	7.4	5.9	10	3.3	1.6	.4	.1	a.1
12	.8	1.9	4.5	15	7.0	5.9	9.8	3.1	1.5	.4	.2	a.1
13	.7	1.9	3.9	14	6.8	7.4	9.4	3.5	1.4	.2	.1	a.1
14	.7	1.5	3.8	13	6.8	6.5	9.1	3.1	1.5	.3	.1	a.1
15	.8	4.9	3.6	12	14	6.1	8.4	3.1	1.4	.3	.1	a.1
16	.8	4.8	3.5	12	12	6.1	8.0	3.0	1.4	.4	.1	a.1
17	.8	7.4	3.3	11	11	5.9	7.7	5.0	1.3	.3	.1	.2
18	.8	4.9	3.1	11	10	5.7	7.4	2.7	1.1	.3	.1	a.1
19	.8	3.5	3.0	10	12	6.3	7.2	2.6	.8	.5	.1	a.1
20	a.7	2.9	3.0	9.8	11	6.5	7.0	2.7	.7	.3	.1	a.1
21	a.6	2.2	100	9.1	11	6.3	6.8	2.9	.8	.3	.1	a0
22	a.6	2.1	114	8.8	10	5.9	6.3	3.1	.8	.3	.1	a0
23	a.5	2.2	74	8.4	10	5.7	6.1	3.6	1.0	.2	.1	a0
24	a.4	5.2	71	8.4	10	5.7	5.7	3.1	.9	.2	a.1	a0
25	a.3	6.3	66	8.0	9.8	5.7	5.7	3.0	1.0	.8	a.1	a0
26	a.2	4.5	63	7.7	9.4	5.1	5.7	5.3	.7	.7	a.1	.1
27	a.2	3.3	61	7.7	9.1	4.7	5.5	3.6	.6	.7	a.1	.1
28	a.2	3.6	68	7.4	8.8	9.8	5.5	2.9	.7	.7	.1	a.1
29	a6	4.5	48	7.2	-	20	5.5	2.9	.5	.5	.1	a.1
30	a24	3.6	35	7.2	-	29	5.3	2.5	.5	.5	.2	a.1
31	a10	-	28	7.0	-	28	-	2.1	-	.4	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	53.1	24	0	1.71	105
November	95.8	7.4	1.3	3.23	186
December	932.2	114	2.6	30.1	1,850
Calendar year 1945	3,203.1	273	0	8.78	6,360
January	431.7	28	7.0	13.9	856
February	287.0	14	6.8	9.18	510
March	260.1	29	4.7	8.39	518
April	301.1	25	5.3	10.0	597
May	103.7	5.3	2.1	3.35	206
June	38.7	2.1	.5	1.29	77
July	12.6	.8	.2	.41	25
August	3.9	.2	.1	.13	7.7
September	2.9	.2	0	.10	5.8
Water year 1945-46	2,490.8	114	0	6.82	4,940

Peak discharge.- Dec. 21 (11:30 p.m.) 287 sec.-ft.; Dec. 24 (6 p.m.) 119 sec.-ft.; Dec. 27 (12 m.) 111 sec.-ft.

a No gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Coyote Creek near Madrone, Calif.

Location.- Water-stage recorder, lat. 37°10'00", long. 121°37'40", in northwest corner of San Jose Grant, 0.2 mile upstream from highway bridge at mouth of canyon, 0.2 mile downstream from Las Animas Creek, and 2.8 miles northeast of Madrone, Santa Clara County. Altitude of gage, about 420 feet (from topographic map).

Drainage area.- 193 square miles.

Records available.- October 1902 to September 1912, December 1916 to September 1946.

Average discharge.- 40 years, 78.0 second-feet.

Extremes.- Maximum discharge during year, 504 second-feet Jan. 5 (gage height, 5.96 feet); minimum daily, 3.5 second-feet (regulated) Sept. 30.
1902-12, 1916-46: Maximum discharge, 25,000 second-feet, probably on Mar. 7, 1911 (record furnished by Duryea, Haehl & Gilman); no flow at times.

Remarks.- Records good except those for period of no gage-height record, which are poor. No large diversion. Flow regulated by Coyote Reservoir (capacity, 30,000 acre-feet); water released during summer.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Oct. 1 to Dec. 10)

Oct. 1 to Dec. 10

Dec. 11 to Sept. 30

2.9	16	2.3	2.3	3.8	49
3.1	22	2.5	5.2	4.1	76
3.3	29	2.8	11	4.5	131
3.5	38	3.2	20	4.8	186
3.7	50	3.5	31	5.3	298
4.0	74				

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	59	17	36	31	32	45	69	62	75	66	72
2	65	60	17	34	34	32	41	67	67	75	66	72
3	64	59	17	38	47	32	38	62	66	75	66	71
4	64	59	22	126	37	32	38	62	66	75	66	69
5	64	59	24	286	34	32	37	62	67	75	66	68
6	65	58	18	99	33	32	36	61	67	74	66	67
7	65	58	17	67	34	32	36	60	67	73	65	67
8	64	58	16	55	33	32	35	60	67	72	65	69
9	64	58	16	47	32	32	34	61	67	72	68	67
10	64	57	17	41	33	32	34	62	67	72	76	67
11	64	57	17	38	33	32	34	62	67	72	75	70
12	64	57	17	35	32	32	34	62	66	71	75	72
13	64	56	18	34	32	34	33	62	66	71	74	22
14	64	56	17	33	32	32	33	62	66	71	74	17
15	63	56	18	32	41	32	33	62	66	71	73	14
16	63	56	17	32	40	32	33	62	66	71	73	12
17	63	56	17	32	36	32	42	61	66	71	73	11
18	63	54	17	31	35	32	31	61	66	70	72	9.8
19	62	46	17	30	35	33	60	60	66	70	74	9.0
20	62	31	17	30	35	32	60	60	66	70	76	8.3
21	62	31	31	30	34	32	60	60	70	70	76	8.1
22	62	30	75	30	34	32	60	60	70	70	76	87.5
23	61	29	125	30	34	32	63	60	76	70	78	87.0
24	61	27	86	31	34	32	69	59	76	69	77	86.5
25	61	19	171	31	33	32	69	59	76	69	76	86.0
26	60	18	88	31	33	32	69	62	76	69	76	85.5
27	60	18	184	31	33	32	69	59	76	69	76	85.0
28	60	18	145	31	33	33	69	58	76	68	75	84.5
29	62	18	72	30	-	40	69	57	76	68	74	84.0
30	63	17	51	30	-	62	69	57	75	67	74	83.5
31	62	-	41	30	-	51	-	57	-	67	73	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,950	65	60	62.9	3,870
November.....	1,335	80	17	44.5	2,650
December.....	1,402	171	16	45.2	2,780
Calendar year 1945	27,812	1,880	16	76.2	55,160
January.....	1,491	286	30	48.1	2,960
February.....	967	47	31	34.5	1,920
March.....	1,053	62	32	34.0	2,090
April.....	1,463	69	33	48.8	2,900
May.....	1,888	69	57	60.9	3,740
June.....	2,077	76	62	69.2	4,120
July.....	2,202	75	67	71.0	4,370
August.....	2,240	78	65	72.3	4,440
September.....	991.7	72	5.5	33.1	1,970
Water year 1945-46	19,059.7	286	3.5	52.2	37,810

a No gage-height record; discharge computed on basis of partial record of release into stream and records for stations on nearby streams.

Coyote Creek near Edenvale, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°16'15", long. 121°47'55", at east boundary of Santa Teresa Grant, at "The Narrows", 1.5 miles northeast of Edenvale, Santa Clara County, and 7 miles south of San Jose. Altitude of gage, about 190 feet (from topographic map).

Drainage area.- 229 square miles.

Records available.- October 1916 to September 1946.

Average discharge.- 30 years, 42.1 second-feet; affected by storage and spreading since 1936.

Extremes.- Maximum discharge during year, 346 second-feet Jan. 5 (gage height, 3.71 feet); no flow during parts or all of several days in December, September.

1916-46: Maximum discharge, 10,000 second-feet (unregulated) Feb. 10, 1922 (gage height, 12.8 feet, from floodmarks), from rating curve extended above 4,900 second-feet parallel to 1917 curve defined by current-meter measurements to 8,400 second-feet; no flow at times during each year.

Remarks.- Records good. Water pumped from wells along creek above station for irrigation. Flow regulated by Coyote Reservoir (capacity, 30,000 acre-feet) and by detention in percolating reservoir 6 miles above station; water released during summer.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Backwater corrections applied Apr. 23 to Aug. 1)

2.15	0.0	2.6	11.5	3.1	85
2.2	.1	2.7	19.5	3.2	112
2.3	.6	2.8	31	3.3	146
2.4	2.2	2.9	45	3.5	234
2.5	5.5	3.0	63	3.7	340

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	19	0.2	30	19	17	30	17	12	15	16	19
2	10	19	.1	26	20	16	23	19	13	13	15	18
3	10	20	.1	26	34	16	20	16	11	13	14	18
4	10	20	.3	29	30	15	18	15	9.3	12	14	18
5	11	20	.5	242	24	16	18	15	10	10	14	15
6	12	21	.4	112	22	14	18	13	13	11	14	15
7	12	21	.1	70	22	14	18	12	13	12	14	16
8	12	21	.1	56	20	14	17	9.3	12	12	13	15
9	12	22	.1	44	20	14	14	11	13	12	13	14
10	14	22	.1	58	19	14	13	11	10	12	13	13
11	17	23	0	34	20	13	13	12	8.7	14	17	14
12	17	22	0	31	20	13	11	12	6.5	14	16	16
13	18	22	0	29	20	14	9.3	12	5.5	15	16	14
14	18	23	0	28	19	15	12	12	5.0	15	17	2.6
15	18	24	0	26	23	14	9.3	12	4.4	15	17	.1
16	17	25	0	24	31	13	7.5	10	9.3	15	17	0
17	16	23	0	23	25	13	8.7	7.0	8.7	14	17	0
18	17	1.5	0	23	23	13	16	6.5	12	14	17	0
19	17	1.3	0	22	23	14	9.3	7.0	11	14	17	0
20	17	7.5	0	20	23	14	7.5	8.1	11	14	19	0
21	17	5.0	.1	20	21	14	5.0	7.0	10	13	19	0
22	16	2.7	46	19	20	13	2.3	7.5	13	14	19	0
23	14	.8	108	19	19	12	8.9	7.0	14	14	18	0
24	14	.4	52	19	18	12	20	6.5	12	14	18	0
25	15	.4	172	19	18	12	13	5.0	13	14	21	0
26	16	.4	90	19	18	12	12	12	13	14	20	0
27	15	.4	78	19	18	9.3	14	13	15	14	21	0
28	17	.5	163	19	17	10	16	7.5	15	15	19	0
29	21	.5	74	19	-	17	19	6.0	14	15	20	0
30	22	.2	50	18	-	30	21	6.0	16	15	19	0
31	20	-	38	18	-	37	-	6.5	-	16	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	472	22	10	15.2	936
November.....	388.6	25	.2	13.0	771
December.....	875.1	172	0	28.2	1,730
Calendar year 1945.....	16,891.4	2,560	0	46.3	33,510
January.....	1,141	242	18	36.8	2,260
February.....	606	34	17	21.6	1,200
March.....	485.3	37	9.3	15.0	923
April.....	423.8	30	2.3	14.1	841
May.....	320.9	19	5.0	10.4	636
June.....	335.4	16	4.4	11.1	661
July.....	424	16	10	13.7	841
August.....	523	21	13	16.9	1,040
September.....	207.7	19	0	6.92	412
Water year 1945-46.....	6,178.8	242	0	16.9	12,250

Alameda Creek near Niles, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°35'15", long. 121°57'35", in Arroyo de la Alameda Grant, 0.1 mile upstream from highway bridge and 1.2 miles northeast of Niles, Alameda County. Altitude of gage, about 100 feet (from topographic map).

Drainage area.- 633 square miles.

Records available.- October 1916 to September 1946.

Average discharge.- 29 years (1916-19, 1920-46), 85.6 second-feet.

Extremes.- Maximum discharge during year, 713 second-feet Dec. 25 (gage height, 4.69 feet); minimum, 0.1 second-foot Sept. 30.

1916-46: Maximum discharge, 13,900 second-feet Feb. 10, 1922 (gage height, 12.44 feet, site and datum then in use), from rating curve extended above 7,600 second-feet; no flow at times.

Remarks.- Records good. Flow regulated by Calaveras Reservoir (capacity, 96,900 acre-feet); diversions for San Francisco water supply and other uses above station.

Cooperation.- Gage-height record collected in cooperation with city of San Francisco.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 30						Mar. 31 to Sept. 30					
2.2	6.7	2.8	34	3.8	230	1.6	0.1	2.1	6.1	2.6	22.4
2.3	9.5	3.0	49	4.0	315	1.7	.4	2.2	8.2	2.8	34
2.4	13.2	3.2	73	4.2	410	1.8	.9	2.3	10.7	3.0	49
2.5	17.4	3.4	112	4.5	585	1.9	2.2	2.4	13.8	3.3	91
2.6	22.4	3.6	164			2.0	4.1	2.5	17.6		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	15	12	51	15	16	58	20	13	8.4	4.5	1.9
2	8.6	14	11	39	18	16	47	20	13	8.2	4.3	1.6
3	8.6	12	11	33	29	15	38	20	13	8.0	3.9	1.4
4	8.9	12	12	106	35	14	31	20	12	8.0	3.7	1.3
5	9.2	11	25	533	25	14	26	19	12	7.8	3.7	1.3
6	9.5	11	31	365	21	14	24	19	11	7.6	3.5	1.3
7	10	11	19	176	21	14	21	19	11	7.8	3.3	1.2
8	12	11	14	119	20	14	20	19	11	7.6	3.3	1.0
9	12	11	13	75	18	14	19	19	11	7.2	3.3	.9
10	12	12	13	54	18	13	17	19	11	6.9	3.3	.9
11	12	12	12	43	18	13	16	19	11	6.5	3.3	.9
12	13	14	11	33	16	13	16	18	11	6.3	3.3	.9
13	14	14	12	28	16	17	15	18	11	6.5	3.3	.4
14	14	12	11	24	16	15	15	17	11	6.7	2.9	.4
15	15	12	11	25	18	14	15	17	11	6.9	3.1	.3
16	15	13	11	24	20	14	14	17	10	6.3	3.3	.5
17	15	17	11	23	18	13	13	17	10	6.3	3.3	.4
18	12	15	11	21	17	12	13	17	10	4.5	3.1	.3
19	9.2	14	11	21	17	13	13	18	9.7	4.7	3.1	.3
20	9.2	12	10	20	17	14	13	17	9.4	4.7	3.5	.3
21	8.9	14	12	19	17	16	13	18	9.4	4.9	3.5	.2
22	8.9	15	74	18	18	14	12	20	9.2	4.7	3.3	.2
23	8.3	16	91	17	18	15	12	17	9.2	4.9	3.3	.2
24	7.7	17	59	16	17	16	15	16	9.0	5.7	3.1	.2
25	8.0	19	425	16	17	15	21	16	9.0	4.1	2.9	.2
26	8.6	21	400	16	16	16	21	17	8.7	5.1	2.9	.2
27	8.6	18	246	16	16	16	21	16	8.7	5.5	2.7	.2
28	8.9	15	270	16	16	19	21	15	8.4	5.3	2.7	.2
29	9.2	13	223	16	-	53	20	14	8.4	4.9	3.3	.2
30	13	12	126	15	-	88	20	14	8.4	4.7	3.1	.2
31	14	-	77	15	-	80	-	13	-	4.5	2.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	331.6	15	7.7	10.7	658
November.....	415	21	11	13.8	823
December.....	2,275	425	10	75.4	4,510
Calendar year 1945.....	24,278.7	5,820	6.1	66.5	48,160
January.....	1,993	533	15	64.3	3,950
February.....	528	35	15	18.9	1,050
March.....	610	88	12	19.7	1,210
April.....	620	58	12	20.7	1,230
May.....	545	20	13	17.6	1,080
June.....	310.5	13	8.4	10.4	616
July.....	189.2	8.4	3.7	6.10	375
August.....	101.8	4.5	2.0	3.28	202
September.....	19.2	1.9	.2	.64	38
Water year 1945-46.....	7,938.4	533	.2	21.7	15,740

Peak discharge.- Dec. 25 (7:30 p.m.) 713 sec.-ft.; Jan. 5 (6:30 p.m.) 604 sec.-ft.

Kern River near Kernville, Calif.

Location.- Water-stage recorder, lat. 35°56', long. 118°29', in NE¼ sec. 14, T. 23 S., R. 32 E., 3 miles upstream from Salmon Creek and 15 miles north of Kernville. Altitude of gage, about 3,550 feet (from topographic map).

Drainage area.- 845 square miles.

Records available.- January 1912 to September 1946.

Average discharge.- 34 years, 732 second-feet, combined flow of Kern River near Kernville and Kern River No. 3 Canal.

Extremes.- Maximum discharge during year, 2,440 second-feet May 9 (gage height, 8.78 feet); minimum, 0.8 second-foot (regulated) Feb. 12.
1912-46: Maximum discharge, 9,690 second-feet (unregulated) Jan. 17, 1916 (gage height, 8.8 feet, datum then in use), from rating curve extended above 4,100 second-feet; no flow at times during period July 31, 1924, to Feb. 7, 1925.
Extremes do not include flow in Kern River No. 3 Canal.

Remarks.- Records good except those below 500 second-feet, which are fair. Kern River No. 3 Canal (see p. 186), diverts 1 mile above station.

Cooperation.- Water-stage recorder graph and 14 discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	664	357	585	1.8	1.7	87	1,720	926	264	1.3	1.5
2	1.9	612	351	549	2.2	1.6	66	1,690	1,080	259	2.6	1.5
3	1.9	582	361	599	2.2	1.5	41	1,560	1,260	251	1.6	1.5
4	2.1	570	374	549	2.0	1.4	90	21,500	1,280	231	1.4	1.6
5	2.3	561	374	778	1.9	1.5	107	21,700	1,210	170	1.4	1.6
6	2.6	544	364	669	1.9	1.6	119	2,080	1,060	126	1.4	1.5
7	345	528	378	599	1.9	1.6	96	2,230	987	83	1.4	1.6
8	595	444	361	570	1.9	1.8	86	2,250	954	57	1.4	1.5
9	364	488	351	492	1.8	1.7	82	2,240	943	34	1.5	1.4
10	215	492	341	504	65	16	94	2,030	884	22	1.4	1.4
11	45	516	351	500	3.0	40	139	1,760	739	22	1.4	1.4
12	8.8	485	338	440	1.7	6.5	221	1,520	664	15	1.4	1.3
13	2.6	508	278	447	1.7	100	319	1,450	720	7.3	1.4	1.3
14	2.4	485	296	224	1.6	42	292	1,420	744	3.0	1.4	1.3
15	128	473	351	13	1.6	65	385	1,520	682	1.8	1.5	1.3
16	281	454	335	6.5	1.6	76	553	1,430	638	1.7	1.5	1.4
17	578	440	312	4.9	1.6	77	739	1,330	561	1.6	1.5	3.2
18	553	432	306	4.5	1.6	84	954	1,320	488	1.7	1.5	2.6
19	540	402	290	4.3	1.6	96	1,110	1,480	496	2.0	1.4	1.6
20	508	395	298	4.1	1.5	51	1,170	1,670	528	1.8	1.3	1.8
21	481	385	422	4.1	1.5	40	1,130	1,690	553	1.6	1.4	1.8
22	458	385	954	3.9	1.6	24	1,150	1,420	540	1.5	1.4	1.7
23	444	378	976	3.7	1.6	43	1,200	1,200	451	1.4	1.4	1.7
24	419	371	660	3.3	1.7	52	1,300	1,010	361	1.4	1.3	1.7
25	408	368	1,020	3.3	1.6	44	1,470	965	301	9.9	1.3	1.7
26	395	371	808	3.2	1.5	82	1,570	1,220	322	7.6	1.2	1.7
27	385	381	673	2.2	1.6	131	1,600	894	335	1.6	1.3	1.6
28	374	378	633	2.2	1.7	112	1,680	783	307	1.4	1.4	1.6
29	513	398	620	2.2	-	84	1,740	692	267	1.4	1.4	1.6
30	976	398	607	2.0	-	146	1,690	696	254	1.5	1.4	1.6
31	824	-	586	1.9	-	125	-	788	-	1.4	1.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	9,855.6	976	1.9	318	19,550
November.....	13,878	664	371	463	27,530
December.....	14,726	1,020	278	475	29,210
Calendar year 1945	220,180.7	3,200	1.1	603	436,700
January.....	7,554.3	778	1.9	244	14,980
February.....	112.9	65	1.5	4.03	224
March.....	1,550.9	146	1.4	50.0	3,080
April.....	21,280	1,740	41	709	42,210
May.....	45,258	2,250	692	1,460	89,770
June.....	20,535	1,280	254	684	40,730
July.....	1,585.6	264	1.4	51.1	3,140
August.....	44.6	2.6	1.2	1.44	88
September.....	49.0	3.2	1.3	1.63	97
Water year 1945-46	136,429.9	2,250	1.2	374	270,600

a No gage-height record; discharge computed on basis of unpublished record for Kern River above Kern Canyon powerhouse.

Combined discharge, in second-feet, of Kern River and Kern River No. 3 Canal near Kernville, Calif.,
water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	247	664	357	565	386	500	699	2,340	1,530	858	401	236
2	242	612	351	549	395	511	678	2,310	1,680	852	379	236
3	239	582	361	599	401	516	654	2,180	1,860	845	364	244
4	238	570	374	549	350	479	704	2,110	1,880	824	352	241
5	250	561	374	778	365	474	721	2,300	1,810	761	346	240
6	321	544	364	869	414	484	734	2,680	1,660	716	337	234
7	914	528	378	599	419	503	711	2,820	1,590	673	327	228
8	1,180	444	361	570	385	547	700	2,850	1,560	646	315	220
9	952	488	351	492	379	601	695	2,840	1,540	622	310	214
10	801	492	341	504	366	655	709	2,630	1,480	610	321	209
11	628	516	351	500	380	651	753	2,360	1,340	609	365	205
12	576	485	338	440	338	618	833	2,120	1,260	601	359	201
13	518	508	278	461	390	715	831	2,050	1,320	589	345	198
14	504	485	295	484	367	681	904	2,020	1,350	565	335	196
15	558	473	351	426	376	689	997	2,120	1,280	535	320	195
16	603	454	335	416	382	702	1,170	2,030	1,240	504	306	196
17	593	440	312	412	364	702	1,350	1,920	1,160	478	296	200
18	553	412	306	410	377	708	1,570	1,900	1,090	474	286	201
19	540	402	290	404	379	709	1,720	2,070	1,100	523	278	198
20	508	395	298	402	376	661	1,780	2,250	1,130	566	276	195
21	481	385	422	391	380	650	1,740	2,270	1,160	557	285	194
22	458	385	954	389	389	629	1,760	2,000	1,140	566	312	190
23	444	378	976	399	411	636	1,810	1,780	1,050	526	310	187
24	419	371	660	407	443	644	1,910	1,590	960	510	295	185
25	408	388	1,020	424	446	637	2,080	1,540	901	578	283	184
26	395	371	808	426	428	677	2,180	1,430	921	578	272	184
27	385	381	673	409	439	736	2,220	1,490	935	501	263	184
28	374	378	633	410	484	725	2,300	1,390	907	458	257	183
29	513	398	620	410	-	696	2,360	1,300	862	431	252	182
30	976	388	607	368	-	758	2,300	1,300	849	474	244	182
31	824	-	586	364	-	737	-	1,390	-	436	239	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	16,842	1,180	238	537	33,010
November.....	13,678	664	371	463	27,530
December.....	14,726	1,020	278	475	29,210
Calendar year 1945.....	359,439	3,800	193	985	712,900
January.....	14,626	778	364	472	29,010
February.....	11,009	484	338	393	21,840
March.....	19,609	758	474	633	38,890
April.....	39,673	2,360	654	1,322	78,890
May.....	63,380	2,850	1,300	2,045	125,700
June.....	38,545	1,880	849	1,285	76,450
July.....	18,466	858	431	596	36,630
August.....	9,630	401	239	311	19,100
September.....	6,142	244	182	205	12,180
Water year 1945-46.....	266,326	2,850	182	730	528,200

Kern River below Isabella dam site, Calif.

Location.- Water-stage recorder, lat. 35°39', long. 118°29', in sec. 19, T. 26 S., R. 33 E., 1.2 miles southwest of Isabella and 1.3 miles downstream from South Fork. Altitude of gage, about 2,400 feet (from topographic map).

Drainage area.- 2,080 square miles.

Records available.- April 1945 to September 1946.

Extremes.- April 1945 to September 1946: Maximum discharge, 3,420 second-feet May 4, 1945 (gage height, 8.78 feet); minimum, 11 second-feet Sept. 17, 23, 24, 1946.

Remarks.- Records good except those for period of doubtful gage-height record, which are fair. Borel Canal (see p. 187) diverts 5 miles above station; many diversions above station for irrigation.

Discharge, in second-feet, 1945-46

1945

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2							-	3,180	1,550	1,800	130	20
3							-	3,200	1,730	1,750	230	20
4							-	3,200	2,040	1,620	640	160
5							-	3,330	2,410	1,450	415	50
6							-	3,140	2,500	1,360	475	30
7							765	3,000	2,060	1,260	585	30
8							861	2,960	1,780	1,180	470	30
9							968	3,090	1,680	1,060	310	25
10							1,020	2,820	1,680	1,100	200	25
11							889	2,940	1,820	1,020	120	25
12							772	2,920	2,140	952	85	21
13							710	2,930	2,480	917	60	21
14							658	3,000	2,870	917	35	21
15							570	2,690	3,040	938	30	21
16							560	2,410	2,930	868	25	21
17							642	2,430	2,710	779	25	21
18							931	2,730	2,550	658	25	22
19							1,240	2,570	2,550	565	25	22
20							1,640	2,260	2,580	510	25	21
21							1,920	2,050	2,500	485	30	21
22							2,260	1,880	2,470	475	30	22
23							2,510	1,760	2,190	456	30	22
24							2,590	1,760	1,890	448	25	251
25							2,440	1,760	1,980	425	25	33
26							2,660	1,750	1,330	375	25	22
27							2,720	1,710	1,270	335	25	20
28							2,500	1,700	1,410	270	25	20
29							2,520	1,770	1,650	300	25	20
30							2,690	1,850	1,820	275	25	20
31							2,940	1,830	1,830	215	25	20
							-	1,640	-	150	20	-

Note.- Doubtful gage-height record July 27 to Sept. 11; discharge computed on basis of records for station near Kernville, Kern River No. 3 and Borel Canals, and South Fork Kern River.

Discharge, in second-feet, of Kern River below Isabella dam site, Calif., 1945-46--Continued

1945-46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	875	470	170	126	157	475	2,270	1,040	280	18	16
2	20	740	448	162	128	159	425	2,190	1,180	284	17	16
3	21	698	438	202	137	157	379	2,010	1,360	274	16	14
4	21	680	448	191	140	159	375	2,050	1,430	260	16	14
5	22	664	461	463	130	149	408	2,240	1,350	226	17	14
6	35	652	452	375	128	147	417	2,480	1,210	175	16	13
7	335	658	456	235	140	147	425	2,690	1,080	135	17	14
8	1,340	598	456	188	225	149	404	2,730	1,040	101	17	15
9	819	586	452	172	140	200	375	2,720	1,020	69	17	14
10	530	598	443	159	130	248	371	2,480	975	47	16	15
11	351	647	452	159	130	270	396	2,210	847	37	16	15
12	264	625	456	147	126	277	480	1,940	722	31	16	15
13	194	652	421	140	124	277	630	1,820	753	30	16	15
14	172	652	383	164	130	371	746	1,760	779	23	16	15
15	185	642	434	154	128	309	819	1,830	726	22	17	15
16	225	636	452	142	132	351	990	1,790	669	21	16	13
17	642	603	448	140	130	359	1,260	1,640	614	19	16	14
18	674	581	434	137	128	383	1,600	1,600	525	19	16	14
19	647	555	438	496	130	396	1,800	1,740	500	19	16	14
20	620	540	434	555	130	425	1,870	1,950	535	24	16	15
21	598	525	500	180	130	355	1,830	1,990	550	25	15	14
22	570	510	1,260	137	132	335	1,830	1,710	555	24	15	14
23	555	505	1,790	135	135	320	1,810	1,450	485	19	14	13
24	530	490	1,080	135	142	320	1,890	1,210	408	19	14	13
25	515	500	1,440	137	149	335	2,040	1,120	339	20	14	13
26	495	500	910	137	149	339	2,170	1,070	339	31	15	13
27	485	485	375	137	144	408	2,220	1,160	355	24	14	13
28	470	490	267	130	149	461	2,270	1,020	347	19	14	13
29	475	485	232	130	-	438	2,390	903	309	18	15	13
30	910	515	202	130	-	485	2,320	875	277	17	16	15
31	1,120	-	183	124	-	515	-	924	-	18	15	-

Monthly discharge, in second-feet, 1945-46

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October					
November					
December					
Calendar year					
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April 6-30, 1945	39,977	2,940	560	1,599	79,290
May	76,260	3,330	1,640	2,460	151,300
June	63,400	3,040	1,270	2,113	125,800
July	24,893	1,800	150	803	49,370
August	4,220	640	20	136	8,370
September	1,077	251	20	35.9	2,140
The period	-	-	-	-	416,300
October 1945	13,856	1,340	20	447	27,480
November	17,887	875	485	596	35,480
December	17,115	1,790	183	552	33,950
Calendar year					
January 1946	6,063	555	124	196	12,030
February	3,842	225	124	137	7,620
March	9,401	515	147	303	18,650
April	35,415	2,390	371	1,180	70,240
May	55,572	2,730	875	1,793	110,200
June	22,321	1,430	277	744	44,270
July	2,330	284	17	75.2	4,620
August	489	18	14	15.8	970
September	424	16	13	14.1	841
Water year 1945-46	184,715	2,730	13	506	366,400

Kern River near Bakersfield, Calif.

Location.- Water-stage recorder and wooden control, lat. 35°25'54", long. 118°56'43", in SW $\frac{1}{4}$ sec. 2, T. 29 S., R. 28 E., at mouth of lower canyon, 5 miles northeast of Bakersfield. Altitude of gage, about 470 feet (from topographic map).

Drainage area.- 2,420 square miles.

Records available.- October 1893 to September 1946.

Average discharge.- 51 years (1893-1906, 1908-46), 997 second-feet.

Extremes.- Maximum discharge during year, 3,517 second-feet May 7 (gage height, 3.99 feet); minimum, 192 second-feet Sept. 24.
1896-1946: Maximum discharge, 21,701 second-feet Mar. 9, 1943 (gage height, 10.87 feet); minimum, 57 second-feet (regulated) in November 1924.

Remarks.- Four power plants and many diversions for irrigation above station.

Cooperation.- Complete record, except runoff in acre-feet and annual figures, furnished by Kern County Land Co.

Discharges, in second-foot, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280	962	532	792	595	723	1,260	3,007	1,632	894	478	252
2	277	856	505	780	616	763	1,197	2,980	1,763	864	447	252
3	272	764	491	777	640	776	1,139	2,896	1,921	861	422	256
4	270	701	474	848	694	798	1,091	2,848	2,060	948	398	236
5	269	663	492	920	649	780	1,098	2,928	2,060	837	375	242
6	279	646	499	1,205	629	762	1,108	3,116	1,997	810	351	243
7	388	649	509	1,044	629	754	1,101	3,286	1,857	789	350	248
8	1,178	640	494	939	633	769	1,128	3,335	1,785	738	335	249
9	1,520	590	499	874	612	823	1,128	3,343	1,729	712	331	246
10	1,298	575	493	800	605	903	1,090	3,268	1,691	677	328	239
11	1,107	600	484	772	587	964	1,087	3,015	1,642	646	347	228
12	984	652	485	762	639	996	1,115	2,752	1,556	635	351	223
13	920	633	498	714	595	997	1,233	2,512	1,447	628	367	227
14	754	661	476	695	608	1,071	1,533	2,414	1,445	622	351	225
15	699	660	452	751	604	1,098	1,454	2,354	1,461	602	343	218
16	699	658	458	712	598	1,074	1,624	2,435	1,415	582	327	214
17	767	645	480	673	592	1,091	1,849	2,371	1,364	553	309	214
18	757	612	484	654	590	1,098	2,108	2,280	1,302	525	299	214
19	734	600	473	651	597	1,123	2,349	2,327	1,223	522	292	218
20	700	577	470	654	606	1,146	2,481	2,508	1,207	562	287	214
21	679	559	491	625	610	1,132	2,495	2,630	1,202	609	278	214
22	634	544	765	629	615	1,076	2,469	2,598	1,223	599	290	214
23	601	521	1,531	632	627	1,042	2,455	2,322	1,223	608	291	211
24	578	518	1,725	533	646	1,026	2,492	2,114	1,125	565	308	199
25	540	517	1,452	632	690	1,029	2,643	1,977	1,046	545	299	193
26	522	521	1,576	635	693	1,078	2,808	1,954	993	576	281	199
27	512	511	1,247	647	685	1,086	2,870	1,967	983	612	275	198
28	515	510	1,065	637	688	1,151	2,957	1,898	1,005	567	270	196
29	501	514	962	619	-	1,178	3,058	1,746	995	510	259	203
30	574	517	890	622	-	1,173	3,072	1,832	966	474	246	201
31	998	-	823	592	-	1,253	-	1,573	-	480	244	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	20,806	1,634	264	671	41,270
November	18,576	1,028	505	619	36,840
December	22,275	1,909	410	719	44,180
Calendar year 1945	472,936	9,370	155	1,296	938,000
January	22,930	1,261	590	740	45,480
February	17,572	756	481	628	34,850
March	30,733	1,314	685	991	60,960
April	55,286	3,114	1,012	1,845	109,700
May	79,366	3,517	1,586	2,529	155,500
June	43,298	2,121	947	1,443	85,880
July	20,032	947	464	646	39,730
August	10,129	492	244	327	20,090
September	6,686	276	192	223	13,260
Water year 1945-46	346,709	3,517	192	950	687,700

Note.- Figures of maximum and minimum discharge as shown for each month are instantaneous values.

Kern River No. 3 Canal near Kernville, Calif.

Location.- Water-stage recorder, lat. 35°54', long. 118°28', in NE¹ sec. 25, T. 23 S., R. 32 E., 4 miles downstream from intake and 12 miles north of Kernville. Altitude of gage, about 3,590 feet (from topographic map).

Records available.- March 1921 to September 1946.

Average discharge.- 25 years, 371 second-feet.

Extremes.- Maximum daily discharge during year, 639 second-feet Mar. 10; no flow Oct. 18 to Jan. 12.
1921-46: Maximum daily discharge, 689 second-feet May 28, 1938; no flow at times.

Remarks.- Records excellent. Canal diverts from left bank of Kern River in sec. 12, T. 23 S., R. 32 E. Water is used for power and returned to river 8 miles below station.

Cooperation.- Water-stage recorder graph and 15 discharge measurements, furnished by Southern California Edison Co. Ltd., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	245			0	384	498	612	617	605	594	400	234
2	240			0	393	509	612	618	604	593	376	234
3	237			0	399	515	615	615	601	594	362	242
4	236			0	348	478	614	612	601	593	351	239
5	248			0	363	472	614	604	603	591	345	238
6	318			0	412	482	615	596	603	590	336	233
7	589			0	417	501	615	595	604	590	326	226
8	589			0	393	545	614	597	602	589	314	219
9	588			0	377	599	615	599	600	588	298	213
10	586			0	301	639	615	600	599	588	320	208
11	583			0	377	611	614	603	599	587	364	204
12	567			0	336	612	612	604	601	586	358	200
13	515			14	389	613	612	604	602	582	344	197
14	502			260	365	619	612	604	602	562	354	195
15	430			413	374	624	612	604	602	553	319	194
16	322			409	380	626	615	601	601	502	305	195
17	15			407	362	625	614	585	601	476	294	197
18	0			405	375	624	612	585	601	472	285	198
19	0			400	377	613	610	591	601	521	277	196
20	0			398	374	610	610	582	602	564	275	193
21	0			387	379	610	611	579	602	555	284	192
22	0			385	387	605	612	582	601	564	311	188
23	0			395	409	593	612	582	600	525	309	185
24	0			404	441	592	614	581	599	509	294	183
25	0			421	444	593	614	580	600	568	282	182
26	0			423	427	595	614	207	599	570	271	182
27	0			407	437	605	615	593	600	499	262	182
28	0			408	482	613	616	604	600	457	256	181
29	0			408	-	612	615	605	595	430	251	180
30	0			366	-	612	615	605	595	-	472	243
31	0			362	-	612	-	605	-	435	238	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,790	589	0	219	13,470
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1945.....	139,256	604	0	382	276,200
January.....	7,072	423	0	228	14,030
February.....	10,891	482	301	389	21,600
March.....	18,057	639	472	582	35,820
April.....	18,398	616	610	613	36,490
May.....	18,138	618	207	585	35,980
June.....	18,025	605	595	601	36,750
July.....	16,879	594	430	544	33,480
August.....	9,595	490	238	310	19,030
September.....	6,090	242	180	203	12,080
Water year 1945-46.....	129,935	639	0	356	257,700

Note.- No gage-height record Jan. 13 to Feb. 7; discharge computed on basis of records at Kern River No. 3 powerhouse.

Borel Canal at Tilley Creek, Calif.

Location.- Water-stage recorder, lat. 35°42', long. 118°27', in NW $\frac{1}{4}$ sec. 4, T. 26 S., R. 33 E., at point where canal crosses Tilley Creek, 0.8 mile south of Kernville. Altitude of gage, about 2,570 feet (from topographic map).

Records available.- January 1910 to September 1914, October 1925 to September 1946.

Average discharge.- 21 years (1925-46), 363 second-feet.

Extremes.- Maximum daily discharge during year, 604 second-feet Jan. 5; no flow Oct. 18 to Dec. 25.

1925-46: Maximum daily discharge, 605 second-feet June 3-5, 1927, May 22, 1936; no flow at times.

Remarks.- Records excellent. Canal diverts from Kern River 0.5 mile below Kernville to supply Borel power plant of Southern California Edison Co., Ltd., 10 miles below station, at which point water is returned to Kern River.

Cooperation.- Water-stage recorder graph and 14 discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	236		0	562	417	562	597	595	596	595	402	232
2	229		0	543	422	568	599	596	596	595	391	231
3	226		0	590	434	568	599	596	596	595	356	240
4	224		0	561	394	530	599	595	595	595	347	234
5	229		0	604	395	521	599	596	595	595	340	236
6	283		0	597	439	525	599	594	595	596	332	234
7	509		0	599	459	542	597	594	595	597	319	226
8	545		0	595	320	571	597	595	595	597	306	220
9	567		0	530	403	565	599	594	596	597	299	214
10	564		0	515	351	590	600	592	596	596	307	210
11	568		0	516	453	594	600	594	596	594	334	204
12	567		0	473	364	596	601	596	596	594	357	202
13	551		0	461	420	596	601	596	596	586	334	199
14	516		0	521	398	595	600	596	595	579	327	195
15	496		0	497	399	596	601	595	595	553	310	196
16	529		0	473	413	597	600	595	595	523	296	196
17	33		0	463	398	597	599	595	595	491	286	198
18	0		0	456	408	597	599	595	595	479	279	197
19	0		0	53	414	597	599	595	595	513	271	196
20	0		0	18	410	597	597	595	595	566	266	196
21	0		0	401	417	597	597	594	595	560	267	196
22	0		0	427	426	596	597	594	596	566	288	194
23	0		0	431	449	597	597	594	596	539	303	189
24	0		0	443	485	597	597	594	595	518	288	186
25	0		0	462	498	599	596	595	595	553	276	186
26	0		308	465	481	599	596	596	595	568	269	186
27	0		539	447	485	599	596	596	595	516	255	188
28	0		565	446	527	599	595	596	595	469	247	187
29	0		580	499	-	599	595	596	595	437	246	187
30	0		587	408	-	599	595	596	595	459	240	187
31	0		580	395	-	599	-	596	-	444	232	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,862	568	0	221	13,610
November.....	0	0	0	0	0
December.....	3,159	587	-	102	6,270
Calendar year 1945	143,631	587	0	394	284,900
January.....	14,401	604	18	465	28,560
February.....	11,877	527	320	424	23,560
March.....	18,085	599	521	583	35,870
April.....	17,943	601	595	598	35,590
May.....	18,446	596	592	595	36,590
June.....	17,860	596	595	595	35,420
July.....	17,064	597	437	550	33,850
August.....	9,359	402	232	302	18,560
September.....	6,142	240	186	205	12,180
Water year 1945-46	141,198	604	0	387	280,100

South Fork Kern River at Isabella, Calif.

Location.- Water-stage recorder, lat. 35°40', long. 118°28', in NW¼ sec. 20, T. 26 S., R. 33 E., at Isabella, 0.2 mile upstream from mouth. Datum of gage is 2,484.3 feet above mean sea level (river-profile survey).

Drainage area.- 985 square miles.

Records available.- October 1910 to September 1913, January 1929 to September 1946.

Average discharge.- 17 years (1929-46), 118 second-feet.

Extremes.- Maximum discharge during year, 967 second-feet Oct. 8 (gage height, 4.97 feet); minimum, 6.6 second-feet (regulated) Sept. 17.

1929-46: Maximum discharge, 4,100 second-feet Feb. 7, 1937, from rating curve extended above 1,600 second-feet, verified by velocity-area study; maximum gage height, 6.99 feet Mar. 9, 1943; minimum, 0.3 second-foot July 26, 1931.

Remarks.- Records fair. Many diversions above station for irrigation; considerable return flow.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	170	95	136	122	147	218	358	128	16	15	12
2	14	147	87	136	128	147	202	298	128	16	14	11
3	16	128	82	152	134	147	202	272	122	16	14	9.8
4	18	120	78	158	145	149	186	262	122	16	14	9.4
5	19	113	82	154	130	139	178	283	111	16	14	9.8
6	25	105	84	178	128	132	168	298	111	15	14	9.4
7	234	107	78	154	143	136	180	258	98	14	14	10
8	769	109	78	143	141	139	170	246	84	14	14	11
9	374	105	86	141	128	152	143	240	78	14	14	11
10	230	97	86	130	126	170	143	240	71	14	14	12
11	183	113	84	130	128	183	147	252	66	13	14	12
12	156	128	82	124	124	178	175	280	51	13	14	12
13	145	116	78	116	120	173	230	272	46	13	14	12
14	132	132	71	120	128	193	350	243	37	13	14	12
15	145	136	70	120	126	156	358	240	30	14	15	12
16	163	130	72	124	128	168	384	240	28	14	15	9.4
17	168	122	76	124	126	178	450	240	26	14	15	9.8
18	145	113	78	122	122	188	554	218	23	14	14	9.8
19	132	107	82	120	126	191	564	213	22	15	14	11
20	122	104	82	118	126	210	606	202	22	15	14	12
21	116	102	88	118	126	178	588	191	20	14	14	12
22	113	98	172	116	124	168	564	173	20	14	13	12
23	111	93	358	116	130	163	475	165	19	13	12	9.8
24	105	93	290	118	134	156	455	173	18	14	11	9.0
25	104	95	210	124	139	168	450	158	19	14	11	9.8
26	100	95	246	126	141	178	435	165	19	13	11	9.4
27	98	95	170	128	136	193	425	186	18	13	11	9.4
28	95	95	143	122	141	227	415	183	18	13	11	9.0
29	95	98	136	124	-	227	435	168	17	14	12	9.8
30	105	97	136	124	-	240	420	154	16	14	13	12
31	145	-	136	120	-	243	-	136	-	14	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,391	769	14	142	8,710
November.....	3,363	170	93	112	6,670
December.....	3,696	358	70	119	7,330
Calendar year 1945.....	55,687	918	13	153	110,400
January.....	4,036	179	116	130	8,010
February.....	3,650	145	120	130	7,240
March.....	5,417	243	132	175	10,740
April.....	10,270	606	143	342	20,370
May.....	7,007	358	136	226	13,900
June.....	1,588	128	16	52.9	3,150
July.....	439	16	13	14.2	871
August.....	415	15	11	13.4	823
September.....	319.6	12	9.0	10.7	634
Water year 1945-46.....	44,591.6	769	9.0	122	88,450

Peak discharge.- Oct. 8 (7:30 a.m.) 967 sec.-ft.; Dec. 23 (4 p.m.) 420 sec.-ft.

Tulare Lake in Kings County, Calif.

Location.- Water-stage recorder, lat. 36°05', long. 119°49', at northeast corner sec. 29, T. 21 S., R. 20 E., 7.5 miles south of Stratford; water-stage recorder used at other locations at times. Datum of gages is at mean sea level.

Records available.- February 1937 to September 1946. March 1906 to September 1920 (incomplete) at several other sites, at different datum.

Extremes.- Maximum elevation recorded during year, 186.5 feet May 30 to June 1. 1906-46: Maximum elevation, 196.8 feet June 27, 28, 1941; lake dry or practically so during parts of 1906, 1914, 1916, 1919, 1946, and each year of 1920-22, 1924-37. Lake elevation of June 27, 28, 1941, was highest known since about 1890.

Remarks.- Tulare Lake receives water from Kings, Kuweah, and Tule Rivers during high-water periods and occasionally from Kern River, Deer Creek, and several small intermittent streams. Its natural boundary has been greatly altered by construction of levees and other reclamation work. Elevation at lowest point of lake bed is about 179 feet above mean sea level.

On Sept. 30, 1945, area of lake was reported to be 34,000 acres and contents 145,000 acre-feet. The lake was dry from July 17 to Sept. 30, 1946.

Cooperation.- Gage-height record furnished by Roy L. May.

Elevation, in feet, water year, October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	186.2	185.7	185.4	185.8	185.8	185.5	184.8	184.7	186.5	184.3		
2	186.2	185.7	185.4	185.8	185.8	185.5	184.8	184.8	186.4	184.2		
3	186.1	185.7	185.4	185.8	185.9	185.4	184.8	185.1	186.4	184.1		
4	186.1	185.7	185.4	185.8	185.9	185.4	184.8	185.2	186.4	184.0		
5	186.1	185.6	185.4	185.9	185.9	185.3	184.8	185.3	186.4	183.8		
6	186.0	185.6	185.4	185.9	185.9	185.3	184.8	185.4	186.4	183.5		
7	186.0	185.6	185.4	185.9	185.9	185.2	184.8	185.6	186.4	183.2		
8	186.0	185.6	185.4	185.9	185.8	185.2	184.7	185.7	186.4	182.9		
9	186.0	185.6	185.4	185.9	185.8	185.1	184.7	185.9	186.4	182.4		
10	186.0	185.5	185.4	185.9	185.8	185.1	184.7	186.1	186.3	182.2		
11	185.9	185.5	185.4	185.9	185.8	185.1	184.7	186.2	186.3	181.8		
12	185.9	185.5	185.4	185.9	185.8	185.0	184.7	186.2	186.3	181.5		
13	185.9	185.5	185.4	185.9	185.8	185.0	184.7	186.2	186.2	181.3		
14	185.9	185.5	185.4	185.9	185.8	185.0	184.6	186.2	186.1	181.0		
15	185.9	185.5	185.4	185.9	185.8	185.0	184.6	186.2	186.0	180.4		
16	185.9	185.5	185.4	185.9	185.7	185.0	184.6	186.3	185.9	179.5		
17	185.9	185.5	185.4	185.9	185.7	185.0	184.6	186.3	185.8	-		
18	185.9	185.5	185.4	185.9	185.7	185.0	184.6	186.3	185.7	-		
19	185.8	185.5	185.4	185.9	185.7	185.0	184.6	186.3	185.6	-		
20	185.8	185.5	185.4	185.9	185.7	184.9	184.6	186.3	185.5	-		
21	185.8	185.4	185.4	185.9	185.6	184.9	184.6	186.3	185.4	-		
22	185.8	185.4	185.4	185.9	185.6	184.8	184.6	186.3	185.3	-		
23	185.8	185.4	185.5	185.9	185.6	184.7	184.5	186.3	185.2	-		
24	185.8	185.4	185.5	185.9	185.6	184.7	184.5	186.3	185.1	-		
25	185.8	185.4	185.6	185.8	185.6	184.6	184.5	186.4	185.0	-		
26	185.8	185.4	185.6	185.8	185.6	184.6	184.5	186.4	184.9	-		
27	185.8	185.4	185.7	185.8	185.6	184.6	184.5	186.4	184.8	-		
28	185.8	185.4	185.8	185.8	185.5	184.6	184.5	186.4	184.7	-		
29	185.7	185.4	185.8	185.8	-	184.6	184.6	186.4	184.6	-		
30	185.7	185.4	185.8	185.8	-	184.7	184.6	186.5	184.5	-		
31	185.7	-	185.8	185.8	-	184.7	-	186.5	-	-		

White River near Ducor, Calif.

Location.- Water-stage recorder, lat. 35°49', long. 118°56', in NE¹ sec. 27, T. 24 S., R. 28 E., at bridge at Gilliam Ranch, 3 miles downstream from Coko Creek and 8 miles southeast of Ducor. Altitude of gage, about 695 feet (from topographic map).

Records available.- October 1944 to September 1946.

Extremes.- Maximum discharge during year, 71 second-feet Jan. 5 (gage height, 1.52 feet); no flow for several months.

1944-46: Maximum discharge, 1,300 second-feet Feb. 2, 1945 (gage height, 6.35 feet), by slope-area method; no flow for several months each year.

Flood of Mar. 9, 1943, estimated as 2,300 second-feet by Bureau of Reclamation.

Remarks.- Records fair. No regulation or diversion.

Cooperation.- Eighteen discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	4.9	7.5	7.2	11	21	9.6	4.9	0.1		
2		.6	4.0	7.5	7.2	10	18	8.7	4.7	0		
3		.9	3.8	26	12	10	17	8.7	4.2	0		
4		.9	3.8	21	15	10	16	8.4	3.5	0		
5		.7	3.8	58	11	8.7	16	8.4	3.3	0		
6		1.0	3.8	49	10	8.4	15	7.8	3.3	0		
7		2.5	4.0	28	10	8.4	14	6.8	3.3	0		
8		3.5	3.6	20	10	8.4	14	6.2	3.1	0		
9		2.8	3.5	16	8.7	8.4	14	5.9	3.1	0		
10		2.7	3.5	13	8.7	8.4	13	5.9	3.0	0		
11		4.2	4.0	11	11	8.1	13	5.9	3.1	0		
12		5.4	4.9	10	9.6	8.1	13	5.9	2.7	0		
13		3.8	4.9	9.6	10	12	13	5.6	2.2	0		
14		3.8	4.0	9.6	9.1	18	13	5.4	1.9	0		
15		3.5	3.8	9.1	10	14	13	5.4	2.0	0		
16		4.2	4.0	8.7	16	12	13	5.4	1.9	0		
17		4.7	4.0	8.4	18	11	13	5.4	1.6	0		
18		3.8	4.0	8.4	14	11	13	5.4	1.3	0		
19		3.6	4.0	8.1	12	13	14	4.9	.9	0		
20		3.3	4.2	8.1	11	18	14	4.4	.6	0		
21		3.3	5.4	8.1	11	16	13	4.4	.4	0		
22		4.2	17	8.1	10	19	12	5.4	.4	0		
23		3.0	25	8.1	11	18	12	7.2	.4	0		
24		3.0	16	8.1	11	17	12	6.8	.5	0		
25		3.8	19	7.8	12	14	12	5.6	.6	0		
26		3.8	25	7.8	11	14	11	6.2	.4	0		
27		3.5	14	7.5	10	14	11	13	.2	0		
28		3.3	11	7.5	10	14	10	10	.2	0		
29		4.0	10	7.2	-	14	10	7.5	.2	0		
30		5.4	9.1	6.8	-	24	10	5.9	.2	0		
31		-	8.1	6.8	-	26	-	5.1	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	93.1	5.4	0	3.10	185
December.....	240.3	25	3.5	7.75	477
Calendar year 1945	5,421.4	435	0	14.9	10,750
January.....	418.8	58	6.8	13.5	831
February.....	306.5	18	7.2	10.9	608
March.....	406.9	26	8.1	13.1	807
April.....	403	21	10	13.4	799
May.....	207.2	13	4.4	6.68	411
June.....	58.1	4.9	.2	1.94	115
July.....	.1	.1	0	.003	.2
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	2,134.0	58	0	5.85	4,230

North Fork of Middle Fork Tule River near Springville, Calif.

Location.- Water-stage recorder, lat. 36°11', long. 118°42', in sec. 23, T. 20 S., R. 30 E., 1 mile upstream from mouth and 7.8 miles northeast of Springville. Altitude of gage, about 2,850 feet (from topographic map).

Drainage area.- 39.5 square miles.

Records available.- November 1939 to September 1946. January 1909 to December 1912 at site 2 miles upstream.

Extremes.- Maximum discharge during year, 340 second-feet Dec. 25 (gage height, 4.80 feet); minimum, 3.6 second-feet Oct. 10, 11, 13, 14.

1939-46: Maximum discharge, 2,200 second-feet Mar. 9, 1943 (gage height, 7.39 feet), from rating curve extended above 300 second-feet by logarithmic plotting; minimum, 1.7 second-feet Dec. 23, 1939.

Remarks.- Records good below 300 second-feet, fair above. Pacific Gas & Electric Co. conduit near Springville diverts 2.5 miles upstream (see p. 193).

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet).
(Shifting-control method used Sept. 22-30)

2.2	3.2	2.8	18.2	3.8	86
2.3	4.6	3.0	27.5	4.1	128
2.4	6.4	3.2	38	4.3	168
2.6	11.2	3.5	58		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.3	7.1	6.6	10	7.5	9.6	14	88	12	5.7	5.1	5.1
2	4.3	6.8	8.1	10	7.5	9.4	13	84	12	5.7	5.1	5.1
3	4.3	6.6	6.6	15	8.2	9.4	13	78	11	5.7	5.0	5.1
4	4.3	6.4	7.5	19	8.2	9.1	13	78	9.6	5.5	5.0	5.1
5	4.8	6.2	8.4	43	8.2	9.1	13	79	8.9	5.5	5.0	5.1
6	6.6	7.3	7.5	21	8.4	8.9	13	83	8.4	5.5	5.0	5.1
7	6.4	7.5	7.1	15	9.6	9.9	13	88	8.2	5.5	5.0	5.0
8	6.2	6.6	6.8	13	8.4	9.1	13	83	8.2	5.5	5.0	5.0
9	6.0	6.4	6.8	12	8.2	9.1	12	72	8.2	5.5	5.0	4.8
10	3.8	6.8	6.6	11	8.2	9.1	12	60	8.2	5.3	5.0	4.8
11	5.0	10	6.6	11	8.6	9.4	14	50	7.7	5.3	4.8	4.8
12	4.0	7.5	6.8	10	8.2	8.9	22	43	6.8	5.3	5.0	4.8
13	3.8	7.1	6.4	9.9	8.2	16	28	40	6.6	5.3	5.0	4.8
14	3.9	6.8	6.4	9.6	8.2	12	36	38	6.6	5.3	5.0	4.8
15	4.2	6.8	6.4	9.4	8.6	12	30	36	6.6	5.3	5.0	4.8
16	5.1	7.3	6.4	9.1	9.9	12	48	33	6.6	5.3	4.8	5.0
17	4.3	6.6	6.2	9.1	9.9	12	67	28	6.4	5.3	4.8	5.0
18	4.3	6.4	6.2	8.9	9.9	12	80	26	6.2	5.3	4.8	5.0
19	4.3	6.2	6.0	8.9	9.9	13	86	26	6.0	5.3	5.0	5.0
20	4.3	6.2	6.8	8.6	9.9	13	82	32	6.0	5.5	5.0	5.0
21	7.5	6.2	9.6	8.4	9.9	14	77	31	6.0	5.3	5.0	5.0
22	4.5	6.2	57	8.2	9.9	14	77	31	6.0	5.3	4.8	4.6
23	4.3	6.0	50	8.2	9.9	14	83	24	6.0	5.3	4.8	4.6
24	4.3	6.0	17	8.2	10	13	90	19	6.0	5.5	4.8	4.8
25	4.3	6.4	150	8.2	10	13	102	16	5.9	5.7	4.8	4.8
26	4.3	6.2	34	8.2	9.9	13	112	21	5.9	5.5	5.0	4.8
27	4.5	6.0	16	7.9	9.6	15	109	26	5.9	5.3	5.1	4.8
28	4.5	6.0	14	7.9	9.6	14	106	19	5.9	5.1	5.1	4.8
29	6.2	7.7	12	7.7	-	13	101	15	5.9	5.3	5.1	4.8
30	17	7.1	11	7.7	-	22	92	13	5.9	5.3	5.1	4.6
31	7.5	-	11	7.5	-	16	-	12	-	5.3	5.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	163.1	17	3.8	5.26	324
November.....	202.4	10	6.0	6.75	401
December.....	517.8	150	6.0	16.7	1,030
Calendar year 1945	14,995.7	490	2.4	41.1	29,740
January.....	351.6	43	7.5	11.3	697
February.....	251.5	10	7.5	8.98	499
March.....	373.0	22	8.9	12.0	740
April.....	1,571	112	12	52.4	3,120
May.....	1,372	88	12	44.3	2,720
June.....	219.6	12	5.9	7.32	436
July.....	167.5	5.7	5.1	5.40	332
August.....	154.1	5.1	4.8	4.97	306
September.....	146.8	5.1	4.6	4.89	291
Water year 1945-46	5,490.4	150	3.8	15.0	10,900

Peak discharge.- Dec. 22 (3 a.m.) 153 sec.-ft.; Dec. 25 (4:30 a.m.) 340 sec.-ft. •

Tule River near Porterville, Calif.

Location.- Water-stage recorder, lat. 36°05', long. 118°55', in NW $\frac{1}{4}$ sec. 25, T. 21 S., R. 28 E., at highway bridge, 1 mile upstream from South Fork and 6 miles east of Porterville. Altitude of gage, about 580 feet (from topographic map).

Drainage area.- 266 square miles.

Records available.- May 1901 to September 1946.

Average discharge.- 45 years, 148 second-feet.

Extremes.- Maximum discharge during year, 2,230 second-feet Dec. 25 (gage height, 7.53 feet); minimum, 0.6 second-foot Sept. 29, 30.

1901-46: Maximum discharge, 13,500 second-feet in main channel plus 2,000 second-feet (estimated) in overflow channel 0.2 mile east, Mar. 9, 1943 (gage height, 11.3 feet), from rating curve extended above 4,000 second-feet on basis of velocity-area studies and logarithmic plotting; no flow during parts of 1934, 1935.

Remarks.- Records good. Several small diversions above station. Power is developed on Middle Fork and tributaries.

Rating tables, water year 1945-46 (gage height,
in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1, 2)

Oct. 1 to Dec. 25

Dec. 26 to Sept. 30

1.6	10	2.3	69	4.3	514	1.1	0.5	1.4	4.0	1.7	16
1.7	15	2.7	127	4.9	717	1.2	.8	1.5	6.8	1.8	21.5
1.8	21	3.0	178	5.6	980	1.3	1.9	1.6	11	1.9	28.5
2.0	37	3.4	263								
2.1	46	3.8	365								

Note.- Same as preceding table above
1.9 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	58	67	153	94	h140	256	249	115	26	4.8	0.7
2	11	50	61	145	94	h139	231	240	114	22	3.4	.8
3	12	44	59	273	122	135	212	229	109	21	3.0	.7
4	12	41	58	203	137	129	214	227	102	20	3.4	.7
5	11	38	76	479	115	124	220	227	92	19	3.0	.7
6	16	41	73	338	112	118	220	225	90	18	2.5	.7
7	37	61	67	235	109	118	222	229	86	18	3.0	.8
8	34	58	64	197	104	121	222	222	84	17	2.3	1.6
9	28	54	62	173	102	127	208	214	82	15	1.9	1.8
10	27	55	61	158	100	132	203	199	79	12	2.2	1.4
11	28	72	61	146	103	132	205	184	78	9.3	1.1	1.4
12	34	70	65	137	97	124	220	174	72	9.3	.8	1.1
13	31	67	65	132	100	227	240	165	68	8.9	.8	1.0
14	28	65	61	129	97	203	225	158	64	8.5	.8	.8
15	29	64	61	126	102	174	222	155	61	7.6	.8	.9
16	34	67	61	121	143	173	242	150	58	6.2	.7	.8
17	31	62	61	121	126	182	273	145	55	5.7	.7	.7
18	26	58	59	120	124	184	297	140	49	5.7	.7	.7
19	25	57	59	115	122	191	312	138	44	5.1	.7	.8
20	26	56	58	114	121	203	302	143	39	5.4	.7	.7
21	25	55	94	110	122	193	287	143	34	5.7	.8	.7
22	24	a55	498	106	122	195	275	150	33	6.0	.7	.8
23	23	a50	540	104	127	195	273	150	34	5.1	.7	1.0
24	20	a50	247	104	135	193	275	143	36	4.3	.7	1.0
25	20	a55	944	109	a135	184	285	130	34	5.1	.7	.8
26	19	a55	410	109	h135	189	302	138	29	7.6	.7	.8
27	20	55	238	106	a135	203	302	184	26	7.1	.8	.7
28	21	54	189	104	h135	201	290	162	26	6.2	.8	.7
29	26	59	174	102	-	201	280	141	26	6.2	.8	.7
30	91	67	167	96	-	391	265	130	27	6.0	.7	.7
31	81	-	160	97	-	312	-	121	-	5.4	.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	864	91	11	27.9	1,710
November.....	1,693	72	38	56.4	3,360
December.....	4,918	944	58	159	9,750
Calendar year 1945.....	78,087.6	4,170	7.3	214	154,900
January.....	4,760	479	96	154	9,440
February.....	3,270	143	94	117	6,490
March.....	5,532	391	118	178	10,970
April.....	7,580	312	203	253	15,030
May.....	5,405	249	121	174	10,720
June.....	1,848	115	26	61.5	3,860
July.....	324.4	26	4.3	10.5	643
August.....	45.4	4.8	.7	1.46	90
September.....	26.6	1.8	.7	.89	53
Water year 1945-46.....	36,264.4	944	.7	99.4	71,920

Peak discharge.- Dec. 22 (9 a.m.) 875 sec.-ft.; Dec. 23 (1:30 p.m.) 785 sec.-ft.; Dec. 25 (10 a.m.) 2,230 sec.-ft.; Jan. 3 (10:30 a.m.) 349 sec.-ft.; Jan. 5 (3:30 p.m.) 530 sec.-ft.; Mar. 30 (6 p.m.) 576 sec.-ft.

a No gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams, or by interpolation.

h Computed from staff-gage reading.

Pacific Gas & Electric Co. conduit near Springville, Calif.

Location.- Water-stage recorder, lat. 36°12', long. 118°39', in NW $\frac{1}{4}$ sec. 18, T. 20 S., R. 31 E., 0.5 mile downstream from intake and 10 miles northeast of Springville. Altitude of gage, about 4,000 feet (from topographic map).

Records available.- October 1939 to September 1946.

Extremes.- Maximum daily discharge during year, 68 second-feet Dec. 25; minimum, 9.1 second-feet Sept. 29.

1940-46: Maximum daily discharge, that of Dec. 25, 1945; no flow Jan. 10, 1945.

Remarks.- Records good. Conduit diverts from left bank of North Fork of Middle Fork Tule River in sec. 18, T. 20 S., R. 31 E. Water is used for power development at Tule River powerhouse of Pacific Gas & Electric Co., 3.5 miles downstream and is then returned to river.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	22	18	43	26	39	54	63	58	24	14	11
2	14	19	15	41	26	41	52	63	58	24	14	11
3	14	17	16	43	25	39	52	63	57	23	14	11
4	14	16	18	46	27	37	55	63	56	23	13	11
5	14	16	20	64	27	35	58	62	54	22	13	11
6	17	19	19	54	27	35	58	62	52	22	13	11
7	18	20	18	46	26	38	57	62	50	21	13	11
8	15	18	18	41	25	42	54	62	48	21	13	11
9	15	18	18	37	25	47	54	62	46	21	13	11
10	17	19	17	35	25	49	55	62	45	20	13	10
11	17	24	17	33	25	48	60	62	43	20	13	10
12	18	22	17	31	25	44	62	62	42	19	12	10
13	17	23	16	31	25	53	63	62	41	19	13	9.8
14	18	23	16	32	25	48	49	62	40	19	12	9.7
15	22	23	17	31	26	46	63	62	38	18	12	10
16	19	22	17	31	27	50	64	62	37	18	12	10
17	17	20	16	32	26	54	64	61	36	18	12	11
18	16	19	16	32	27	54	64	61	34	18	12	11
19	16	18	16	31	27	53	64	62	33	18	12	10
20	16	18	22	30	27	49	63	62	32	18	12	10
21	12	18	45	29	28	48	63	62	31	18	12	10
22	15	18	66	28	29	49	63	61	30	17	12	10
23	15	17	66	29	33	51	63	60	30	16	12	10
24	15	17	52	32	36	51	63	60	30	18	12	9.8
25	14	19	68	33	36	52	63	60	29	a19	11	9.6
26	14	17	62	32	34	57	63	60	28	a18	11	9.7
27	14	17	47	32	36	61	63	61	27	a17	11	9.6
28	14	17	43	31	39	60	63	60	27	a16	11	9.4
29	37	22	42	29	-	58	63	59	26	15	11	9.1
30	47	20	43	26	-	60	63	58	26	15	11	9.2
31	29	-	43	a26	-	57	-	58	-	15	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	554	47	12	17.9	1,100
November	578	24	16	19.3	1,150
December	925	68	15	29.8	1,830
Calendar year 1945	13,916.6	68	0	38.1	27,610
January	1,091	64	26	35.2	2,160
February	790	39	25	28.2	1,570
March	1,505	61	35	48.5	2,990
April	1,795	64	49	59.8	3,560
May	1,901	65	58	61.3	3,770
June	1,184	58	28	39.5	2,350
July	590	24	15	19.0	1,170
August	360	14	11	12.3	754
September	306.9	11	9.1	10.2	609
Water year 1945-46	11,599.9	68	9.1	31.8	23,010

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

South Fork Tule River near Success, Calif.

Location.- Water-stage recorder, lat. 36°03', long. 118°51', in NW¼ sec. 4, T. 22 S., R. 29 E., 4 miles southeast of Success and 5 miles upstream from mouth. Altitude of gage, about 750 feet (from topographic map).

Drainage area.- 106 square miles.

Records available.- June 1930 to September 1946.

Average discharge.- 16 years, 48.1 second-feet.

Extremes.- Maximum discharge during year, 441 second-feet Dec. 25 (gage height, 3.24 feet); no flow Aug. 7 to Sept. 30.
1930-46: Maximum discharge, 6,210 second-feet Mar. 9, 1943 (gage height, 8.24 feet), from rating curve extended above 1,600 second-feet on basis of velocity-area studies and logarithmic plotting; no flow at times during year except 1938, 1943, 1945.

Remarks.- Records good except those for period of backwater, which are fair. Several diversions above station for irrigation.

Discharges, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a1.5	9.2	20	38	22	41	82	53	25	5.8	a1.4	
2	.7	7.1	20	37	22	39	75	51	24	5.3	a1.2	
3	6.3	19	85	30	39	70	50	23	5.5	a1.0		
4	.6	5.7	19	86	34	36	70	49	21	5.0	a.8	
5	.4	5.1	21	225	30	35	70	47	21	4.5	a.6	
6	3.2	7.9	20	139	29	33	69	46	20	4.3	a.4	
7	8.7	18	18	82	29	32	71	43	20	4.1	0	
8	6.6	13	17	65	28	33	70	42	18	a3.9	0	
9	5.8	8.3	16	54	26	34	66	41	18	3.6	0	
10	5.7	8.1	15	50	25	34	62	40	17	3.3	0	
11	5.8	16	14	46	28	34	60	39	17	3.1	0	
12	11	16	15	41	25	34	61	38	15	2.8	0	
13	7.4	16	14	40	28	61	63	36	15	2.2	0	
14	6.5	15	12	39	26	56	61	34	14	2.1	0	
15	7.9	15	13	38	28	52	58	33	14	2.4	0	
16	8.1	18	12	36	39	49	60	33	14	2.1	0	
17	7.1	15	13	34	33	53	63	34	13	1.9	0	
18	6.6	14	12	33	35	56	65	32	12	1.9	0	
19	6.5	12	12	32	34	61	69	30	11	1.6	0	
20	6.3	11	12	32	36	63	66	28	10	1.6	0	
21	6.2	11	22	31	38	62	65	28	9.9	3.3	0	
22	6.0	11	100	30	38	68	63	33	9.4	2.9	0	
23	5.7	9.7	135	30	40	68	62	35	9.4	1.9	0	
24	4.9	9.5	70	30	43	65	61	32	9.9	1.6	0	
25	4.2	12	227	30	44	62	61	29	9.4	2.2	0	
26	3.7	12	118	30	41	64	60	33	8.6	2.4	0	
27	3.7	11	66	28	38	66	58	48	7.6	2.2	0	
28	3.2	11	54	25	39	66	57	37	7.2	1.9	0	
29	3.9	14	48	a25	-	65	56	32	7.2	1.7	0	
30	8.5	24	43	a23	-	121	55	28	6.6	a1.6	0	
31	15	-	40	a22	-	96	-	26	-	a1.5	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	172.0	15	0.4	5.55	341
November.....	361.9	24	5.1	12.1	718
December.....	1,237	227	12	39.9	2,450
Calendar year 1945.....	20,839.1	1,060	3	57.4	41,530
January.....	1,516	225	22	48.9	3,010
February.....	908	44	22	32.4	1,800
March.....	1,678	121	32	54.1	3,330
April.....	1,929	82	55	64.3	3,830
May.....	1,160	53	26	37.4	2,300
June.....	427.2	25	6.6	14.2	847
July.....	90.2	5.8	1.5	2.91	179
August.....	6.4	1.4	0	.17	11
September.....	0	0	0	0	0
Water year 1945-46.....	9,484.7	227	0	26.0	18,820

Peak discharge.- Dec. 23 (3 p.m.) 196 sec.-ft.; Dec. 25 (12 m.) 441 sec.-ft.; Jan. 5 (4 p.m.) 288 sec.-ft.; Mar. 13 (3 p.m.) 118 sec.-ft.; Mar. 30 (4 p.m.) 177 sec.-ft.

a No gage-height record; discharge interpolated Oct. 1, Jan. 29-31, July 8; estimated from information furnished by local residents July 30 to Aug. 6.

Note.- Backwater from fill for temporary road crossing Oct. 1 to Dec. 22.

Kaweah River near Three Rivers, Calif.

Location.- Water-stage recorder, lat. 36°24', long. 118°57', in SW $\frac{1}{4}$ sec. 33, T. 17 S., R. 28 E., 2.5 miles downstream from South Fork and 3 miles southwest of Three Rivers post office. Altitude of gage, about 620 feet (from topographic map).

Drainage area.- 520 square miles.

Records available.- February 1936 to September 1946. April 1903 to January 1936 at site 2 miles upstream.

Average discharge.- 43 years, 579 second-feet.

Extremes.- Maximum discharge during year, 3,480 second-feet Dec. 22 (gage height, 6.65 feet); minimum, 25 second-feet Sept. 29 (gage height, 0.94 foot).

1903-46: Maximum discharge, 33,300 second-feet Dec. 11, 1937 (gage height, 17.0 feet, present datum), from rating curve extended above 6,000 second-feet on basis of velocity-area study; minimum, 8.5 second-feet Sept. 19, 1934.

Remarks.- Records good. Diversions above station for irrigation and power development on Middle and East Forks.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.0	30	2.0	209	4.0	1,060
1.2	50	2.4	331	4.5	1,380
1.4	75	2.8	476	5.0	1,750
1.6	111	3.2	655	5.5	2,180
1.8	156	3.6	845	6.0	2,680

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	444	204	436	249	365	830	2,080	1,160	325	78	40
2	51	331	185	411	249	379	727	2,000	1,220	312	72	40
3	50	283	177	529	283	379	678	1,880	1,200	305	68	42
4	49	261	177	472	270	338	714	1,980	1,170	289	61	41
5	50	240	231	718	273	334	745	2,080	1,120	264	60	41
6	56	231	204	552	289	331	750	2,230	1,020	246	59	41
7	330	273	208	468	289	351	722	2,310	983	231	58	40
8	302	229	190	425	273	407	686	2,190	939	217	59	40
9	193	217	182	372	270	476	650	2,010	917	209	59	38
10	149	234	179	368	258	511	678	1,700	830	196	64	36
11	126	289	179	355	277	511	765	1,470	718	185	61	34
12	146	280	187	321	246	444	912	1,460	780	177	58	33
13	124	277	189	325	273	709	1,020	1,440	770	164	56	33
14	107	283	166	321	252	578	870	1,440	740	154	54	33
15	161	270	179	318	270	556	972	1,480	686	151	52	33
16	215	270	182	309	321	556	1,200	1,340	650	137	50	33
17	185	246	177	309	296	570	1,460	1,290	596	130	49	34
18	156	223	172	305	296	552	1,640	1,350	570	122	47	34
19	144	215	164	289	289	578	1,670	1,530	570	126	45	31
20	128	209	169	293	280	583	1,620	1,650	542	130	45	30
21	113	204	441	280	293	556	1,600	1,520	538	179	46	29
22	105	198	1,990	277	296	524	1,630	1,360	511	151	47	29
23	100	193	1,280	277	315	565	1,750	1,110	464	126	47	28
24	94	185	700	293	351	556	1,870	1,050	425	117	46	28
25	90	223	1,700	305	351	534	2,100	1,070	407	139	44	28
26	84	209	870	299	331	592	2,220	1,060	400	159	42	28
27	80	196	601	293	331	668	2,140	1,120	393	130	42	28
28	77	193	547	286	362	655	2,160	1,010	372	107	41	28
29	821	206	511	277	-	709	2,130	972	355	98	41	28
30	1,730	270	480	249	-	1,490	2,040	1,040	341	92	42	28
31	780	-	464	249	-	988	-	1,110	-	87	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,851	1,730	49	221	13,590
November	7,382	1,444	185	246	14,640
December	13,263	1,990	164	428	26,310
Calendar year 1945	291,737	9,510	49	799	578,600
January	10,991	718	249	355	21,800
February	8,133	362	246	290	16,130
March	17,344	1,490	331	559	34,400
April	38,949	2,220	650	1,298	77,250
May	47,332	2,310	972	1,527	93,880
June	21,387	1,220	341	713	42,420
July	5,455	325	87	176	10,820
August	1,634	78	41	52.7	3,240
September	1,009	42	28	33.6	2,000
Water year 1945-46	179,730	2,310	28	492	356,500

TULARE LAKE BASIN

North Fork Kaweah River at Kaweah, Calif.

Location.- Water-stage recorder, lat. 36°29', long. 118°55', in SE $\frac{1}{4}$ sec. 34, T. 16 S., R. 28 E., 1.2 miles upstream from Mannikin Creek, 1.5 miles north of Kaweah, and 3 miles upstream from mouth. Altitude of gage, about 1,080 feet (from topographic map).

Drainage area.- 128 square miles.

Records available.- October 1933 to September 1946. October 1910 to October 1933 at site 1 mile downstream.

Average discharge.- 35 years (1911-46), 102 second-feet.

Extremes.- Maximum discharge during year, 1,070 second-feet Dec. 22 (gage height, 5.01 feet); minimum, 1.6 second-feet (regulated) Sept. 29.
1910-46: Maximum discharge, 8,290 second-feet Dec. 11, 1937 (gage height, 11.0 feet), from rating curve extended above 4,000 second-feet on basis of velocity-area study; no flow for many days during July to October 1924.

Remarks.- Records good. Several small diversions above station for irrigation.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)
(Shifting-control method used July 4, 5,
July 10 to Sept. 12)

1.3	2.4	2.1	28	3.2	180
1.4	4.0	2.3	43	3.5	265
1.5	6.1	2.5	62	4.0	460
1.7	11	2.7	87	4.5	725
1.9	17	2.9	118		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	42	34	108	52	86	226	272	84	29	11	4.6
2	9.4	30	31	99	52	88	190	262	82	28	9.7	5.0
3	9.2	26	30	122	60	92	178	246	77	26	9.2	5.5
4	9.2	23	30	112	53	78	185	243	73	24	9.0	5.7
5	9.2	21	41	166	56	77	209	237	69	23	9.0	5.7
6	9.9	21	35	122	61	77	214	231	66	a23	8.5	5.7
7	15	35	35	105	63	80	203	231	66	a22	8.5	5.5
8	16	28	33	96	59	94	183	217	63	a22	8.3	5.5
9	14	24	31	82	59	107	173	203	61	21	7.9	5.3
10	13	26	30	83	56	110	190	188	59	19	8.1	5.0
11	14	41	30	79	61	110	223	173	58	19	7.9	5.0
12	16	39	31	73	54	96	265	162	55	19	7.6	5.0
13	15	41	28	73	58	165	278	151	51	18	7.4	4.8
14	14	39	26	72	55	132	240	142	49	17	7.2	4.2
15	15	37	28	70	61	122	259	136	48	17	7.0	4.2
16	16	37	29	66	70	125	291	136	47	17	6.8	4.4
17	14	37	29	68	66	129	312	129	45	17	6.3	4.8
18	14	33	29	68	68	123	327	123	42	16	6.5	5.3
19	14	30	28	64	64	132	327	120	41	15	6.1	5.0
20	13	30	27	63	62	132	316	118	38	16	6.1	4.8
21	13	29	127	60	64	127	309	115	37	19	6.1	4.8
22	13	28	686	61	67	118	302	134	36	18	6.1	5.3
23	14	28	359	61	72	131	305	129	36	15	5.7	4.8
24	14	28	188	64	80	129	312	116	36	14	5.3	4.4
25	13	37	513	67	80	120	323	105	35	16	5.5	4.0
26	13	34	240	64	75	132	330	122	34	16	5.0	4.2
27	12	31	155	62	75	142	320	149	32	15	5.0	4.4
28	12	30	158	61	84	142	312	120	31	14	5.0	4.6
29	37	31	127	58	-	178	298	105	30	13	5.0	4.4
30	186	46	120	50	-	418	282	96	30	12	5.0	5.8
31	81	-	115	52	-	278	-	87	-	11	5.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	667.6	186	9.2	21.5	1,320
November.....	962	46	21	32.1	1,910
December.....	3,382	686	26	109	6,710
Calendar year 1945	55,858.0	3,380	8.8	153	110,800
January.....	2,453	166	50	79.1	4,870
February.....	1,787	84	52	63.8	3,540
March.....	4,070	418	77	131	8,070
April.....	7,890	350	173	263	15,650
May.....	4,998	272	87	161	9,910
June.....	1,511	84	30	50.4	3,000
July.....	569	29	11	18.4	1,130
August.....	216.8	11	5.0	6.99	430
September.....	145.7	5.7	3.8	4.86	289
Water year 1945-46	28,652.1	686	3.8	78.5	56,830

Peak discharge.- Oct. 30 (1 p.m.) 594 sec.-ft.; Dec. 22 (5:30 a.m.) 1,070 sec.-ft.; Dec. 25 (4:30 a.m.) 950 sec.-ft.; Mar. 30 (7:30 a.m.) 757 sec.-ft.

a No gage-height record; discharge interpolated.

Sand Creek near Orange Cove, Calif.

Location.- Water-stage recorder, lat. 36°37'35", long. 119°14'45", in NW¼ sec. 15, T. 15 S., R. 25 E., 3.8 miles east of Orange Cove. Altitude of gage, about 490 feet (from topographic map).

Drainage area.- 32 square miles.

Records available.- October 1944 to September 1946.

Extremes.- Maximum discharge during year, 113 second-feet Mar. 30 (gage height, 2.60 feet); no flow for several months.

1944-46: Maximum discharge, 410 second-feet Feb. 2, 1945 (gage height, 4.00 feet),

by slope-area method; no flow for several months each year.

Flood of Mar. 9, 1943, estimated as 1,000 to 1,200 second-feet by Alta Irrigation District.

Remarks.- Records fair. No regulation or diversion above station.

Cooperation.- Twenty discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.1	1.2	1.4	7.8	0.3	0.2			
2			0	1.1	1.3	1.4	4.6	.2	.1			
3			0	3.2	3.0	1.4	3.7	.2	.1			
4			0	2.2	4.6	1.4	3.2	.2	.1			
5			0	2.3	2.7	1.3	2.7	.2	0			
6			.2	2.2	2.1	1.3	2.5	.1	0			
7			.2	1.7	1.9	1.2	2.4	.1	0			
8			.3	1.6	1.7	1.2	2.2	a.1	0			
9			.3	1.5	1.6	1.2	2.0	a.1	0			
10			.3	1.4	1.6	1.2	1.9	a.1	0			
11			.3	1.4	1.9	1.2	1.7	a0	0			
12			.5	1.3	1.7	1.0	1.6	a0	0			
13			.5	1.3	1.5	2.9	1.5	0	0			
14			.5	1.4	1.4	2.8	1.4	0	0			
15			.5	1.3	1.6	1.7	1.3	0	0			
16			.5	1.2	2.7	1.6	1.2	0	0			
17			.5	1.2	2.2	1.4	1.1	0	0			
18			.5	1.2	2.0	1.4	1.0	0	0			
19			.5	1.2	1.9	1.9	1.0	0	0			
20			.6	1.2	1.8	2.1	1.1	0	0			
21			.9	1.2	1.7	1.6	1.0	0	0			
22			2.3	1.2	1.6	1.5	.8	0	0			
23			2.8	1.2	1.5	1.4	.7	0	0			
24			2.2	1.2	1.4	1.2	.6	0	0			
25			1.9	1.2	1.4	1.2	.5	0	0			
26			1.8	1.2	1.5	1.1	.4	.1	0			
27			1.4	1.2	1.5	1.2	.4	.5	0			
28			1.3	1.2	1.4	1.2	.3	1.0	0			
29			1.2	1.1	-	3.5	.3	.9	0			
30			1.2	1.1	-	20	.3	.7	0			
31			1.1	1.1	-	12	-	.4	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						24.3	2.8	0	.78	48		
Calendar year 1945.....						1,365.8	186	0	3.74	2,710		
January.....						43.9	3.2	1.1	1.42	87		
February.....						52.4	4.6	1.2	1.87	104		
March.....						76.9	20	1.0	2.48	153		
April.....						51.2	7.8	.3	1.71	102		
May.....						5.2	1.0	0	.17	10		
June.....						.5	.2	0	.02	1.0		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1945-46.....						254.4	20	0	.70	505		

a No gage-height record; discharge interpolated.

Kings River above North Fork, Calif.

Location.- Water-stage recorder, lat. 36°52', long. 119°07', in N $\frac{1}{2}$ sec. 27, T. 12 S., R. 26 E. (unsurveyed), 1 mile upstream from North Fork and 10 miles southeast of Trimmer. Altitude of gage, about 1,020 feet (from topographic map).

Drainage area.- 956 square miles.

Records available.- October 1931 to September 1946. March 1927 to December 1928 at site half a mile downstream.

Average discharge.- 16 years (1927-28, 1931-46), 1,515 second-feet.

Extremes.- Maximum discharge during year, 7,650 second-feet May 7 (gage height, 6.22 feet); minimum, 154 second-feet Sept. 30.

1927-28, 1931-46: Maximum discharge, 42,000 second-feet Dec. 11, 1937 (gage height, 12.02 feet), from rating curve extended above 11,000 second-feet on basis of velocity-area studies; minimum, 79 second-feet Oct. 13, 1934 (gage height, 0.54 foot).

Remarks.- Records good. Some storage on Ten Mile and Mill Flat Creeks.

Cooperation.- Gage-height record collected in cooperation with Pacific Gas & Electric Co.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.8	168	2.4	802	4.5	3,040
1.0	214	2.8	1,080	5.0	4,040
1.2	268	3.2	1,420	5.5	5,320
1.6	401	3.6	1,810	6.0	6,880
2.0	576	4.0	2,280		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	217	1,220	466	827	475	566	1,400	5,350	4,060	2,240	684	262
2	212	1,040	441	784	458	602	1,280	5,040	4,730	2,240	623	257
3	207	993	445	821	479	623	1,220	4,820	5,290	2,220	586	257
4	202	972	449	827	462	576	1,290	5,240	5,100	2,030	562	268
5	204	937	475	1,030	475	566	1,380	5,780	4,870	1,960	547	295
6		884	475	884	506	566	1,410	6,280	4,260	1,770	524	280
7		1,260	845	475	821	597	1,380	6,710	4,130	1,640	496	262
8		1,450	754	445	772	696	1,290	6,510	4,040	1,550	466	254
9		1,180	730	433	678	821	1,260	6,220	4,080	1,480	454	240
10		958	742	429	684	917	1,280	5,520	3,860	1,480	475	230
11		821	772	425	645	944	1,390	4,550	3,130	1,480	592	219
12		725	778	429	597	878	1,620	4,130	3,350	1,470	547	209
13		645	736	396	607	462	1,240	4,150	3,590	1,410	528	204
14		618	748	375	592	437	1,050	4,240	3,550	1,340	538	197
15		713	756	425	581	454	1,060	4,820	5,320	1,230	488	192
16		865	701	429	571	462	1,030	2,310	4,380	3,180	1,100	421
17		802	678	405	571	445	1,040	2,970	4,260	2,840	1,040	390
18		725	607	394	566	454	1,020	3,570	4,660	2,760	1,030	371
19		584	586	362	557	449	1,060	3,780	5,180	2,940	1,220	357
20		623	566	366	542	445	986	3,670	5,600	3,040	1,220	350
21		576	547	867	528	454	944	3,530	5,600	3,130	1,360	357
22		533	538	2,160	524	449	891	3,530	4,630	3,090	1,300	390
23		510	514	1,640	514	470	917	3,780	3,590	2,740	1,150	379
24		475	496	1,220	528	519	898	4,220	3,300	2,410	1,110	357
25		441	566	2,040	538	514	898	4,840	3,490	2,320	1,460	340
26		421	519	1,480	533	501	993	5,150	3,260	2,480	1,450	327
27		401	519	1,180	514	506	1,150	5,240	3,020	2,500	1,140	314
28		382	501	1,100	514	552	1,180	5,400	2,820	2,390	965	301
29		1,340	519	1,000	506	-	1,340	5,490	2,900	2,250	872	292
30		3,610	510	930	470	-	1,870	5,350	3,090	2,230	815	280
31		1,840	-	878	466	-	1,540	-	5,610	-	760	268

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	25,914	3,610	202	771	47,430
November	21,255	1,220	496	708	42,160
December	23,064	2,160	375	744	45,750
Calendar year 1945	675,690	8,550	202	1,851	1,340,000
January	19,592	1,030	466	632	38,860
February	13,192	552	421	471	26,170
March	29,459	1,870	366	950	58,430
April	84,390	5,490	1,220	2,813	167,400
May	142,750	6,710	2,920	4,605	293,100
June	101,700	5,290	2,230	3,390	201,700
July	43,532	2,240	760	1,404	86,340
August	13,604	684	268	439	26,980
September	6,218	295	158	207	12,330
Water year 1945-46	522,670	6,710	158	1,432	1,037,000

Kings River at Piedra, Calif.

Location.- Water-stage recorder, lat. 36°49'02", long. 119°23'08", in NW¹ sec. 8, T. 13 S., R. 24 E., 0.5 mile downstream from highway bridge at Piedra, 2 miles downstream from Mill Creek, and 12 miles northeast of Sanger. Altitude of gage, about 500 feet (from topographic map).

Drainage area.- 1,694 square miles.

Records available.- September 1895 to September 1946.

Average discharge.- 51 years, 2,348 second-feet.

Extremes.- Maximum discharge during year, 16,500 second-feet Oct. 30 (gage height, 10.80 feet); minimum, 187 second-feet Sept. 30 (gage height, 1.04 feet).
1895-1946: Maximum discharge, 80,000 second-feet Dec. 11, 1937 (gage height, 19.94 feet), from rating curve extended above 30,000 second-feet on basis of velocity-area study; minimum, 67 second-feet Oct. 3, 1924.

Remarks.- Records excellent. Flow slightly regulated by small reservoirs on Ten Mile and Mill Flat Creeks, and by power plant on North Fork.

Cooperation.- Three discharge measurements and assistance in collecting gage-height record furnished by Kings River Water Association.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.0	180	2.3	605	4.0	1,710	6.0	4,020
1.3	240	2.6	755	4.5	2,160	7.0	5,700
1.6	318	3.0	980	5.0	2,680	8.0	7,840
2.0	472	3.5	1,310	5.5	3,310	9.0	10,500

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	247	1,990	745	1,480	794	1,110	2,700	9,200	5,900	2,610	838	287
2	240	1,600	710	1,410	794	1,140	2,410	9,050	6,720	2,580	760	280
3	236	1,420	680	1,440	854	1,180	2,230	8,480	7,530	2,580	705	282
4	231	1,380	690	1,370	870	1,100	2,270	9,070	7,200	2,480	670	287
5	227	1,310	745	1,780	870	1,030	2,380	9,860	6,850	2,290	655	315
6	250	1,230	755	1,570	892	1,020	2,480	10,800	6,000	2,100	625	318
7	888	1,300	750	1,590	904	1,080	2,340	11,600	5,700	1,920	596	301
8	1,660	1,160	740	1,300	854	1,280	2,230	11,100	5,520	1,810	564	285
9	1,350	1,110	695	1,160	810	1,570	2,160	10,400	5,500	1,750	542	272
10	1,120	1,090	670	1,130	777	1,750	2,240	9,150	5,290	1,690	534	259
11	992	1,130	690	1,110	848	1,800	2,430	7,490	4,310	1,690	630	247
12	904	1,160	700	1,020	772	1,610	2,870	6,810	4,390	1,670	660	240
13	760	1,180	665	1,030	788	2,270	3,490	6,940	4,650	1,620	615	233
14	710	1,120	592	1,030	777	2,040	3,050	6,920	4,630	1,530	615	227
15	788	1,100	615	998	788	1,920	3,440	7,940	4,310	1,440	587	220
16	944	1,100	655	980	854	1,860	4,220	7,340	4,100	1,310	512	218
17	956	1,030	655	968	788	1,860	5,300	6,960	3,700	1,200	464	218
18	865	944	630	968	810	1,840	6,240	7,580	3,530	1,180	430	218
19	816	870	615	950	821	1,840	6,500	8,150	3,670	1,300	405	216
20	755	865	592	932	804	1,760	6,380	8,870	3,730	1,410	392	210
21	705	810	1,350	904	794	1,680	6,140	8,970	3,810	1,470	388	208
22	650	788	6,250	887	794	1,550	6,160	7,360	3,770	1,550	409	204
23	592	777	3,800	865	832	1,630	6,650	5,660	3,410	1,370	438	200
24	551	760	2,310	909	950	1,630	7,310	5,140	2,970	1,300	405	196
25	529	843	4,460	938	980	1,590	8,400	5,430	2,820	1,490	388	194
26	494	843	2,870	962	938	1,760	9,200	5,110	2,910	1,740	373	193
27	464	832	2,110	909	920	2,090	9,150	4,920	2,950	1,450	354	191
28	447	799	1,960	914	1,030	2,140	9,390	4,510	2,840	1,180	337	191
29	1,030	788	1,830	892	-	2,430	9,560	4,590	2,680	1,050	324	189
30	7,960	854	1,690	843	-	5,090	9,180	4,870	2,610	980	312	187
31	3,430	-	1,580	799	-	3,120	-	5,390	-	904	312	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	31,789	7,960	227	1,025	63,050
November	32,183	1,990	760	1,073	63,830
December	43,793	6,250	582	1,413	86,870
Calendar year 1945	1,101,297	32,200	227	3,017	2,184,000
January	33,808	1,780	799	1,091	67,060
February	23,707	1,030	772	847	47,020
March	55,770	5,090	1,020	1,799	110,600
April	148,500	9,560	2,160	4,950	294,500
May	235,660	11,600	4,510	7,602	467,400
June	134,000	7,530	2,610	4,467	265,800
July	50,604	2,610	904	1,632	100,400
August	15,839	838	312	511	31,420
September	7,086	318	187	236	14,050
Water year 1945-46	812,745	11,600	187	2,227	1,612,000

North Fork Kings River near Cliff Camp, Calif.

Location.- Water-stage recorder, lat. 37°00', long. 118°59', in NW $\frac{1}{4}$ sec. 12, T. 11 S., R. 27 E., at Cliff Camp Bridge, 1 mile northwest of Cliff Camp and 2.3 miles downstream from Woodchuck Creek. Altitude of gage, about 6,150 feet (from topographic map).

Drainage area.- 174 square miles.

Records available.- November 1922 to September 1946. August 1921 to November 1922 at site 1 mile upstream.

Average discharge.- 22 years (1921-32, 1933-35, 1937-46), 358 second-feet.

Extremes.- Maximum discharge during year, 5,280 second-foot Oct. 30 (gage height, 12.65 feet); minimum, 5.8 second-foot Sept. 20, 23-25, 28.

1921-46: Maximum discharge, 14,000 second-foot Dec. 11, 1937 (gage height, 18.0 feet, from floodmarks), from rating curve extended above 4,500 second-feet on basis of velocity-area studies and by logarithmic plotting; minimum, 0.6 second-foot Dec. 30, 1930.

Remarks.- Records good. No storage or diversion above station.

Cooperation.- Water-stage recorder graph, furnished by San Joaquin Power Division, Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second feet)

2.4	3.8	4.0	120	7.5	1,180
2.6	6.3	4.4	190	8.0	1,400
2.8	9.8	4.9	298	8.5	1,680
3.0	18	5.4	430	9.0	1,980
3.2	28	6.0	818	9.5	2,360
3.4	45	6.5	794	10.0	2,760
3.7	78	7.0	982	10.5	3,160

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	261	98	182	116	204	317	2,420	1,400	179	29	7.3
2	8.1	220	88	171	111	212	293	2,370	1,540	169	25	7.1
3	7.9	232	92	166	102	206	274	2,350	1,530	157	22	7.4
4	7.7	232	88	171	116	166	286	2,510	1,410	146	20	9.8
5	7.7	218	91	173	120	153	315	2,700	1,280	130	18	11
6	9.6	204	116	155	116	179	303	2,880	1,140	117	18	9.4
7	48	188	117	148	112	230	279	2,960	1,050	105	a16	8.5
8	47	167	108	138	108	315	281	2,740	1,000	94	a16	7.6
9	48	164	101	133	105	377	298	2,440	974	87	a14	7.1
10	35	180	99	133	101	402	332	2,010	823	78	a14	6.8
11	30	180	104	130	102	356	413	1,680	662	76	a20	6.5
12	32	168	99	133	101	303	555	1,700	736	72	a18	6.2
13	30	177	92	131	97	388	571	1,760	715	68	a16	6.2
14	30	182	92	134	97	312	536	1,870	666	64	a15	6.0
15	41	173	91	136	97	308	769	2,030	584	58	14	5.9
16	58	153	94	136	98	303	1,040	1,840	520	52	13	6.0
17	49	144	87	141	94	310	1,310	1,900	466	47	12	6.0
18	45	114	82	141	94	303	1,470	2,090	480	44	11	6.0
19	39	114	76	131	94	274	1,520	2,180	454	57	11	6.0
20	32	106	98	125	94	248	1,460	2,220	436	57	10	5.9
21	28	102	402	122	97	222	1,460	1,940	410	81	10	6.0
22	25	102	494	122	102	226	1,580	1,540	364	86	11	5.9
23	22	98	196	133	134	248	1,790	1,540	317	85	11	5.9
24	20	92	173	153	153	250	2,050	1,180	272	56	10	5.9
25	19	110	194	160	141	281	2,390	1,200	256	87	9.8	5.9
26	18	116	198	151	138	391	2,500	1,090	252	108	9.0	5.9
27	16	117	202	148	162	454	2,450	914	243	71	8.7	5.9
28	16	112	216	141	204	402	2,460	963	222	54	8.5	5.9
29	596	128	204	131	-	284	2,460	1,100	204	45	7.9	5.9
30	1,910	110	202	118	-	254	2,580	1,190	194	39	7.7	5.9
31	454	-	194	114	-	315	-	1,290	-	34	7.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,737.3	1,910	7.7	121	7,410
November.....	4,682	261	92	156	9,290
December.....	4,598	494	76	148	9,100
Calendar year 1945.....	171,594.6	2,900	7.7	470	340,300
January.....	4,401	182	114	142	8,730
February.....	3,206	204	94	114	6,360
March.....	6,876	454	153	286	17,610
April.....	34,122	2,500	274	1,137	67,680
May.....	58,197	2,960	914	1,877	115,400
June.....	20,580	1,540	194	666	40,820
July.....	2,583	179	34	83.3	5,120
August.....	433.0	29	7.4	14.0	859
September.....	201.8	11	5.9	6.75	400
Water year 1945-46.....	145,607.1	2,960	5.9	399	288,800

a No gage-height record; discharge computed on basis of records for station below Rancheria Creek.

North Fork Kings River below Rancheria Creek, Calif.

Location.- Water-stage recorder, lat. 36°56', long. 119°00', in SE $\frac{1}{4}$ sec. 34, T. 11 S., R. 27 E., 1 mile upstream from Balch diversion dam and 1 mile downstream from Rancheria Creek. Altitude of gage, about 4,150 feet (from topographic map).

Drainage area.- 225 square miles.

Records available.- March 1927 to December 1937, January 1939 to September 1946.

Average discharge.- 16 years (1927-36, 1939-46), 403 second-feet.

Extremes.- Maximum discharge during year, 6,540 second-feet Oct. 30 (gage height, 13.05 feet); minimum, 14 second-feet Sept. 25-30.

1927-46: Maximum discharge, 21,000 second-feet Dec. 11, 1937 (gage height, about 23 feet, from floodmarks) by computations of peak flow over Balch diversion and after-bay dams, 1 mile and 7 miles respectively, below station; minimum, 5 second-feet Aug. 29, 1931.

Remarks.- Records good. No storage or diversion above station.

Cooperation.- Water-stage recorder graph, furnished by San Joaquin Power Division of Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet and discharge, in second feet)

1.4	16	3.2	95	6.0	556
1.6	20	3.5	121	6.5	728
2.0	30	4.0	172	7.0	940
2.3	41	4.5	238	8.0	1,480
2.6	55	5.0	318	9.0	2,150
2.9	73	5.5	422	10.0	2,990

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	307	136	271	146	252	391	2,470	1,440	221	46	18
2	18	260	123	257	144	265	368	2,450	1,580	209	42	18
3	18	268	128	255	140	263	350	2,410	1,590	192	39	19
4	18	266	126	265	148	216	374	2,530	1,450	181	37	20
5	18	249	126	274	159	203	410	2,770	1,350	164	35	23.
6	24	249	141	235	154	227	403	2,990	1,180	150	34	22
7	57	237	153	220	149	276	368	3,050	1,100	137	32	20
8	65	207	141	207	145	362	366	2,840	1,040	126	31	19
9	61	203	132	194	143	432	385	2,530	1,020	118	29	18
10	52	227	129	191	139	462	441	2,160	904	109	29	17
11	48	231	134	185	143	429	541	1,800	724	104	40	16
12	45	237	129	173	137	364	701	1,820	784	99	38	16
13	44	224	119	173	134	546	736	1,860	788	95	33	16
14	42	228	120	178	132	396	661	1,940	724	89	30	15
15	56	223	121	179	138	391	904	2,060	647	84	28	15
16	69	200	126	176	138	389	1,160	1,930	582	76	27	15
17	85	194	122	178	135	394	1,440	1,910	523	70	26	16
18	56	153	117	185	137	383	1,580	2,110	504	85	24	16
19	51	156	110	175	138	362	1,650	2,180	501	75	23	16
20	44	148	143	168	136	325	1,590	2,210	472	76	22	16
21	40	145	821	160	140	304	1,580	2,040	456	105	22	15
22	37	144	1,190	158	147	295	1,670	1,650	412	110	22	15
23	35	138	451	165	172	322	1,900	1,220	360	88	23	15
24	32	135	344	184	202	323	2,120	1,240	322	76	22	15
25	30	158	464	194	189	342	2,410	1,320	302	94	21	14
26	28	156	338	189	177	456	2,520	1,230	297	137	20	14
27	27	157	318	182	197	538	2,500	1,020	282	95	20	14
28	27	152	338	176	252	493	2,530	1,040	268	76	19	14
29	722	172	320	168	-	376	2,530	1,160	248	64	19	14
30	2,300	151	307	150	-	346	2,440	1,240	237	56	18	14
31	520	-	289	146	-	394	-	1,340	-	51	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,667	2,300	18	151	9,260
November.....	5,973	307	133	199	11,850
December.....	7,756	1,190	110	250	15,380
Calendar year 1945.....	201,965	3,000	18	553	400,600
January.....	6,006	274	146	194	11,910
February.....	4,308	252	132	154	8,540
March.....	11,126	546	203	359	22,070
April.....	37,029	2,530	350	1,234	73,450
May.....	60,520	3,050	1,020	1,952	120,000
June.....	22,067	1,590	237	736	43,770
July.....	3,392	221	51	109	6,730
August.....	869	46	18	28.0	1,720
September.....	495	23	14	16.5	982
Water year 1945-46.....	164,208	3,050	14	450	325,700

SAN JOAQUIN RIVER MAIN STEM

San Joaquin River above Big Creek, Calif.

Location.- Water-stage recorder, lat. 37°15'00", long. 119°19'10", in NW 1/4 sec. 11, T. 8 S., S., R. 24 E., 3 miles upstream from Big Creek. Altitude of gage, about 2,500 feet (from topographic map).

Drainage area.- 1,042 square miles.

Records available.- March 1922 to September 1946.

Average discharge.- 21 years (1925-46, period since diversion began through Ward tunnel), 1,373 second-feet.

Extremes.- Maximum discharge during year, 15,800 second-feet Oct. 30 (gage height, 17.10 feet); minimum, 107 second-feet Sept. 30 (gage height, 6.53 feet).

1922-46: Maximum discharge, 52,500 second-feet Dec. 11, 1937 (gage height, 24.05 feet), from rating curve extended above 14,000 second-feet on basis of velocity-area studies; minimum, 52 second-feet Sept. 24, 1931.

Remarks.- Records excellent except those below 300 second-feet, which are good. Flow regulated by Florence Lake (see p.212) and diversions through Ward tunnel (see p.215).

Cooperation.- Water-stage recorder graph and 9 discharge measurements, furnished by Southern California Edison Co. Ltd., obtained in connection with a Federal Power Commission project.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 5						May 6 to Sept. 30					
6.5	98	9.5	1,180	13.0	4,950	6.5	103	9.0	955	12.5	4,210
6.7	123	10.0	1,510	13.5	5,860	6.7	132	9.5	1,240	13.0	5,000
7.0	170	10.5	1,900	14.0	6,880	7.0	183	10.0	1,570	13.5	5,910
7.4	260	11.0	2,340	15.0	9,160	7.3	249	10.5	1,950	14.0	6,910
7.8	384	11.5	2,840			7.6	333	11.0	2,400	14.5	8,000
8.4	612	12.0	3,430			8.0	473	11.5	2,920		
9.0	890	12.5	4,140			8.5	700	12.0	3,520		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	1,250	552	1,070	517	816	1,360	5,260	3,530	1,700	385	151
2	122	957	471	989	509	840	1,300	5,390	4,120	1,740	355	145
3	119	856	479	962	524	860	1,280	5,500	4,850	1,670	333	145
4	116	912	494	934	509	749	1,370	5,780	4,510	1,360	324	146
5	116	835	572	1,030	502	685	1,550	6,190	4,240	1,210	321	662
6	126	806	560	890	544	707	1,660	6,780	3,560	1,080	306	403
7	213	860	633	830	528	806	1,520	6,970	3,380	1,030	289	286
8	377	716	612	787	505	1,010	1,430	6,560	3,310	960	275	230
9	621	672	568	703	505	1,230	1,400	6,100	3,380	900	265	199
10	427	787	584	707	486	1,340	1,480	5,330	3,190	885	281	178
11	360	885	548	685	494	1,290	1,690	4,500	2,500	865	289	162
12	324	778	521	616	449	1,100	2,060	4,120	2,550	860	309	151
13	306	792	467	637	483	1,760	2,520	4,180	2,740	835	278	143
14	266	816	424	637	460	1,390	2,300	4,210	2,800	775	259	135
15	357	782	464	633	483	1,240	2,650	4,620	2,580	695	247	130
16	471	787	445	625	505	1,160	3,200	4,400	2,310	621	230	129
17	449	860	431	625	494	1,170	3,900	4,210	2,110	588	216	129
18	360	806	402	637	494	1,160	4,310	4,950	2,030	574	207	129
19	318	739	391	620	494	1,200	4,370	5,400	2,050	584	201	123
20	274	726	395	596	486	1,100	3,940	5,610	2,210	594	201	118
21	240	694	2,190	568	505	1,010	3,730	5,420	2,260	628	199	114
22	211	721	6,100	564	517	934	3,730	4,100	2,160	690	212	113
23	193	629	2,970	556	517	978	4,160	3,150	1,890	621	216	110
24	180	584	1,840	584	588	978	4,850	2,810	1,560	588	207	109
25	188	816	2,630	625	608	984	5,670	2,860	1,500	860	197	109
26	163	663	1,790	612	532	1,170	6,030	3,100	1,560	1,140	187	110
27	156	707	1,400	596	608	1,450	5,900	2,760	1,580	810	179	111
28	151	698	1,380	588	758	1,430	5,760	2,540	1,560	612	174	111
29	370	703	1,390	564	-	1,480	5,730	2,470	1,630	526	169	110
30	8,100	654	1,260	513	-	1,400	5,350	2,720	1,720	469	165	109
31	2,310	-	1,150	498	-	1,410	-	3,210	-	428	156	-

	Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October		17,987	8,100	116	580	35,680
November		23,601	1,250	584	787	46,810
December		34,133	6,100	391	1,101	67,700
Calendar year 1945		645,416	17,500	116	1,768	1,280,000
January		21,481	1,070	498	693	42,610
February		14,664	758	449	524	29,090
March		34,837	1,760	685	1,124	69,100
April		96,100	6,030	1,280	3,203	190,600
May		141,200	6,970	2,470	4,555	280,100
June		79,180	4,650	1,500	2,639	157,100
July		26,895	1,740	428	868	53,350
August		7,632	385	156	246	15,140
September		5,000	662	109	167	9,920
Water year 1945-46		502,710	8,100	109	1,377	997,200

Peak discharge.- Oct. 30 (11 a.m.) 15,800 sec.-ft.; Dec. 22 (4:30 a.m.) 9,790 sec.-ft.

San Joaquin River below Kerckhoff powerhouse, Calif.

Location.- Water-stage recorder, lat. 37°05', long. 119°34', in NW 1/4 sec. 10, T. 10 S., R. 22 E., 0.8 mile downstream from Kerckhoff powerhouse and 2 miles upstream from Big Sandy Creek. Datum of gage is 563.4 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 1,480 square miles.

Records available.- December 1936 to December 1937, December 1942 to September 1946.

Extremes.- Maximum discharge during year, 17,700 second-feet (regulated) Dec. 22 (gage height, 26.8 feet); minimum, 142 second-feet (regulated) Feb. 25.

1936-37, 1942-46: Maximum discharge, 75,000 second-feet Dec. 11, 1937 (gage height, 46.5 feet), from rating curve extended above 20,000 second-feet on basis of velocity-area studies, computed flow over Kerckhoff Dam, and peak flow of San Joaquin River near Friant; minimum, 7 second-feet (regulated) Nov. 5, 1944.

Remarks.- Records good. There are six reservoirs and eleven power plants above station. See Records for Florence Lake, Huntington Lake, and Shaver Lake. Contents of Crane Valley Reservoir was 33,300 acre-feet on Sept. 30, 1945, and 32,500 acre-feet on Sept. 30, 1946.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

10.0	884	15.0	3,440
11.0	1,220	16.0	4,210
12.0	1,630	18.0	5,910
13.0	2,120	20.0	7,900
14.0	2,720	22.0	10,500

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	2,450	1,460	2,380	1,390	1,570	2,240	6,350	4,440	3,000	1,580	954
2	1,400	2,100	956	2,310	1,180	1,510	2,240	6,390	4,810	3,130	1,560	1,040
3	1,370	1,920	1,340	2,500	1,120	1,640	2,250	6,440	5,410	3,080	1,510	1,190
4	1,110	1,780	1,100	2,470	1,230	1,440	2,250	6,700	5,660	2,770	1,250	1,440
5	1,150	1,740	1,350	2,300	1,370	1,490	2,600	6,640	5,350	2,580	1,390	1,460
6	1,220	2,030	1,440	1,940	1,530	1,290	2,740	7,500	4,930	2,520	1,470	1,580
7	1,080	1,930	1,360	2,090	1,420	1,390	2,570	7,380	4,590	2,320	1,420	1,420
8	1,110	2,020	1,490	2,070	1,450	1,530	2,440	7,130	4,370	2,330	1,580	1,030
9	1,380	1,770	1,350	1,960	1,250	1,760	2,600	6,820	4,360	2,250	1,450	1,260
10	1,470	1,760	1,720	1,910	1,210	1,690	2,520	6,180	4,220	2,280	1,440	1,200
11	1,360	1,740	2,010	1,940	1,410	1,780	2,670	5,200	3,630	2,080	987	1,260
12	1,290	1,610	1,530	1,910	1,380	1,920	3,260	4,440	3,730	2,230	1,220	1,320
13	1,220	1,720	1,570	1,440	1,370	2,040	3,810	4,870	4,070	2,160	1,460	1,300
14	938	1,860	1,640	1,700	1,440	2,420	3,550	4,910	3,950	1,980	1,340	1,340
15	1,100	1,750	1,620	1,690	1,400	1,800	3,830	5,550	3,740	1,920	1,440	1,090
16	1,320	1,880	1,640	1,840	1,290	1,860	4,390	5,220	3,260	1,920	1,340	1,090
17	1,660	1,790	1,620	1,820	1,140	1,640	5,020	5,050	3,230	1,800	1,370	1,250
18	1,720	1,950	1,640	1,750	1,430	1,580	5,720	5,460	3,300	1,780	1,000	1,270
19	1,590	1,620	1,690	1,500	1,510	1,710	5,600	5,920	3,350	1,680	1,230	1,280
20	1,230	1,900	1,630	1,720	1,460	1,830	5,420	6,250	3,520	1,680	1,330	1,220
21	1,280	1,670	2,100	1,460	1,470	1,820	4,900	6,300	3,520	1,480	1,390	1,340
22	1,250	1,590	9,380	1,540	1,260	1,620	4,950	5,280	3,240	1,590	1,380	1,030
23	1,380	1,900	5,140	1,480	1,480	1,630	5,250	4,470	2,940	1,750	1,390	1,140
24	1,390	1,620	3,270	1,480	1,200	1,270	5,950	3,870	2,530	1,760	1,430	1,160
25	1,250	1,670	5,010	1,580	1,600	1,750	6,500	3,860	2,600	1,730	1,070	1,280
26	1,300	1,680	3,980	1,250	1,440	1,800	7,090	4,110	2,730	1,860	1,260	1,190
27	1,340	1,590	3,160	1,400	1,190	2,070	6,880	3,820	2,940	2,140	1,400	1,200
28	948	1,350	2,970	1,480	1,410	1,980	6,590	3,610	2,890	1,610	1,320	1,280
29	1,410	1,470	3,000	1,250	-	2,240	6,740	3,580	2,880	1,780	1,360	1,060
30	7,770	1,450	2,990	1,500	-	3,410	6,440	3,710	2,990	1,580	1,320	1,120
31	4,070	-	2,380	1,540	-	2,320	-	3,950	-	1,630	1,230	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	49,486	7,770	938	1,596	98,150
November.....	53,270	2,450	1,330	1,776	105,700
December.....	73,496	9,580	956	2,371	145,800
Calendar year 1945.....	1,092,466	26,100	750	2,993	2,167,000
January.....	54,750	2,500	1,250	1,766	108,600
February.....	38,030	1,600	1,120	1,358	75,430
March.....	56,000	3,410	1,270	1,806	111,100
April.....	129,010	7,090	2,240	4,300	255,900
May.....	167,160	7,500	3,580	5,392	331,600
June.....	113,580	5,660	2,530	3,786	225,300
July.....	64,560	3,130	1,480	2,063	129,100
August.....	41,897	1,580	967	1,352	83,100
September.....	36,594	1,580	954	1,220	72,580
Water year 1945-46.....	877,853	9,580	938	2,405	1,741,000

a No gage-height record; discharge computed on basis of powerhouse output and partial telemark record.

Millerton Lake at Friant, Calif.

Location.- Water-stage recorder, lat. 37°00', long. 119°42', in SW¹/₄ sec. 5, T. 11 S., R. 21 E., at Friant Dam on San Joaquin River and immediately upstream from Cottonwood Creek. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Drainage area.- 1,633 square miles.

Records available.- October 1941 to September 1946.

Extremes.- Maximum contents during year, 441,800 acre-feet June 5 (elevation, 561.2 feet); minimum, 194,600 acre-feet Sept. 30 (elevation, 492.6 feet).
1941-46: Maximum contents, that of June 5, 1946; minimum recorded, 20,190 acre-feet Nov. 3, 1945 (elevation, 379.6 feet).

Remarks.- Reservoir is formed by gravity-type concrete dam with spillway near center, completed (except for control valves and spillway drum gates) in December 1942. Total usable capacity, 419,100 acre-feet between elevations 375.4 feet (invert of river outlet) and 560.0 feet (spillway crest elevation) above mean sea level. Millerton Lake is one of the storage units in Central Valley project. Records show contents at 12 p.m.

Cooperation.- Gage-height record furnished by Bureau of Reclamation.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	253,000	240,300	250,800	300,000	285,100	273,600	277,400	407,400	432,100	426,400	355,700	252,400
2	251,700	241,300	249,800	301,500	285,100	274,000	278,700	413,000	435,200	425,500	352,600	248,900
3	250,500	242,200	248,900	303,600	285,500	275,000	280,100	416,800	438,700	424,700	349,100	246,300
4	248,900	242,500	247,900	305,100	285,500	275,300	281,800	421,200	441,400	423,400	345,200	243,800
5	247,300	242,800	246,900	305,100	285,800	275,700	283,900	424,700	441,800	421,600	341,700	241,900
6	246,000	243,800	246,300	304,000	286,500	275,700	286,300	428,600	441,400	419,900	338,300	240,600
7	244,100	244,400	246,000	303,300	286,800	275,300	288,400	429,300	441,000	417,700	334,800	238,700
8	242,500	245,400	245,400	302,800	287,200	275,000	290,200	430,300	440,100	416,000	331,400	236,200
9	241,600	245,700	244,700	301,800	287,200	275,700	292,200	430,300	439,600	414,700	328,000	234,300
10	240,600	246,000	244,400	300,800	287,200	276,000	294,000	428,600	439,600	413,400	324,600	232,200
11	229,400	246,600	244,700	299,700	287,800	276,000	296,100	426,000	438,700	411,700	320,500	230,300
12	238,400	246,600	244,400	298,600	288,200	275,700	299,000	422,000	438,300	410,000	316,400	228,800
13	236,800	246,900	244,100	296,500	288,200	275,700	302,600	421,200	438,300	408,200	313,100	227,000
14	235,000	247,300	243,800	295,100	288,500	276,000	305,800	421,600	438,300	406,500	309,400	225,500
15	233,100	247,600	243,800	293,300	289,200	275,300	309,400	425,400	437,800	404,400	306,200	223,400
16	232,200	248,500	243,500	292,200	289,200	275,300	313,400	424,200	436,900	402,200	302,600	221,000
17	231,600	249,200	243,500	290,800	289,200	274,300	319,000	425,100	436,500	399,700	299,300	218,600
18	231,300	249,800	243,500	289,400	289,500	273,600	325,400	426,800	436,100	396,800	295,400	216,800
19	230,300	250,100	243,200	287,700	270,200	272,900	331,000	429,500	435,800	393,800	291,900	215,000
20	229,100	250,800	243,200	285,300	270,600	272,300	337,100	432,100	436,100	390,900	288,800	213,000
21	227,900	251,100	244,100	283,500	270,900	271,900	342,100	433,400	436,100	387,600	285,600	211,200
22	226,400	251,100	240,500	281,800	271,200	271,200	346,800	431,200	436,100	384,700	282,800	208,900
23	225,500	251,700	248,200	279,700	271,600	270,900	351,800	428,600	435,200	381,800	279,700	207,000
24	224,600	252,100	271,600	277,700	271,600	269,500	358,100	428,600	433,900	379,000	277,000	205,200
25	223,400	252,100	279,400	276,000	272,300	269,200	365,200	426,400	432,500	376,100	273,300	203,500
26	222,500	252,400	284,900	273,600	272,600	268,900	373,700	427,300	431,700	373,300	270,200	201,800
27	221,900	252,400	288,000	271,600	272,600	269,200	381,400	427,300	430,300	371,200	267,500	199,800
28	220,700	251,700	290,800	269,500	272,900	269,200	388,000	427,300	429,500	368,000	264,200	198,100
29	220,400	251,700	293,700	267,200	-	270,200	395,500	427,700	428,100	365,200	261,500	196,200
30	232,800	251,100	296,500	265,100	-	275,300	401,800	428,600	427,300	361,600	258,600	194,600
31	238,400	-	298,300	264,800	-	276,300	-	429,900	-	358,800	255,600	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	512.4	254,000	-
Oct. 31.....	507.5	238,400	-15,600
Nov. 30.....	511.5	251,100	+12,700
Dec. 31.....	525.4	298,300	+47,200
Calendar year 1945...	-	-	+77,300
Jan. 31.....	515.7	264,800	-33,500
Feb. 28.....	519.1	272,900	+8,100
Mar. 31.....	519.1	276,300	+3,400
Apr. 30.....	552.0	401,800	+125,500
May 31.....	558.5	429,900	+28,100
June 30.....	557.9	427,300	-2,600
July 31.....	541.5	358,800	-69,500
Aug. 31.....	512.9	255,600	-103,200
Sept. 30.....	492.6	194,600	-61,000
Water year 1945-46...	-	-	-59,400

San Joaquin River below Friant, Calif.

Location.- Water-stage recorder, lat. 36°59'04", long. 119°43'24", in SW¹/₄ sec. 7, T. 11 S., R. 21 E., 0.5 mile west of Friant, 1.5 miles downstream from Cottonwood Creek, and 2 miles downstream from Friant Dam. Datum of gage is 294.00 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 1,675 square miles.

Records available.- October 1938 to September 1946. October 1907 to December 1913 at site 4.5 miles upstream. December 1913 to September 1938 at site 2.5 miles upstream.

Average discharge.- 39 years (1907-46), 2,378 second-feet, including diversions to Madera Canal, 1944-46.

Extremes.- Maximum discharge during year, 6,560 second-feet (regulated) May 7-11 (gage height, 8.90 feet); minimum, 1,010 second-feet (regulated) Mar. 5, 6.
1907-46: Maximum discharge, 77,200 second-feet Dec. 11, 1937 (gage height, 23.8 feet, site and datum then in use); minimum, 5.5 second-feet (regulated) Oct. 20, 1941.

Remarks.- Records excellent. There are seven reservoirs and eleven power plants above station. (See records for Florence Lake, Huntington Lake, Shaver Lake, and Millerton Lake.) Diversion for irrigation through Madera Canal, above station, began June 4, 1944. Diversion for water years 1944, 1945, and 1946, amounted to 49,400, 110,000, and 120,000 acre-feet, respectively.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

4.4	1,070	5.9	2,540	8.0	5,180
4.6	1,240	6.5	3,240	8.5	5,920
5.0	1,610	7.0	3,840	8.9	6,560
5.4	2,010	7.5	4,490		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,730	1,430	1,450	1,490	1,200	1,210	2,000	3,310	2,930	3,070	2,760	2,360
2	1,730	1,430	1,450	1,500	1,200	1,210	1,700	3,500	2,930	3,070	2,780	2,360
3	1,720	1,430	1,450	1,500	1,220	1,210	1,570	4,150	3,220	3,070	2,740	2,280
4	1,720	1,430	1,450	1,800	1,210	1,210	1,570	4,520	4,100	3,080	2,730	2,090
5	1,720	1,430	1,450	2,510	1,210	1,140	1,570	4,520	4,620	3,070	2,730	1,960
6	1,720	1,430	1,450	2,500	1,200	1,200	1,570	5,280	4,630	3,010	2,730	1,900
7	1,720	1,440	1,450	2,500	1,200	1,600	1,570	6,370	4,400	2,940	2,720	1,920
8	1,720	1,440	1,450	2,500	1,200	1,600	1,570	6,560	4,250	2,820	2,700	1,920
9	1,710	1,440	1,450	2,500	1,200	1,600	1,580	6,560	4,050	2,610	2,700	1,920
10	1,710	1,440	1,440	2,500	1,200	1,600	1,580	6,560	3,950	2,610	2,700	1,870
11	1,710	1,440	1,440	2,480	1,200	1,830	1,580	6,290	3,830	2,610	2,700	1,800
12	1,710	1,440	1,440	2,480	1,200	2,050	1,700	5,840	3,560	2,610	2,700	1,610
13	1,710	1,440	1,440	2,480	1,210	2,210	1,810	4,930	3,520	2,610	2,700	1,610
14	1,700	1,440	1,440	2,480	1,210	2,330	1,610	4,320	3,540	2,610	2,690	1,610
15	1,700	1,440	1,440	2,480	1,220	2,160	1,660	4,320	3,540	2,600	2,690	1,610
16	1,700	1,440	1,440	2,470	1,220	2,050	2,180	4,230	3,340	2,640	2,690	1,920
17	1,690	1,440	1,440	2,470	1,210	2,050	2,350	4,240	3,170	2,750	2,690	2,000
18	1,690	1,440	1,440	2,470	1,210	2,090	2,520	4,270	3,080	2,740	2,680	1,970
19	1,690	1,450	1,440	2,470	1,210	2,110	2,550	4,280	3,020	2,740	2,640	1,860
20	1,690	1,450	1,440	2,470	1,210	2,110	2,340	4,580	3,020	2,730	2,540	1,860
21	1,690	1,450	1,450	2,460	1,210	2,050	2,340	5,420	3,070	2,750	2,530	1,850
22	1,690	1,450	1,460	2,460	1,210	1,940	2,450	5,950	3,070	2,730	2,530	1,850
23	1,690	1,450	1,460	2,460	1,210	1,940	2,600	5,350	2,990	2,770	2,520	1,820
24	1,630	1,450	1,460	2,450	1,210	1,940	2,610	4,400	2,820	2,770	2,520	1,770
25	1,680	1,450	1,470	2,450	1,210	1,880	2,780	3,840	2,920	2,760	2,510	1,760
26	1,580	1,450	1,480	2,450	1,210	1,830	3,000	3,540	3,010	2,820	2,510	1,760
27	1,490	1,450	1,480	2,450	1,210	1,940	3,010	3,460	3,070	2,880	2,500	1,750
28	1,490	1,450	1,480	2,450	1,210	2,010	3,040	3,340	3,070	2,880	2,480	1,750
29	1,490	1,450	1,490	2,440	-	2,020	3,050	3,060	3,070	2,870	2,470	1,750
30	1,450	1,450	1,490	2,440	-	2,030	3,060	2,930	3,070	2,840	2,440	1,700
31	1,430	-	1,490	1,710	-	2,030	-	2,930	-	2,770	2,360	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	51,550	1,730	1,430	1,663	102,200
November	43,260	1,450	1,430	1,442	85,800
December	45,100	1,490	1,440	1,455	89,450
Calendar year 1945	1,005,184	6,540	550	2,754	1,994,000
January	72,270	2,510	1,490	2,331	143,300
February	33,820	1,220	1,200	1,208	67,080
March	56,180	2,330	1,140	1,812	111,400
April	64,940	3,060	1,570	2,165	128,600
May	142,760	6,560	2,930	4,605	283,200
June	102,920	4,630	2,820	3,431	204,100
July	86,810	3,080	2,600	2,800	172,200
August	81,350	2,760	2,360	2,624	161,400
September	56,990	2,360	1,700	1,900	113,000
Water year 1945-46	837,950	6,560	1,140	2,296	1,662,000

San Joaquin River near Mendota, Calif.

Location.- Water-stage recorder, lat. 36°48'35", long. 120°22'35", in S $\frac{1}{2}$ sec. 7, T. 13 S., R. 15 E., 2.5 miles downstream from Mendota Dam and 4 miles north of Mendota.

Datum of gage is 142.53 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 4,310 square miles.

Records available.- October 1939 to September 1946.

Extremes.- Maximum discharge during year, 4,850 second-feet May 10 (gage height, 8.42 feet); minimum, 147 second-feet (regulated) Mar. 7.

1944-46: Maximum discharge, 6,440 second-feet June 19, 1945; maximum gage height, 10.12 feet Feb. 8, 1945; minimum discharge, 12 second-feet (regulated) Oct. 26, 1944.

Remarks.- Records fair. Flow regulated by Friant and Mendota Dams. Diversions above station for irrigation.

Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a355	348	1,410	2,620	2,110	421	288	1,010	1,580	693	348	331
2	a340	492	1,380	2,480	1,510	473	314	1,580	1,520	710	341	331
3	324	822	1,380	2,360	1,380	489	317	1,790	1,460	710	334	311
4	344	894	1,520	2,350	1,340	509	320	1,550	1,480	701	331	320
5	369	849	1,740	2,500	1,310	417	320	1,700	1,620	705	320	334
6	365	862	1,620	2,950	1,260	337	320	1,660	2,070	693	301	334
7	376	934	1,610	3,280	1,240	237	314	2,600	2,600	681	307	327
8	540	975	1,600	3,480	1,230	195	301	3,760	2,700	661	311	324
9	714	1,020	1,520	3,490	1,200	291	285	4,510	2,540	625	311	324
10	718	1,080	1,460	3,320	1,180	279	307	4,810	2,360	458	320	304
11	800	1,100	1,460	3,070	923	258	331	4,740	1,720	288	324	264
12	a860	1,110	1,400	2,980	1,020	255	324	4,650	1,460	246	327	249
13	903	1,140	1,370	2,930	1,120	348	320	4,430	1,390	231	331	249
14	908	1,230	1,340	2,870	1,120	505	314	3,280	1,130	252	337	246
15	903	1,280	1,310	2,780	1,100	402	304	2,540	1,010	243	344	249
16	903	1,340	1,320	2,710	1,170	282	291	2,200	1,020	237	348	252
17	890	1,350	1,310	2,680	1,140	276	291	2,190	1,010	228	341	240
18	872	1,330	1,290	2,640	1,100	276	295	2,390	894	258	a330	222
19	858	1,370	1,280	2,600	1,100	273	295	2,410	710	304	311	225
20	840	1,390	1,280	2,560	1,080	267	295	2,310	681	307	314	225
21	822	1,370	1,320	2,570	1,060	267	298	2,350	569	291	324	234
22	772	1,340	1,330	2,540	1,040	295	295	3,180	477	285	334	237
23	710	1,320	1,350	2,520	998	307	291	3,990	457	279	331	237
24	701	1,290	1,600	2,510	885	311	291	3,930	521	273	327	237
25	685	1,280	2,640	2,460	844	307	295	3,160	577	285	327	249
26	657	1,260	3,310	2,430	813	304	374	2,620	633	295	327	279
27	576	1,410	3,360	2,390	488	301	621	2,390	609	295	327	276
28	406	1,350	3,320	2,370	282	285	633	1,630	621	317	327	270
29	410	1,370	3,590	2,350	-	264	750	1,410	661	355	327	270
30	414	1,440	3,260	2,310	-	261	854	1,530	681	365	327	267
31	402	-	2,810	2,280	-	261	-	1,560	-	355	331	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	19,737	908	324	637	39,150
November.....	34,326	1,440	348	1,144	68,080
December.....	56,490	3,590	1,280	1,822	112,000
Calendar year 1945.....	704,817	6,360	267	1,931	1,398,000
January.....	83,380	3,490	2,280	2,690	165,400
February.....	31,043	2,110	282	1,109	61,570
March.....	9,954	509	196	321	19,740
April.....	10,848	854	285	362	21,520
May.....	83,960	4,810	1,010	2,708	165,500
June.....	36,761	2,700	457	1,225	72,910
July.....	12,626	710	228	407	25,040
August.....	10,140	348	301	327	20,110
September.....	8,217	334	222	274	16,300
Water year 1945-46.....	397,482	4,810	196	1,089	788,300

a No gage-height record; discharge computed on basis of records for other stations on San Joaquin River.

San Joaquin River near Dos Palos, Calif.

Location.- Water-stage recorder, lat. 36°59', long. 120°30', in sec. 12, T. 11 S., R. 13 E., 800 feet downstream from head of Temple Slough and 7 miles east of Dos Palos.
Datum of gage is 116.5 feet above mean sea level (Corps of Engineers, War Department, bench mark).

Drainage area.- 5,630 square miles.

Records available.- October 1940 to September 1946.

Extremes (regulated).- Maximum discharge during year, 3,750 second-feet May 11 (gage height, 10.22 feet); minimum, 0.2 second-foot Aug. 7-15.
1944-46: Maximum discharge, 5,630 second-feet Feb. 9, 1945 (gage height, 11.97 feet); no flow part of July 27, 28, 1945.

Remarks.- Records good except those below 1 second-foot, which are fair. Flow regulated by Ffiant and Mendota Dams and by diversion through Temple Slough. Many diversions above station for irrigation.

Cooperation.- Thirteen discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	262	1,320	2,700	2,270	334	52	514	1,400	396	5.1	0.3
2	146	255	1,300	2,580	1,810	396	57	867	1,370	408	5.1	.3
3	144	420	1,290	2,470	1,490	426	68	1,390	1,310	417	1.4	.3
4	141	618	1,340	2,410	1,400	387	68	1,300	1,280	417	.3	.3
5	152	632	1,540	2,430	1,380	334	57	1,310	1,350	423	.3	.3
6	155	636	1,730	2,680	1,320	262	54	1,440	1,570	426	.3	.3
7	156	586	1,610	3,020	1,300	211	54	1,720	2,140	414	.2	.3
8	200	706	1,610	3,160	1,280	141	55	2,630	2,490	395	.2	.4
9	316	746	1,560	3,230	1,260	123	39	3,400	2,420	366	.2	.4
10	366	798	1,480	3,150	1,220	155	34	3,720	2,240	284	.2	.6
11	458	854	1,450	3,070	1,140	141	56	3,740	1,950	110	.2	.6
12	608	846	1,420	2,840	916	130	59	3,730	1,340	33	a.2	.6
13	640	858	1,370	2,800	1,080	125	60	3,660	1,260	11	a.2	.7
14	646	910	1,320	2,750	1,120	219	59	3,360	1,120	8.2	a.2	.7
15	640	982	1,300	2,720	1,120	240	59	2,230	794	6.5	a.2	.7
16	636	1,020	1,260	2,680	1,150	177	64	2,000	786	5.5	a.3	.7
17	636	1,120	1,260	2,650	1,170	101	66	1,930	786	4.7	a.3	.7
18	622	1,110	1,240	2,610	1,120	66	66	2,010	726	4.4	a.3	.7
19	650	1,100	1,220	2,650	1,100	64	68	2,140	559	4.4	a.3	.7
20	646	1,160	1,220	2,540	1,070	60	70	2,110	480	5.1	.3	.7
21	604	1,180	1,240	2,540	1,050	58	73	2,110	447	5.1	.3	.7
22	598	1,170	1,270	2,530	1,020	41	71	2,280	337	4.4	.3	.7
23	548	1,130	1,260	2,520	1,000	36	70	3,260	326	4.4	.3	.5
24	531	1,130	1,300	2,500	918	36	66	3,450	286	4.4	.3	.5
25	531	1,100	1,940	2,470	846	37	65	3,170	225	4.4	.3	.5
26	501	1,100	2,790	2,450	806	36	72	2,580	269	4.4	.3	14
27	471	1,110	3,140	2,420	753	36	172	2,300	328	4.7	.3	33
28	335	1,280	3,090	2,410	328	33	272	1,980	315	4.7	.3	34
29	265	1,240	3,260	2,390	-	31	299	1,230	334	5.1	.3	35
30	272	1,320	3,270	2,330	-	31	435	1,300	378	5.1	.3	34
31	272	-	2,920	2,320	-	40	-	1,340	-	5.1	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	13,050	650	141	421	25,880
November.....	27,479	1,320	255	916	54,500
December.....	53,320	3,270	1,220	1,720	105,800
Calendar year 1945	602,845	5,600	61	1,652	1,196,000
January.....	82,020	3,230	2,320	2,646	162,700
February.....	32,437	2,270	328	1,158	64,340
March.....	4,507	426	31	145	8,940
April.....	2,780	435	34	92.0	5,470
May.....	70,201	3,740	514	2,265	139,200
June.....	30,636	2,430	225	1,021	60,770
July.....	4,191.6	426	4.4	135	8,130
August.....	19.1	5.1	.2	.62	38
September.....	163.2	35	.3	5.44	324
Water year 1945-46	320,783.9	3,740	.2	879	636,300

a No gage-height record; discharge interpolated.

San Joaquin River near El Nido, Calif.

Location.- Water-stage recorder, lat. 37°06'45", long. 120°35'20", in NE¹ sec. 31, T. 9 S., R. 13 E., on Chamberlain Slough 30 feet downstream from head, 5 miles southwest of El Nido. Datum of gage is 100.14 feet above mean sea level (Bureau of Reclamation bench mark).

Drainage area.- 6,940 square miles.

Records available.- October 1939 to September 1946.

Extremes.- Maximum discharge during year, 2,220 second-feet May 13 (gage height, 8.41); no flow at times (result of irrigation operations).
1944-46: Maximum discharge, 3,120 second-feet Feb. 9, 1945 (gage height, 9.84 feet); no flow at times (result of irrigation operations).

Remarks.- Records good except those for September and those for periods of indefinite stage-discharge relation or doubtful or no gage-height record, which are fair. Flow regulated by Friant and Mendota Dams and by diversion through Temple Slough. Many diversions above station for irrigation. Same recorder used for Chamberlain Slough near El Nido; add discharge at that station to obtain total flow of river at this point.

Cooperation.- Ten discharge measurements furnished by Bureau of Reclamation and one by Miller & Lux, Inc.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a90	126	791	1,690	1,340	a230	153	313	827	h348	0	0.4
2	a90	112	773	1,570	1,160	a290	236	434	824	190	0	.5
3	85	148	762	1,490	932	a320	256	728	794	199	0	1.0
4	82	317	776	1,410	854	301	202	818	765	204	0	2.5
5	82	372	860	1,420	830	266	136	768	788	208	0	.8
6	90	363	1,000	1,500	806	218	94	854	884	215	0	.3
7	97	399	962	1,710	785	178	68	965	1,110	220	0	.2
8	110	416	956	1,880	768	121	59	1,280	1,400	217	0	.2
9	142	435	941	1,960	765	94	51	1,760	1,420	211	0	.2
10	217	471	896	1,940	755	97	34	2,080	1,340	175	0	.2
11	226	514	866	1,840	742	112	39	2,170	1,200	97	0	0
12	339	521	851	1,710	610	93	47	2,200	881	33	0	0
13	372	523	815	1,650	d648	94	49	2,210	765	5.8	0	.1
14	374	543	788	1,630	d682	117	50	2,170	725	0	0	.1
15	377	590	765	1,600	d685	184	45	1,560	538	0	0	.1
16	368	628	745	1,570	d692	159	42	1,190	497	0	0	.1
17	370	672	742	1,550	d715	98	43	1,120	502	0	0	.1
18	359	690	732	1,530	d695	a55	46	1,140	478	0	0	.1
19	346	675	725	1,510	d682	a50	46	1,220	394	0	0	.2
20	390	698	720	1,490	d675	a45	49	1,230	309	0	0	.2
21	335	710	730	1,480	d660	a40	52	1,220	279	0	0	0
22	329	713	750	1,480	d650	a35	52	1,250	238	0	0	0
23	307	700	758	1,460	d638	a30	47	1,680	94	0	0	0
24	287	685	830	1,450	d605	a29	44	2,000	e200	0	0	0
25	293	692	1,100	1,450	d545	a29	42	1,960	e220	0	0	0
26	291	672	1,620	1,430	d514	28	41	1,610	h222	0	0	.4
27	279	668	1,960	1,410	d495	28	58	1,390	h155	0	0	.7
28	229	752	2,060	1,400	a230	28	142	1,240	h322	0	0	1.0
29	139	740	2,100	1,400	-	28	180	828	h333	0	0	3.4
30	135	768	2,120	1,380	-	28	235	776	h364	0	6.3	3.4
31	131	-	1,950	1,360	-	30	-	794	-	0	7.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,361	390	82	237	14,600
November.....	16,313	768	112	544	32,360
December.....	32,444	2,120	720	1,047	64,350
Calendar year 1945.....	370,454	3,090	40	1,015	734,700
January.....	48,350	1,960	1,360	1,560	95,900
February.....	20,158	1,340	230	720	39,980
March.....	3,457	320	28	112	6,860
April.....	2,638	256	34	87.9	5,230
May.....	40,958	2,210	313	1,312	81,240
June.....	18,868	1,420	94	629	37,420
July.....	2,322.8	348	0	74.9	4,610
August.....	14.0	7.7	0	.45	28
September.....	16.2	3.4	0	.54	32
Water year 1945-46.....	192,900.0	2,210	0	528	382,600

a No gage-height record; discharge computed on basis of records for other stations on San Joaquin River.

d Doubtful gage-height record; discharge computed on basis of recorded gage heights and records for other stations on San Joaquin River.

e Stage-discharge relation indefinite; discharge computed on basis of records for other stations on San Joaquin River.

h Computed from staff-gage readings.

San Joaquin River at Fremont Ford Bridge, Calif.

Location.- Water-stage recorder, lat. 37°19', long. 120°56', in Orestimba Grant, at Fremont Ford Bridge, Merced County, 2 miles downstream from Salt Slough, 5 miles west of Stevinson, and 5.7 miles upstream from Merced River. Datum of gage is at mean sea level, unadjusted.

Drainage area.- 8,090 square miles.

Records available.- October 1944 to September 1946. February 1937 to September 1946 in reports of Division of Water Resources, Department of Public Works, State of California

Extremes.- Maximum discharge during year, 3,440 second-feet Dec. 29 (gage height, 67.57 feet); minimum, 148 second-feet Aug. 14.
1944-46: Maximum discharge, 4,140 second-feet Feb. 12, 1945 (gage height, 68.60 feet); minimum, 145 second-feet Nov. 8, 9, 1944.

Remarks.- Records fair. Practically entire flow of river and tributaries diverted during irrigation season; low flows comprised mainly of return water. During periods of high flow some water bypasses this station through Mud Slough.

Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation and one by Division of Water Resources, Department of Public Works, State of California.

Discharge measurements, in second-feet, of Mud Slough near Fremont Ford Bridge during water year 1945-46

Nov. 8	25.1	Dec. 30	1,180	Mar. 11	94	May 8	7.4
Dec. 7	202	Feb. 8	166	Apr. 10	35.2	June 7	6.4
						July 3	.3

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	445	425	1,600	3,280	2,580	984	1,180	557	1,180	380	212	296
2	445	418	1,640	3,110	2,360	778	1,560	644	1,850	407	210	313
3	438	395	1,640	2,910	2,310	754	1,470	771	1,880	567	206	348
4	412	392	1,640	2,750	2,080	750	1,290	1,120	1,870	590	190	360
5	390	470	1,650	2,690	1,950	746	1,170	1,400	1,740	578	190	365
6	362	590	1,750	2,670	1,920	712	984	1,450	1,660	578	188	390
7	420	715	1,960	2,790	1,840	647	869	1,570	1,700	581	182	400
8	530	701	1,990	2,950	1,770	581	820	1,730	1,900	593	175	410
9	623	757	1,940	3,050	1,700	509	802	2,010	2,160	593	175	402
10	715	802	1,910	3,090	1,660	460	736	2,320	2,310	584	167	388
11	810	866	1,840	3,100	1,610	438	659	2,560	2,360	554	156	382
12	841	908	1,760	3,050	1,560	438	575	2,710	2,300	470	154	358
13	914	956	1,720	2,940	1,410	415	527	2,870	2,060	375	150	330
14	1,020	978	1,660	2,830	1,370	408	482	2,980	1,760	315	148	310
15	1,070	1,010	1,630	2,750	1,430	402	462	3,040	1,580	282	165	320
16	1,090	1,070	1,560	2,700	1,490	468	460	2,930	1,350	264	177	335
17	1,090	1,130	1,510	2,660	1,640	521	440	2,570	1,210	253	202	368
18	1,050	1,200	1,460	2,640	2,020	479	418	2,240	1,170	236	206	380
19	1,010	1,250	1,450	2,600	2,110	442	425	2,140	1,090	220	206	362
20	1,010	1,260	1,420	2,560	1,930	435	452	2,170	981	204	196	355
21	1,020	1,270	1,440	2,570	1,740	440	462	2,200	841	196	186	345
22	925	1,310	1,520	2,570	1,590	450	442	2,210	718	192	190	313
23	838	1,350	1,750	2,580	1,510	448	410	2,260	557	188	180	284
24	760	1,350	2,080	2,570	1,460	448	380	2,420	521	190	177	266
25	674	1,370	2,450	2,560	1,390	432	350	2,700	509	188	200	262
26	641	1,410	2,700	2,540	1,290	428	325	2,900	430	206	216	262
27	638	1,410	2,980	2,510	1,220	415	308	2,970	408	232	220	253
28	638	1,400	3,280	2,480	1,160	405	340	2,970	445	222	262	243
29	608	1,500	3,430	2,450	-	398	362	2,750	405	214	291	253
30	521	1,580	3,420	2,420	-	418	452	2,340	375	214	275	262
31	455	-	3,350	2,400	-	641	-	2,000	-	210	284	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	22,423	1,090	392	723	44,480
November.....	30,243	1,580	392	1,008	59,990
December.....	62,140	3,430	1,420	2,005	123,300
Calendar year 1945.....	645,338	4,130	382	1,768	1,280,000
January.....	84,770	3,280	2,400	2,735	168,100
February.....	47,900	2,380	1,160	1,711	95,010
March.....	16,290	984	398	525	32,310
April.....	19,612	1,560	308	654	38,900
May.....	67,502	3,040	557	2,177	133,900
June.....	40,020	2,360	375	1,354	79,380
July.....	10,676	593	188	351	21,570
August.....	6,136	291	148	198	12,170
September.....	9,935	410	243	331	19,710
Water year 1945-46.....	417,847	3,430	148	1,145	828,800

San Joaquin River near Newman, Calif.

Location.- Water-stage recorder, lat. 37°21'02", long. 120°58'34", in SW $\frac{1}{4}$ sec. 3, T. 7 S., R. 9 E., at bridge on Hills Ferry road, 300 feet downstream from Merced River and 3.5 miles northeast of Newman. Datum of gage is 51.0 feet above datum of Corps of Engineers, War Department.

Drainage area.- 9,990 square miles.

Records available.- April 1912 to September 1946. Prior to Oct. 1, 1937, and subsequent to Sept. 30, 1943, flow that bypassed station at discharges above about 9,000 second-feet not included.

Average discharge.- 34 years, 2,558 second-feet.

Extremes.- Maximum discharge during year, 5,480 second-feet May 10 (gage height, 9.95 feet); minimum, 392 second-feet Aug. 24 (gage height, 2.04 feet).
1912-46: Maximum discharge, 33,000 second-feet Mar. 7, 1938 (gage height, 18.50 feet); minimum, 15 second-feet Aug. 9, 10, 1924.

Remarks.- Records excellent except those for February to April and September, which are good. Practically entire flow of river and tributaries diverted during irrigation season; low flows comprised mainly of return water. See record for Merced River Slough which shows flow bypassing station.

Cooperation.- Twelve discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	768	676	1,850	4,980	4,010	2,400	1,610	3,640	3,120	724	498	564
2	760	672	1,860	4,820	3,970	2,190	2,040	3,730	2,700	712	484	571
3	744	658	1,880	4,540	3,970	2,130	2,320	3,840	3,220	1,020	498	557
4	736	648	1,880	4,250	3,780	2,090	2,190	4,100	3,570	923	515	602
5	704	690	1,910	4,190	3,590	2,070	2,090	4,400	3,600	896	512	606
6	708	807	2,000	4,630	3,460	2,050	1,880	4,440	3,510	878	494	610
7	794	933	2,180	4,660	3,340	1,970	1,720	4,500	3,400	900	459	613
8	896	933	2,320	4,780	3,250	1,910	1,690	4,800	3,280	932	448	632
9	1,120	974	2,290	4,940	3,170	1,820	1,650	5,130	3,180	923	452	636
10	1,200	1,010	2,250	5,060	3,120	1,540	1,520	5,400	3,290	905	459	620
11	1,270	1,080	2,180	5,110	3,080	1,170	1,370	4,650	3,310	864	445	610
12	1,310	1,140	2,100	5,080	3,000	1,060	1,250	3,800	3,270	796	459	579
13	1,350	1,210	2,050	4,950	2,890	1,020	1,130	3,780	2,960	692	442	557
14	1,450	1,260	1,990	4,760	2,790	1,090	1,060	3,820	2,510	644	424	564
15	1,500	1,300	1,960	4,590	2,820	1,160	978	3,870	2,280	602	438	582
16	1,540	1,350	1,900	4,510	2,900	1,180	946	3,830	2,110	582	466	606
17	1,540	1,360	1,840	4,460	3,300	1,220	870	3,480	1,900	574	494	624
18	1,520	1,440	1,780	4,410	3,500	1,070	807	3,010	1,740	540	487	616
19	1,480	1,460	1,760	4,360	3,690	892	812	2,750	1,580	501	480	616
20	1,460	1,490	1,730	4,300	3,540	1,030	861	2,950	1,420	518	466	620
21	1,390	1,500	1,730	4,300	3,270	1,100	897	4,080	1,240	512	448	602
22	1,260	1,540	1,880	4,320	3,070	1,080	920	4,610	1,110	522	448	574
23	1,140	1,590	2,290	4,350	2,930	1,050	879	4,820	1,000	490	428	543
24	1,050	1,600	2,760	4,360	2,850	1,030	812	4,830	959	448	398	518
25	980	1,610	3,220	4,360	2,780	987	752	4,620	887	452	420	504
26	897	1,660	3,670	4,320	2,660	942	1,670	4,630	800	462	462	494
27	879	1,660	4,050	4,290	2,580	878	2,690	4,840	752	490	448	508
28	897	1,640	4,340	4,220	2,520	870	3,070	5,270	798	518	490	508
29	870	1,710	4,680	4,160	-	874	3,360	5,040	776	540	550	522
30	772	1,830	5,050	4,100	-	951	3,500	4,480	724	522	550	554
31	704	-	5,090	4,050	-	1,060	-	3,850	-	494	536	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	33,769	1,540	704	1,089	66,980
November.....	37,451	1,830	648	1,248	74,280
December.....	78,470	5,090	1,730	2,531	155,600
Calendar year 1945	1,082,205	8,940	648	2,965	2,146,000
January.....	140,210	5,110	4,050	4,523	278,100
February.....	89,810	4,010	2,520	3,208	178,100
March.....	41,985	2,400	870	1,354	83,280
April.....	47,344	3,500	752	1,578	93,910
May.....	130,970	5,400	2,750	4,225	259,800
June.....	64,966	3,600	724	2,166	128,900
July.....	20,576	1,020	468	664	40,810
August.....	14,598	850	398	471	29,950
September.....	17,311	636	494	577	34,340
Water year 1945-46	717,460	5,400	398	1,966	1,423,000

San Joaquin River near Vernalis, Calif.

Location. Water-stage recorder, lat. 37°40'34", long. 121°15'51", in El Pescadero Grant, at Durham Ferry highway bridge, 3 miles downstream from Stanislaus River and 3.4 miles northeast of Vernalis, San Joaquin County. Datum of gage is 8.4 feet above datum of Corps of Engineers, War Department.

Drainage area.- 14,010 square miles.

Records available.- July 1922 to September 1946 (1922-23, 1925-29, low-water records only).

Average discharge.- 17 years (1929-46), 5,604 second-feet.

Extremes.- Maximum discharge during year, 16,500 second-feet May 11 (gage height, 19.28 feet); minimum, 1,060 second-feet Aug. 3, 1922-46; Maximum discharge recorded, 51,200 second-feet Mar. 16, 1938 (gage height, 26.64 feet), including flow through break in levee; maximum gage height, 27.05 feet Feb. 12, 1938, before break in levee; minimum discharge, 184 second-feet Aug. 14, 1931.

Remarks.- Records good. Practically entire flow of river diverted during irrigation season; low flows comprised mainly of return water.

Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,350	2,910	4,240	10,800	6,910	5,030	4,850	10,900	9,920	1,800	1,150	1,460
2	2,350	2,950	4,390	10,900	6,750	4,940	5,040	10,900	9,010	1,710	1,120	1,480
3	2,180	3,040	4,410	10,800	6,710	4,760	5,500	10,800	9,340	1,600	1,090	1,500
4	2,050	3,040	4,360	10,500	6,800	4,400	5,820	11,000	10,400	1,690	1,130	1,520
5	2,050	2,980	4,640	10,400	7,310	4,280	5,780	11,600	11,300	1,760	1,220	1,520
6	2,180	2,950	4,860	11,000	6,680	4,480	5,890	12,200	12,000	1,710	1,230	1,480
7	2,160	3,200	4,950	11,600	6,370	4,690	5,550	12,700	11,700	1,710	1,160	1,450
8	2,630	3,350	5,050	11,400	6,210	4,670	5,370	13,800	10,300	1,770	1,140	1,520
9	3,030	3,400	5,230	11,700	6,030	4,580	5,290	15,500	8,460	1,770	1,180	1,550
10	3,040	3,440	4,950	11,900	5,920	4,390	5,140	16,200	7,300	1,640	1,170	1,570
11	2,990	3,480	4,790	12,000	5,600	3,510	4,470	16,500	7,520	1,610	1,200	1,550
12	2,990	3,290	5,130	11,700	5,540	2,790	4,100	16,100	7,890	1,630	1,260	1,520
13	3,120	3,060	5,230	10,900	5,710	2,910	3,500	14,600	7,610	1,580	1,200	1,520
14	3,280	3,260	5,230	10,100	5,720	3,010	3,460	12,900	6,180	1,550	1,110	1,460
15	3,360	3,580	5,200	9,990	5,800	3,100	3,750	12,400	5,040	1,570	1,100	1,460
16	3,520	3,720	5,110	10,200	5,810	3,070	3,890	12,300	4,310	1,450	1,140	1,510
17	3,490	3,800	4,590	10,100	5,730	3,050	4,460	12,300	3,920	1,360	1,190	1,530
18	3,230	3,820	4,360	9,680	5,680	2,750	5,200	12,000	3,640	1,320	1,290	1,510
19	3,080	3,570	4,790	9,300	5,840	2,800	6,110	12,100	3,280	1,290	1,370	1,500
20	3,010	3,400	4,940	8,480	6,120	3,230	6,910	12,800	2,910	1,260	1,370	1,510
21	3,000	3,660	5,000	7,830	6,170	3,510	7,270	13,500	2,700	1,300	1,290	1,490
22	2,900	3,830	5,290	7,820	5,960	3,700	6,960	14,800	2,500	1,290	1,210	1,480
23	2,740	3,960	6,320	7,800	5,700	3,750	6,410	15,700	2,440	1,280	1,160	1,510
24	2,690	3,740	6,190	7,730	5,380	3,560	6,090	14,600	2,400	1,180	1,180	1,470
25	2,670	3,910	5,990	7,600	5,200	3,470	6,590	12,200	2,200	1,150	1,250	1,440
26	2,620	3,750	6,910	7,270	5,060	3,440	7,380	10,900	2,010	1,170	1,280	1,400
27	2,560	3,520	7,710	7,020	5,060	3,600	8,660	11,500	1,870	1,200	1,320	1,380
28	2,530	3,820	8,460	6,840	4,990	3,250	10,100	13,400	1,780	1,220	1,330	1,380
29	2,490	4,010	9,250	7,250	-	3,190	10,400	14,100	1,770	1,320	1,340	1,400
30	2,480	4,160	9,740	7,390	-	3,490	10,500	13,300	1,800	1,310	1,350	1,430
31	2,750	-	10,400	7,020	-	4,350	-	11,200	-	1,230	1,410	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	85,520	3,520	2,050	2,759	169,600
November.....	104,500	4,160	2,910	3,483	207,300
December.....	177,710	10,400	4,240	5,733	352,500
Calendar year 1945	2,354,970	20,300	1,420	6,452	4,671,000
January.....	294,820	12,000	6,840	9,510	584,800
February.....	166,740	7,310	4,990	5,955	330,700
March.....	115,750	5,030	2,750	3,734	229,600
April.....	180,440	10,500	3,460	6,015	357,900
May.....	404,800	16,500	10,800	13,060	802,900
June.....	175,500	12,000	1,770	5,783	344,100
July.....	45,430	1,800	1,150	1,465	90,110
August.....	37,940	1,410	1,090	1,224	75,250
September.....	44,500	1,570	1,380	1,463	86,260
Water year 1945-46	1,831,650	16,500	1,090	5,018	3,633,000

SAN JOAQUIN RIVER TRIBUTARIES ABOVE FRESNO RIVER

Florence Lake near Big Creek, Calif.

Location.- Water-stage recorder, lat. 37°17', long. 118°58', in SE $\frac{1}{4}$ sec. 36, T. 7 S., R. 27 E., in gatehouse of Ward tunnel intake, near dam on South Fork San Joaquin River, 16 miles northeast of town of Big Creek. Datum of gage is at mean sea level.

Drainage area.- 171 square miles.

Records available.- November 1925 to September 1946.

Extremes.- Maximum contents during year, 64,700 acre-feet Dec. 7-9 (elevation, 7,327.8 feet); minimum, 229 acre-feet Feb. 19, 20 (elevation, 7,224.4 feet).
1925-46: Maximum contents, 65,700 acre-feet July 16, 1935 (elevation, 7,328.8 feet); no available contents Oct. 2-4, 1926, Nov. 30 to Dec. 2, 1927.

Remarks.- Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,400 acre-feet between elevations 7,220.9 feet (throat of ventururi tube in Ward tunnel intake) and 7,327.5 feet (top of spillway drum gates) above mean sea level. Water is diverted through Ward tunnel to Huntington Lake and used for power development in Big Creek plants. Records show contents at 12 p.m., all of which is available for diversion.

Cooperation.- Record of contents, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45,000	58,900	63,900	4,030	241	280	463	13,200	37,000	64,600	63,600	49,300
2	45,100	59,500	64,000	2,650	237	272	447	14,700	38,000	64,500	63,600	48,500
3	45,200	60,000	64,200	1,630	230	279	437	16,300	39,500	64,100	63,600	47,700
4	45,400	60,600	64,400	906	243	263	441	18,200	40,800	64,400	63,600	46,900
5	45,600	61,100	64,500	507	255	259	448	20,500	41,900	64,500	63,400	46,200
6	45,900	61,500	64,600	378	252	269	427	23,200	42,900	64,500	63,100	45,500
7	46,400	61,700	64,700	344	244	306	402	25,900	44,300	64,500	62,800	44,900
8	46,900	62,100	64,700	404	243	351	390	28,500	45,700	64,500	62,300	44,400
9	47,400	62,300	64,700	392	240	383	399	30,800	47,100	64,400	61,800	43,800
10	47,900	62,700	64,200	336	238	397	440	32,400	48,200	64,300	61,600	43,200
11	48,300	62,900	63,800	287	233	370	507	33,200	48,900	64,200	61,300	42,700
12	48,700	63,200	63,400	278	236	352	598	35,800	49,800	64,100	61,000	42,100
13	49,100	63,500	61,700	276	235	374	598	34,100	50,900	64,000	60,600	41,500
14	49,500	63,800	58,800	276	231	382	585	34,300	52,000	63,900	60,100	40,700
15	50,000	64,000	55,600	277	231	380	688	34,600	52,900	63,800	59,700	39,800
16	50,500	64,000	52,300	277	231	378	862	34,700	53,700	63,700	59,300	38,900
17	51,000	64,000	48,700	280	233	382	1,060	35,000	54,200	63,600	59,100	37,800
18	51,400	63,900	45,100	278	231	375	1,180	36,000	55,000	63,600	58,800	37,000
19	51,900	63,900	41,500	272	229	361	1,240	37,200	56,000	63,700	58,400	36,100
20	52,300	63,900	38,000	260	229	341	1,180	38,600	57,500	64,000	57,800	35,200
21	52,700	63,800	34,800	258	231	330	1,130	39,600	58,900	64,100	57,200	34,300
22	53,100	63,900	31,500	254	237	325	1,170	39,900	60,100	64,000	56,700	33,400
23	53,400	63,900	28,300	256	257	327	1,470	39,500	60,900	63,900	56,100	32,500
24	53,700	63,900	25,200	266	259	329	2,460	39,200	61,400	63,900	55,500	31,400
25	54,100	63,800	22,500	270	252	351	3,980	38,900	62,100	64,300	54,900	30,200
26	54,400	63,800	19,400	265	252	413	5,730	38,300	63,100	64,200	54,200	29,000
27	54,600	63,800	16,500	263	269	458	7,010	37,600	63,700	63,800	53,400	27,800
28	54,900	63,700	13,600	258	276	444	8,560	36,900	64,000	63,600	52,600	26,600
29	55,800	63,700	10,700	246	-	390	10,100	36,400	64,300	63,700	51,800	25,500
30	57,500	63,800	7,760	243	-	372	11,600	36,200	64,600	63,700	51,000	24,400
31	58,200	-	5,620	242	-	451	-	36,400	-	63,600	50,200	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	7,306.0	44,800	-
Oct. 31.....	7,321.0	58,200	+13,400
Nov. 30.....	7,326.8	63,800	+5,600
Dec. 31.....	7,247.5	5,620	-58,200
Calendar year 1945....	-	-	+5,410
Jan. 31.....	7,224.5	242	-5,380
Feb. 29.....	7,224.9	276	+34
Mar. 31.....	7,226.6	451	+175
Apr. 30.....	7,280.1	11,600	+11,100
May 31.....	7,295.7	36,400	+24,800
June 30.....	7,327.7	64,600	+28,200
July 31.....	7,326.5	63,600	-1,000
Aug. 31.....	7,312.1	50,200	-13,400
Sept. 30.....	7,279.7	24,400	-25,800
Water year 1945-46....	-	-	-20,400

Note.- From Oct. 1 to Nov. 5 water was diverted from Bear and Mono Creeks into Florence Lake, 3,650 acre-feet in October and 611 acre-feet Nov. 1-5.

South Fork San Joaquin River near Florence Lake, Calif.

Location.- Water-stage recorder, lat. 37°16'20", long. 118°57'50", in SE $\frac{1}{4}$ sec. 36, T. 7 S., R. 27 E., just downstream from spillway of Florence Lake Dam, 6 miles upstream from Bear Creek. Altitude of gage, about 7,200 feet (from topographic map).

Drainage area.- 171 square miles.

Records available.- December 1921 to September 1946.

Average discharge.- 23 years (1922-31, 1932-46), 298 second-feet, combined flow of South Fork San Joaquin River and Ward tunnel at intake.

Extremes (regulated).- Maximum discharge during year, 582 second-feet Nov. 25 (gage height, 10.97 Feet); no flow at times December to June.
1921-46: Maximum discharge, 4,320 second-feet June 6, 1940 (gage height, 15.38 feet); no flow at times.

Remarks.- Records good. Flow regulated by Florence Lake (see preceding page) and by diversion into Ward tunnel (see following page).

Cooperation.- Water-stage recorder graph and several discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

7.83	0	8.3	2.8	9.1	70
7.9	.1	8.4	4.5	9.4	114
8.0	.4	8.5	7.1	9.8	185
8.1	1.0	8.6	12		
8.2	1.7	8.8	30		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.6	1.1		0	0.1	0.1	0	0	67	1.0	0.6
2	.5	.6	1.0		0	.1	.1	0	0	50	1.0	.3
3	.5	.6	1.3		0	.1	.1	0	0	28	1.0	.3
4	.5	.6	8.2		0	0	.1	0	0	3.3	.9	.4
5	.5	.7	14		0	.1	.1	0	0	27	.8	.6
6	.6	.8	40		0	.2	.1	0	0	36	.8	.5
7	.5	.7	59		0	.2	.1	0	0	39	.8	.5
8	.5	.7	66		0	.3	.1	0	0	35	.8	.5
9	.5	.8	67		0	.2	.1	0	0	19	.8	.5
10	.4	.8	17		0	.2	.2	.1	0	4.7	.9	.5
11	.5	1.0	1.2		0	.2	.2	0	.1	2.0	.8	.6
12	.5	1.1	1.0		0	.2	.2	0	.1	1.5	.7	1.0
13	.5	1.0	.8		0	.5	.1	0	.6	1.2	.7	1.0
14	.5	1.0	.8		0	.1	.1	0	.6	1.1	.7	1.0
15	.8	40	.8		0	.1	.1	.1	.8	1.1	.7	1.0
16	1.0	126	.7		0	.1	.1	.1	.6	1.0	.6	1.0
17	1.0	140	.5		0	.1	.1	.1	.6	1.0	.6	1.0
18	.9	133	.1		0	.2	.1	0	.6	1.1	.6	1.0
19	.9	98	.1		0	.1	0	.1	.6	1.0	.6	1.0
20	.9	96	.1		0	.1	0	.1	.6	1.1	.6	1.0
21	.9	111	1.2		0	.1	0	0	.6	1.2	.7	1.0
22	.9	60	.8		0	.1	0	.1	.7	1.1	.6	1.0
23	.8	68	.2		.1	.1	0	0	.8	1.0	.5	1.0
24	.5	135	.1		.1	.1	0	0	.8	1.2	.5	1.0
25	.6	120	.1		0	.1	0	0	.9	1.2	.4	1.0
26	.6	78	.1		0	.1	0	.1	1.0	4.9	.5	1.0
27	.6	107	.1		.1	.1	0	0	1.2	1.0	.8	1.0
28	.6	120	.1		.1	.1	0	0	1.2	1.0	.8	1.0
29	1.6	89	.1		-	.2	0	0	1.3	1.0	.8	1.0
30	1.3	54	.1		-	.1	0	0	18	1.0	.8	1.0
31	.7	-	0		-	.1	0	0	-	1.0	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	21.6	1.6	0.4	0.70	43
November.....	1,586.0	140	0.6	52.9	3,150
December.....	285.4	67	0	9.14	562
Calendar year 1945.....	6,291.3	533	0	17.2	12,490
January.....	0	0	0	0	0
February.....	.4	.1	0	.01	.8
March.....	4.4	.5	0	.14	8.7
April.....	2.1	.2	0	.07	4.2
May.....	.8	.1	0	.03	1.6
June.....	31.5	18	0	1.05	62
July.....	354.7	67	1.0	10.8	664
August.....	22.6	1.0	.4	.73	45
September.....	24.3	1	.3	.81	48
Water year 1945-46.....	2,311.8	140	0	6.33	4,590

a No gage-height record; discharge computed on basis of data furnished by Southern California Edison Co., Ltd.

Ward tunnel at intake, Calif.

Location.- Water-stage recorders, concrete control, and venturi meter, lat. 37°17', long. 118°58', in SE $\frac{1}{4}$ sec. 36, T. 7 S., R. 27 E., in gatehouse at entrance to tunnel. Altitude of gages, about 7,350 feet (from topographic map).

Records available.- April 1925 to September 1946.

Average discharge.- 20 years (1925-31, 1932-46), 261 second-feet.

Extremes.- Maximum daily discharge during year, 1,890 second-feet Dec. 17; no flow Oct. 1 to Nov. 10, Nov. 12.

1925-46: Maximum daily discharge, 1,990 second-feet Apr. 30, 1926; no flow at times.

Remarks.- Records excellent except those for Nov. 11, which are fair. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake for use in Big Creek power plants.

Cooperation.- Water-stage recorder graph and rating table for venturi meter, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.2	888	71	97	197	330	1,060	818	272	486
2		0	3.2	780	70	104	191	339	1,060	898	221	486
3		0	3.2	663	68	107	180	347	1,040	1,070	202	484
4		0	3.2	517	69	93	178	358	1,020	702	236	482
5		0	3.5	347	77	86	184	366	1,020	702	288	482
6		0	3.5	193	83	90	186	378	934	658	288	412
7		0	3.2	144	78	103	187	389	711	602	360	349
8		0	3.2	91	73	131	154	400	702	584	421	346
9		0	36	120	72	156	150	469	709	606	421	346
10		0	299	138	69	173	161	566	714	650	421	342
11		29	299	120	69	171	193	676	717	626	421	339
12		0	299	101	66	149	236	762	717	611	421	339
13		1.6	862	98	68	161	283	865	721	560	421	339
14		3.8	1,570	97	65	155	253	1,050	703	566	418	419
15		3.5	1,670	98	66	160	285	1,140	696	530	418	508
16		3.5	1,750	97	66	158	383	1,140	699	452	312	506
17		3.5	1,890	100	65	163	502	1,120	700	421	253	502
18		3.5	1,880	101	66	163	606	1,050	700	421	252	497
19		3.5	1,870	97	65	157	648	1,060	614	372	357	493
20		3.5	1,860	92	64	142	661	1,070	497	299	421	489
21		3.5	1,840	87	64	133	628	1,080	526	428	421	482
22		3.5	1,830	85	65	125	611	1,090	550	540	418	478
23		3.5	1,810	84	73	125	560	1,090	580	540	418	508
24		3.2	1,780	90	87	129	342	1,080	626	516	416	562
25		3.2	1,750	95	84	132	317	1,080	577	664	416	618
26		3.2	1,710	94	79	160	286	1,080	539	760	464	640
27		3.2	1,700	90	84	197	285	1,070	691	699	497	632
28		3.2	1,690	90	96	202	294	1,060	789	506	495	625
29		3.2	1,680	85	-	177	291	1,060	764	339	493	618
30		3.2	1,670	72	-	152	281	1,060	742	304	491	593
31		-	1,230	71	-	168	-	1,060	-	304	489	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	88.3	29	0	2.94	175
December	32,981.2	1,890	3.2	1,064	65,420
Calendar year 1945	143,229.5	1,890	0	392	284,100
January	5,825	888	71	188	11,550
February	2,022	96	64	72.2	4,010
March	4,419	202	66	143	8,760
April	9,695	661	150	323	19,230
May	26,685	1,140	330	829	50,950
June	22,118	1,060	497	757	43,670
July	17,768	1,070	299	573	35,240
August	11,842	497	202	382	23,490
September	14,402	640	339	480	28,570
Water year 1945-46	146,845.5	1,890	0	402	291,300

Note.- Flow Nov. 11 to Dec. 4 returned to South Fork San Joaquin River via Mono-Bear siphon drain valve.

Ward tunnel at outlet, Calif.

Location.- Water-stage recorder, lat. 37°16', long. 119°09', in SE $\frac{1}{4}$ sec. 5, T. 8 S., R. 26 E., just upstream from tunnel outlet at east end of Huntington lake, 6 miles northeast of Big Creek. Altitude of gage, about 7,000 feet (from topographic map).

Records available.- November 1927 to September 1946.

Average discharge.- 18 years (1928-46), 439 second-feet.

Extremes.- Maximum daily discharge during year, 1,910 second-feet Dec. 17; minimum daily, 0.4 second-foot Dec. 7.

1927-46: Maximum daily discharge, 2,080 second-feet June 21, 1935; minimum daily, that of Dec. 7, 1945.

Remarks.- Records good. Tunnel diverts from Florence Lake to Huntington Lake, receives diversions from Bear and Mono Creeks and at times from several other small tributaries of South Fork San Joaquin River. See record for Ward tunnel at intake on preceding page.

Cooperation.- Water-stage recorder graph, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.8	0.6	1,000	157	194	381	1,000	1,690	1,090	g475	557
2	1.1	.8	.7	895	154	209	367	1,010	1,700	1,190	g410	554
3	1.2	.8	.6	779	149	214	342	1,010	1,700	1,440	g374	554
4	1.0	1.0	11	641	154	188	338	1,020	1,670	1,330	g398	581
5	.8	1.0	6.0	478	169	179	341	1,020	1,670	1,260	g454	579
6	1.0	1.0	2.7	314	174	188	348	1,050	1,630	1,170	g442	510
7	.9	.8	.4	257	166	212	317	1,060	1,370	1,080	g484	428
8	1.0	1.0	1.6	218	160	261	299	1,060	1,340	1,030	g547	418
9	.8	.9	8.1	188	158	308	295	1,110	1,350	1,020	g545	411
10	.8	.8	291	241	150	338	313	1,200	1,340	1,090	554	404
11	.8	.8	305	221	150	326	376	1,300	1,340	g1,070	605	398
12	1.0	.8	305	196	146	289	467	1,390	1,350	g1,050	595	392
13	.9	.8	726	197	150	305	542	1,490	1,350	g998	571	388
14	.9	.8	1,590	195	144	305	478	1,630	1,340	g945	556	446
15	1.0	.8	1,730	197	145	312	562	1,710	1,320	g870	539	558
16	.8	.8	1,780	197	143	309	755	1,730	1,320	g763	441	552
17	.7	.8	1,910	200	142	318	996	1,720	1,320	g710	362	549
18	.8	.8	1,900	203	144	308	1,170	1,690	1,320	g718	356	544
19	.7	.8	1,890	195	142	300	1,230	1,690	1,250	g692	435	539
20	.6	.8	1,890	188	140	279	1,180	1,710	1,120	g622	535	534
21	.6	.8	1,900	180	141	264	1,150	1,710	1,140	g736	526	529
22	.6	.8	1,880	178	141	253	1,160	1,720	1,170	g859	556	524
23	.6	.7	1,840	177	151	258	1,200	1,710	1,190	g838	539	540
24	.6	.7	1,860	186	174	260	1,010	1,700	1,230	g840	526	607
25	.5	.8	1,850	193	168	265	1,000	1,700	1,200	1,210	515	649
26	.7	.8	1,840	190	163	319	966	1,700	1,150	1,320	544	683
27	.8	.7	1,830	183	173	392	962	1,680	1,260	1,080	588	675
28	.8	.8	1,820	182	193	390	969	1,660	1,320	823	581	668
29	.8	.7	1,800	174	-	312	964	1,680	1,060	618	576	659
30	.8	.7	1,780	155	-	287	958	1,690	1,040	g554	568	637
31	.8	-	1,400	156	-	340	-	1,690	-	g528	562	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	25.5	1.2	0.5	0.82	51
November.....	24.4	1.0	.7	.81	48
December.....	34,148.7	1,910	.4	1,102	67,730
Calendar year 1945.....	220,662.1	1,910	.4	605	437,700
January.....	8,954	1,000	155	289	17,760
February.....	4,341	193	140	155	8,610
March.....	8,682	392	179	280	17,220
April.....	21,436	1,230	295	715	42,520
May.....	45,240	1,730	1,000	1,459	89,730
June.....	49,250	1,700	1,040	1,342	79,830
July.....	29,544	1,440	528	953	58,600
August.....	15,739	605	356	508	31,220
September.....	16,067	683	388	536	31,870
Water year 1945-46.....	224,451.6	1,910	.4	615	445,200

g Computed from graph based on gage readings every 4 hours.

Bear Creek near Vermilion Valley, Calif.

Location.- Water-stage recorder, lat. 37°20', long. 118°58', in SW $\frac{1}{4}$ sec. 12, T. 7 S., R. 27 E., 2 miles upstream from mouth and 4 miles by trail south of Vermilion Valley.
Altitude of gage, about 7,400 feet (from topographic map).

Drainage area.- 53.5 square miles.

Records available.- November 1921 to September 1946.

Average discharge.- 22 years (1922-30, 1932-46), 88.6 second-feet.

Extremes.- Maximum discharge during year, 612 second-feet May 6 (gage height, 5.43 feet); minimum, 11 second-feet Sept. 29, 30.
1921-46: Maximum discharge, 1,530 second-feet July 21, 1936 (gage height, 6 90 feet); minimum recorded, 1.2 second-feet Sept. 29 to Oct. 5, 1924.

Remarks.- Records good above 50 second-feet, fair below except those for periods of ice effect, which are poor. No storage or diversion above station.

Cooperation.- Water-stage recorder graph and several discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

3.1	6.5	3.5	35	4.4	176
3.2	12	3.6	46	4.8	302
3.3	18	3.8	71	5.2	490
3.4	26	4.0	100		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	67				(*)		287	358	264	71	24
2	13	64						279	435	272	64	23
3	12	62						298	490	275	61	22
4	12	59						354	485	257	58	21
5	17	*56						410	450	224	57	37
6	40	48						465	405	195	52	33
7	78	40			(*)	b35	b55	470	415	186	48	30
8	71	b32		b30				450	425	172	45	28
9	70	b25						405	430	172	46	25
10	61	b30						350	368	181	54	23
			b22									
11	54							298	294	181	67	20
12	56					(*)		257	350	174	64	27
13	51							275	372	181	58	18
14	50							67	279	381	150	51
15	64							92	336	358	129	46
					b22							
16	67						138	315	319	113	40	14
17	61						174	279	294	110	37	14
18	56						178	368	311	116	36	14
19	51						169	425	350	127	34	14
20	46						148	435	363	129	35	13
		b25				b45						
21	42						148	430	350	134	43	13
22	38						161	315	341	123	44	13
23	34						193	224	283	114	40	13
24	32						237	212	240	138	36	13
25	30						275	206	272	368	34	13
			b40									
26	28						291	186	302	240	31	12
27	26						291	165	298	150	30	12
28	24						275	165	279	116	29	12
29	79				-		257	186	264	100	29	11
30	143				-		261	224	279	90	25	11
31	84	-			-		-	298	-	78	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,503	143	12	48.5	2,980
November.....	983	67	-	32.8	1,950
December.....	860	-	-	28.4	1,750
Calendar year 1945	43,183	683	-	118	85,640
January.....	802	-	-	25.9	1,590
February.....	618	-	-	22	1,220
March.....	1,295	-	-	41.8	2,570
April.....	4,116	291	-	137	8,160
May.....	9,646	470	165	311	19,130
June.....	10,561	490	240	352	20,950
July.....	5,239	368	78	169	10,390
August.....	1,389	71	25	44.8	2,780
September.....	567	38	11	18.9	1,120
Water year 1945-46	37,597	490	11	103	74,570

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Mono Creek near Vermillion Valley, Calif.

Location.- Water-stage recorder, lat. 37°22', long. 118°59', in SW¹/₄ sec. 35, T. 6 S., R. 27 E. (unsurveyed), 1 mile downstream from lower end of Vermillion Valley and 6 miles downstream from North Fork. Altitude of gage, about 7,400 feet (from topographic map).

Drainage area.- 92.0 square miles.

Records available.- November 1921 to September 1946.

Average discharge.- 22 years (1922-30, 1932-46), 150 second-feet.

Extremes.- Maximum discharge during year, 910 second-feet May 6 (gage height, 7.30 feet); minimum, 24 second-feet Sept. 28-30.
1921-46: Maximum discharge, 1,760 second-feet June 2, 1938 (gage height, 8.62 feet); minimum, 6.5 second-feet Dec. 22, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair. No storage or diversion above station.

Cooperation.- Water-stage recorder graph and several discharge measurements, furnished by Southern California Edison Co. Ltd., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

4.9	22	5.8	204
5.1	44	6.1	310
5.3	77	6.5	490
5.5	121	7.1	800

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	98						560	535	335	116	46
2	28	92						565	625	339	110	43
3	26	94				(*)		575	718	339	105	43
4	26	94						635	728	327	103	58
5	30	*92			(*)	b60	b90	696	680	310	98	56
6	54	83						762	605	280	94	50
7	94	b85		b55				772	605	265	88	44
8	83	b55						750	610	247	83	40
9	83	b50						734	625	236	81	39
10	70	b60						660	580	240	85	37
11	64	b65	b40				a100	565	476	243	124	34
12	66	b65					a120	515	510	236	112	32
13	61	b60					a150	520	530	223	98	31
14	58	b60					a130	545	535	210	92	30
15	68	b55					a160	565	510	192	81	29
16	77						204	540	466	171	73	29
17	70						272	540	433	171	68	29
18	70						1,314	640	428	174	66	29
19	63						355	712	447	180	64	29
20	58						318	740	466	174	61	28
21	53					b80	323	706	471	192	66	26
22	52						339	565	456	174	88	26
23	48	b50		b45			383	461	405	166	81	25
24	46						447	424	352	183	70	25
25	44						510	410	365	174	66	25
26	42		b70				545	392	378	272	61	25
27	40						555	356	363	198	58	25
28	38						570	344	356	168	56	25
29	78				-		570	365	339	154	54	24
30	154				-		555	405	352	144	52	24
31	114	-			-		-	476	-	128	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,886	154	26	60.8	3,740
November.....	1,836	98	-	61.2	3,640
December.....	1,570	-	-	50.6	3,110
Calendar year 1945	71,424	1,130	-	196	141,700
January.....	1,545	-	-	49.8	3,060
February.....	1,260	-	-	45	2,500
March.....	2,280	-	-	73.5	4,520
April.....	7,800	570	-	260	15,470
May.....	17,495	772	344	564	34,700
June.....	14,969	728	339	499	29,690
July.....	7,045	374	128	227	13,970
August.....	2,502	124	46	80.7	4,960
September.....	1,006	58	24	33.5	2,000
Water year 1945-46	61,194	772	24	168	121,400

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

b Stage-discharge relation affected by ice (no gage-height record Apr. 7-10).

Huntington Lake near Big Creek, Calif.

Location.- Water-stage recorder, lat. 37°14', long. 119°13', in SW $\frac{1}{4}$ sec. 14, T. 8 S., R. 25 E., in gate tower of dam 1 on Big Creek, 2 miles northeast of town of Big Creek. Datum of gage is at mean sea level.

Drainage area.- 79.0 square miles.

Records available.- October 1926 to September 1946. 1913 to 1926, summary records only, in Water-Supply Paper 881.

Extremes.- Maximum contents during year, 89,200 acre-feet July 3-6 (elevation, 6,950.2 feet); minimum, 6,700 acre-feet Dec. 12 (elevation, 6,858.8 feet).
1913-46: Maximum contents, 90,000 acre-feet May 23, 1926 (elevation, 6,950.8 feet); minimum, 1,860 acre-feet Mar. 8, 1935 (elevation, 6,839.0 feet).

Remarks.- Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917. Usable capacity, 88,800 acre-feet between elevations 6,824.4 feet (center line of outlet tunnel) and 6,950 feet (spillway crest at dam 1) above mean sea level. Water is used for power development in Big Creek plants. Records show contents at 12 p.m., all of which is available for release.

Cooperation.- Record of contents, furnished by Southern California Edison Co. Ltd., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65,500	34,000	10,400	59,700	45,100	28,600	22,900	36,300	74,600	88,800	88,100	87,200
2	64,300	32,900	10,300	60,600	44,400	28,100	22,600	37,100	75,200	88,800	87,700	87,300
3	63,100	31,800	9,750	61,100	44,500	27,700	22,300	37,900	75,500	89,200	87,700	87,300
4	62,000	30,800	9,220	61,400	44,000	27,100	22,100	38,900	75,600	89,200	87,500	87,400
5	60,800	29,700	8,640	61,300	43,300	26,600	22,000	40,100	75,700	89,200	87,400	87,600
6	59,800	28,700	8,080	60,900	42,700	26,100	21,900	41,400	76,500	89,200	87,100	87,800
7	58,700	27,700	7,520	60,400	42,000	25,800	22,400	42,700	77,100	89,100	87,000	87,700
8	57,600	26,700	7,220	59,800	41,400	25,800	22,700	43,800	79,000	89,000	87,000	88,100
9	56,700	25,600	7,210	59,000	40,800	25,600	22,700	44,700	80,300	88,900	86,900	87,900
10	55,900	24,600	7,190	58,400	40,400	26,000	22,800	45,700	81,300	88,700	87,200	87,800
11	55,100	23,700	6,960	57,800	39,700	26,100	23,000	46,500	82,200	88,600	87,600	87,500
12	54,500	22,700	6,700	57,100	39,000	26,000	23,300	47,700	83,000	88,600	87,800	87,100
13	53,500	21,700	7,350	56,500	38,300	26,200	23,800	49,100	83,900	88,500	87,800	86,700
14	52,600	20,800	9,860	55,600	37,600	26,400	24,000	50,900	84,700	88,500	87,900	86,400
15	51,500	19,800	12,500	55,100	37,000	26,600	24,400	53,300	85,700	88,000	87,800	86,300
16	50,400	18,900	15,300	54,500	36,300	26,600	25,200	55,700	86,800	87,900	87,500	86,800
17	49,200	18,400	18,300	53,800	35,800	27,300	26,400	58,100	87,500	88,200	87,200	86,800
18	48,100	18,000	21,300	53,200	35,200	27,400	27,600	60,400	87,900	88,400	87,500	86,700
19	47,000	17,500	24,300	52,700	34,500	27,500	28,600	62,700	88,100	88,500	87,000	86,600
20	45,800	16,600	27,500	52,400	33,800	27,100	29,400	64,800	87,900	88,500	86,900	86,500
21	44,700	15,800	30,600	51,800	33,100	25,900	30,000	66,300	87,800	88,400	86,800	86,400
22	43,500	15,400	33,600	51,100	32,500	24,900	30,700	67,500	87,900	88,100	86,700	86,800
23	42,400	14,700	36,500	50,500	31,900	24,200	31,400	68,400	88,300	88,100	86,600	86,700
24	41,300	14,200	39,500	49,900	31,300	23,700	31,800	69,200	88,600	88,300	86,500	86,800
25	40,100	13,700	42,600	49,300	30,700	23,200	32,400	70,000	88,800	88,400	87,000	86,900
26	39,000	13,000	45,500	48,800	30,100	23,000	33,000	70,900	88,800	88,400	86,900	87,100
27	37,900	12,500	48,400	48,400	29,500	22,900	33,600	71,600	88,800	88,200	86,900	87,300
28	36,800	11,900	51,200	47,800	29,000	22,900	34,400	72,100	89,000	88,300	86,800	87,400
29	36,100	11,400	53,900	47,100	-	22,900	35,000	72,700	89,000	88,400	86,800	88,100
30	35,900	10,900	56,600	46,400	-	22,800	35,500	73,400	89,000	88,300	86,700	88,200
31	35,000	-	58,600	45,700	-	23,000	-	74,100	-	88,300	86,600	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	6,933.5	66,600	-
Oct. 31.....	6,905.0	35,000	-31,600
Nov. 30.....	6,889.9	10,900	-24,100
Dec. 31.....	6,927.0	58,600	+47,700
Calendar year 1945...	-	-	+4,100
Jan. 31.....	6,915.6	45,700	-12,900
Feb. 29.....	6,898.1	29,000	-16,700
Mar. 31.....	6,889.6	23,000	-6,000
Apr. 30.....	6,905.5	35,500	+12,500
May 31.....	6,939.3	74,100	+38,600
June 30.....	6,950.1	89,000	+14,900
July 31.....	6,949.6	88,300	-700
Aug. 31.....	6,948.4	86,600	-1,700
Sept. 30.....	6,949.6	88,200	+1,600
Water year 1945-46...	-	-	+21,600

Big Creek below Huntington Lake, Calif.

Location.- Water-stage recorder, Parshall flume and concrete control, lat. 37°13'10" long. 119°12'50", in NW 1/4 sec. 23, T. 8 S., R. 25 E., 800 feet upstream from Grouse Creek and 1,000 feet downstream from Huntington Lake. Altitude of gage, about 6,600 feet (from topographic maps).

Drainage area.- 80.0 square miles.

Records available.- June 1925 to September 1946 (records prior to October 1929 only for periods of spill from Huntington Lake).

Extremes.- Maximum discharge during year, 159 second-feet (regulated) July 5 (gage height, 2.99 feet); minimum, 0.3 second-foot on many days in October, August, and September. 1925-46: Maximum discharge, 2,040 second-feet June 23, 1925 (gage height, 10.3 feet), siphon spillways operating at Huntington Lake; minimum, 0.1 second-foot Sept. 10-13, Oct. 7-18, Dec. 5-16, 1931.

Remarks.- Records excellent except those for periods of ice effect and those above 5 second-feet, which are good. Natural flow of Big Creek is stored at Huntington Lake and during most of year is diverted for power development at Big Creek powerhouse No. 1.

Cooperation.- Water-stage recorder graph and several discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.2	0.24	1.2	3.62	1.9	22
.4	.71	1.4	4.56	2.0	30
.6	1.30	1.6	5.6	2.2	53
.8	1.98	1.7	9.6	2.5	91
1.0	2.76	1.8	15	2.9	146

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.6	0.4	1.0	0.4	1.0	1.2	3.4	1.5	13	0.4	0.3
2	.3	.5	.4	1.0	.4	1.0	1.2	3.4	1.4	4.1	.4	.4
3	.3	.4	.4	1.0	.5	.9	1.2	3.4	1.3	11	.4	.4
4	.3	.4	.4	1.0	.5	.9	1.3	3.3	1.3	115	.4	.4
5	.3	.4	.4	1.0	.5	.8	1.4	3.2	1.3	143	.4	.4
6	.5	.6	.4	.9	.4	.8	1.4	3.0	1.3	133	.4	.4
7	.5	.5	.4	.9	.4	.9	1.3	2.9	1.2	107	.4	.3
8	.4	.4	.4	.8	.4	1.0	1.3	2.8	1.2	56	.4	.3
9	.4	.4	.4	.8	.4	1.1	1.4	2.6	1.2	25	.4	.3
10	.4	.5	.4	.8	.4	1.1	1.6	2.6	1.2	13	.4	.3
11	.5	.6	.4	.8	.4	1.1	1.9	2.4	1.1	1.4	.4	.3
12	.4	.5	.4	.8	.4	1.1	2.3	2.3	1.1	.8	.4	.3
13	.3	.6	.4	.7	.4	2.2	2.3	2.2	1.0	.7	.4	.3
14	.3	.5	.4	.7	.4	1.5	2.6	2.1	1.0	.7	.4	.3
15	.3	.5	.4	.7	.4	1.4	2.8	2.1	1.0	.6	.4	.4
16	.3	.5	.4	.7	.4	1.3	3.1	2.0	1.0	.6	.4	.4
17	.3	.5	.4	.7	.4	1.3	3.4	1.9	.9	.6	.4	.4
18	.3	.5	.4	.7	.4	1.3	3.5	1.9	.9	.6	.4	.4
19	.3	.4	.4	.7	.4	1.2	3.5	1.8	.9	.6	.4	.4
20	.3	.4	.5	.7	.4	1.1	3.4	1.7	.9	.6	.4	.4
21	.3	.4	2.8	.7	.6	1.1	3.4	1.7	.8	.6	.4	.4
22	.3	.4	4.3	.7	.6	*1.1	3.5	1.9	.8	.6	.4	.4
23	.3	.4	1.8	.6	.7	1.1	3.6	1.8	.8	.5	.4	.4
24	.3	.4	1.3	.6	.8	1.2	3.8	1.7	.8	.5	.4	.3
25	.3	.5	1.1	.6	.8	1.2	4.0	1.6	1.3	.6	.4	.3
26	.3	.5	1.0	.6	.8	1.3	3.9	2.2	3.0	.6	.4	.3
27	.3	.5	1.0	.5	.8	1.4	3.9	1.9	2.8	.5	.4	.3
28	.3	.5	1.1	.8	1.1	1.4	3.8	1.8	10	.5	.4	.3
29	1.0	.5	1.1	.5	-	1.4	3.7	1.7	11	.5	.4	.3
30	3.2	.5	1.1	.4	-	1.4	3.5	1.6	16	.5	.3	.3
31	.8	-	1.0	.4	-	1.3	-	1.5	-	.4	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	14.5	3.2	0.3	0.47	29
November.....	14.3	.6	.4	.48	28
December.....	25.7	4.3	.4	.83	51
Calendar year 1945	1,496.9	87	.3	4.10	2,960
January.....	22.5	1.0	.4	.73	45
February.....	14.5	1.1	.4	.52	29
March.....	36.9	2.2	.8	1.19	73
April.....	79.2	4.0	1.2	2.64	157
May.....	70.4	3.4	1.5	2.27	140
June.....	70.0	1.5	.8	2.35	139
July.....	633.1	143	.4	20.4	1,260
August.....	12.2	.4	.3	.39	24
September.....	10.4	.4	.3	.35	21
Water year 1945-46	1,003.7	143	.3	2.75	2,000

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Jan. 23 to Feb. 23, Feb. 27 to Mar. 12, Mar. 16 to Apr. 3.

Pitman Creek below Tamarack Creek, Calif.

Location.- Water-stage recorder, lat. $37^{\circ}12'$, long. $119^{\circ}12'$, in NW $\frac{1}{4}$ sec. 35, T. 8 S., R. 25 E., 500 feet downstream from Tamarack Creek, 3 miles upstream from mouth, and 3 miles southeast of town of Big Creek. Altitude of gage, about 7,100 feet (from topographic map).

Drainage area.- 22.0 square miles.

Records available.- December 1927 to September 1946.

Average discharge.- 18 years, 39.9 second-feet.

Extremes.- Maximum discharge during year, 618 second-feet Oct. 30 (gage height, 6.72 feet); practically no flow part of Sept. 11, 12.
1927-46: Maximum discharge, 2,320 second-feet Dec. 11, 1937 (gage height, 9.65 feet), from rating curve extended above 1,000 second-feet on basis of velocity-area studies; no flow part of Nov. 24, 1930, Oct. 15-18, 1931.

Remarks.- Records good. No diversion above station; practically all flow diverted below station to Huntington-Shaver conduit.

Cooperation.- Water-stage recorder graph and several discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.8	0.0	2.5	18	4.0	108
1.9	.8	2.8	30	4.4	146
2.0	2.7	3.1	44	4.8	192
2.1	5.1	3.4	61	5.3	274
2.3	11	3.7	83	5.9	404

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	17	8	23	13	17	38	300	108	13	2.0	0.2
2	.1	13	8	21	13	19	35	310	109	12	1.8	.2
3	.1	11	7	21	12	20	33	312	102	11	1.6	.4
4	.1	9.2	7	19	13	17	32	321	92	11	1.5	.5
5	.2	8.0	8	20	14	17	32	334	84	a10	1.5	.5
6	.7	9.8	9	19	13	18	31	349	77	a9	1.3	.4
7	2.5	9.5	9	17	12	22	29	343	69	a9	1.3	.2
8	1.3	9	8	17	12	30	28	318	64	a8	1.1	.2
9	.8	9	8	17	11	36	28	278	60	a7	1.1	.1
10	.6	8.9	8	16	11	39	31	251	55	a6.5	.9	.1
11	1.5	10	8	16	11	38	37	233	49	6.0	.9	.1
12	1.3	12	8	15	11	34	50	228	47	5.7	.8	.1
13	.8	11	8	15	11	38	59	222	44	5.4	.8	.1
14	.6	11	7	15	11	36	59	219	41	5.1	.6	.1
15	.8	11	7	15	11	33	82	208	38	4.9	.6	.1
16	.9	12	7	15	11	31	110	203	35	4.6	.6	.2
17	.9	10	7	15	11	33	139	202	33	4.3	.5	.1
18	.8	9	7	15	10	33	153	203	30	4.1	.5	.1
19	.6	9	7	15	10	31	159	214	28	5.1	.5	.1
20	.6	9	7	15	11	29	154	211	26	4.5	.5	.1
21	.6	9	14	14	11	27	154	182	25	4.6	.5	.1
22	.6	9	30	14	10	27	171	159	23	4.3	.5	.1
23	.5	9	30	14	11	28	199	131	22	3.6	.4	.1
24	.5	8	31	14	13	28	232	126	20	3.4	.4	.1
25	.5	9	28	15	13	30	265	126	19	6.2	.4	.1
26	.5	10	24	15	12	40	270	148	18	6.2	.2	.1
27	.5	10	23	15	13	45	278	128	17	3.8	.2	.1
28	.5	10	25	15	17	42	290	115	16	3.4	.2	.1
29	24	10	30	14	-	33	284	115	15	2.9	.2	.2
30	170	9	27	13	-	34	278	116	14	2.7	.2	.2
31	29	-	24	13	-	42	-	112	-	2.5	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	242.5	170	0.1	7.82	481
November.....	301.4	17	8	10.0	598
December.....	439	31	7	14.2	871
Calendar year 1945	18,505.5	397	.1	50.7	36,710
January.....	497	23	13	16.0	988
February.....	332	17	10	11.9	659
March.....	947	45	17	30.5	1,880
April.....	3,740	290	28	125	7,420
May.....	6,713	349	112	217	13,520
June.....	1,380	109	14	46.0	2,740
July.....	189.6	13	2.5	6.12	376
August.....	23.8	2.0	.2	.77	47
September.....	5.1	.5	.1	.17	10
Water year 1945-46	14,810.4	349	.1	40.6	29,390

a No gage-height record; discharge interpolated.

Note.- Stage-discharge relation affected by ice Nov. 8, 9, 13-16, 18-26, Nov. 30 to Apr. 11.

Shaver Lake near Big Creek, Calif.

Location.- Water-stage recorder, lat. 37°09', long. 119°18', in SE¹ sec. 13, T. 9 S., R. 24 E., at dam on Stevenson Creek and 6 miles southwest of town of Big Creek. Datum of gage is at mean sea level.

Drainage area.- 29.7 square miles.

Records available.- January 1927 to September 1946.

Extremes.- Maximum contents during year, 135,700 acre-feet July 4, 5 (elevation, 5,370.2 feet); minimum, 18,500 acre-feet Feb. 23 (elevation, 5,293.7 feet).
1927-46: Maximum contents, that of July 4, 5, 1946; maximum elevation, 5,370.2 feet July 13-18, 1945, July 4, 5, 1946; minimum, 652 acre-feet Mar. 7, 1942 (elevation, 5,249.4 feet).

Remarks.- Lake is formed by concrete-arch dam; completed and storage began in 1927. Usable capacity, 135,300 acre-feet between elevations 5,225 feet (trash-rack foundation) and 5,370 feet (crest of spillway) above mean sea level. Water is received from Huntington Lake and Pitman Creek through Huntington-Shaver conduit and released for power development in Big Creek plants. Records show contents at 12 p.m., all of which is available for release.

Cooperation.- Record of contents, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91,100	71,900	53,100	32,200	23,100	19,000	31,100	53,400	121,200	135,300	130,100	103,200
2	90,100	71,400	52,600	31,600	23,100	19,200	31,600	55,400	123,700	135,300	129,300	102,500
3	89,100	71,300	52,000	31,200	23,300	19,300	32,000	57,400	125,800	135,500	128,300	101,700
4	88,400	71,300	51,600	30,900	22,800	19,400	32,200	59,400	127,800	135,700	127,400	100,800
5	87,600	70,600	51,100	30,600	22,500	19,500	32,500	62,000	129,600	135,700	126,500	99,900
6	87,100	70,100	50,500	30,400	22,300	19,500	32,500	64,600	130,600	135,500	125,600	98,900
7	87,000	69,500	49,800	30,000	22,100	19,700	31,600	67,400	130,600	135,500	124,700	98,000
8	86,400	68,900	48,900	29,700	21,900	19,800	31,000	70,400	130,700	135,300	123,700	97,100
9	85,700	68,200	47,700	29,300	21,800	20,000	30,600	73,100	131,100	135,000	122,800	96,200
10	85,000	68,000	46,600	28,800	21,700	20,200	30,500	75,800	131,300	135,100	121,900	95,400
11	84,500	68,000	45,600	28,400	21,300	20,400	30,100	78,700	131,400	135,200	121,200	94,400
12	83,800	67,700	44,500	27,900	21,100	20,400	29,900	81,600	131,500	135,000	120,400	93,500
13	83,200	67,100	43,500	27,800	20,800	20,800	29,700	84,300	131,600	134,700	119,600	92,600
14	83,400	66,500	42,300	27,400	20,500	21,000	29,800	86,500	131,700	134,600	118,800	91,700
15	82,400	65,900	41,200	26,900	20,300	21,200	29,800	88,000	131,700	134,500	118,000	90,900
16	81,700	65,300	40,200	26,000	20,300	21,400	30,000	89,600	132,100	134,000	117,100	90,100
17	80,900	64,400	39,100	25,600	20,200	21,600	30,400	91,400	132,300	133,200	116,300	89,200
18	80,000	63,600	38,000	25,400	19,900	21,700	31,100	93,200	132,600	132,400	115,600	88,300
19	79,100	62,500	36,900	25,400	19,500	22,000	32,100	95,200	132,900	131,900	114,800	87,500
20	78,400	61,600	35,900	25,200	19,100	22,400	32,200	97,200	133,500	131,500	114,000	86,600
21	78,000	60,500	36,200	25,000	18,800	23,800	34,700	99,400	133,700	131,500	113,100	85,700
22	77,200	59,400	37,000	24,800	18,900	24,900	36,200	101,300	134,000	131,700	112,100	84,900
23	76,300	58,300	37,100	24,600	18,500	25,800	37,800	103,200	134,700	131,700	111,200	84,000
24	75,400	57,300	36,700	24,500	18,700	26,400	39,500	105,000	135,000	131,300	110,200	83,200
25	74,700	56,400	36,600	24,500	18,600	26,600	41,400	107,000	135,100	131,900	109,300	82,400
26	73,900	55,900	36,000	24,500	18,600	27,000	43,300	109,300	135,200	132,800	108,400	81,600
27	73,200	55,300	35,300	24,400	18,700	27,600	45,200	111,400	135,400	133,500	107,500	80,900
28	73,000	54,700	34,500	24,200	18,900	28,400	47,500	113,500	135,600	133,500	106,600	79,900
29	72,700	54,200	33,800	24,000	-	29,200	49,500	115,200	135,400	132,700	105,800	79,000
30	73,000	53,600	33,400	23,700	-	29,900	51,400	117,100	135,200	131,900	105,000	78,000
31	72,500	-	32,800	23,300	-	30,500	-	119,200	-	131,000	104,100	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	5,348.7	92,100	-
Oct. 31.....	5,337.4	72,500	-19,600
Nov. 30.....	5,325.0	53,600	-18,900
Dec. 31.....	5,308.5	32,800	-20,800
Calendar year 1945...	-	-	+12,900
Jan. 31.....	5,299.2	23,300	-9,500
Feb. 29.....	5,294.2	18,900	-4,400
Mar. 31.....	5,306.4	30,500	+11,600
Apr. 30.....	5,323.4	51,400	+20,900
May 31.....	5,362.4	119,200	+67,800
June 30.....	5,370.0	135,200	+16,000
July 31.....	5,368.0	131,000	-4,200
Aug. 31.....	5,355.0	104,100	-26,900
Sept. 30.....	5,340.9	78,300	-25,800
Water year 1945-46...	-	-	-13,800

Huntington-Shaver conduit at outlet, Calif.

Location.- Water-stage recorder and concrete control, lat. $37^{\circ}10'$, long. $119^{\circ}14'$, in SW $\frac{1}{4}$ sec. 10, T. 9 S., R. 25 E., at tunnel outlet, 4 miles south of town of Big Creek. Altitude of gage, about 6,680 feet (from topographic map).

Records available.- October 1928 to September 1946.

Average discharge.- 17 years (1929-46), 203 second-feet.

Extremes.- Maximum daily discharge during year, 1,540 second-feet May 7; minimum daily, 1.8 second-feet Oct. 25-27, 1928-46; Maximum daily discharge, 1,780 second-feet June 3, 4, 1938; minimum daily, 1.2 second-feet Dec. 28, 1944 to Jan. 2, 1945.

Remarks.- Records excellent except those for Mar. 24 to Apr. 15, which are fair. Conduit diverts from Huntington Lake to Shaver Lake, with additions from Pitman Creek and seepage en route.

Cooperation.- Water-stage recorder graph and two discharge measurements, furnished by Southern California Edison Co., Ltd., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	19	9.6	26	16	20	251	1,500	1,490	610	5.9	3.5
2	2.5	14	9.2	24	16	22	223	1,490	1,490	646	5.6	3.5
3	2.5	12	8.8	24	15	23	191	1,500	1,490	698	5.6	3.5
4	2.5	10	8.8	22	16	20	175	1,500	1,480	676	5.3	3.3
5	2.5	9.6	9.2	23	17	20	167	1,520	1,480	616	5.3	3.1
6	2.5	11	11	22	16	21	159	1,530	965	512	5.0	3.1
7	3.5	11	10	20	15	25	167	1,540	559	462	5.0	3.1
8	2.7	10	10	20	15	33	190	1,520	567	461	4.8	3.1
9	2.5	10	9.2	20	14	39	195	1,520	575	494	4.8	3.1
10	2.5	11	9.2	19	14	42	201	1,500	568	618	4.5	3.1
11	2.7	11	9.6	19	14	41	219	1,500	567	612	4.5	3.1
12	2.5	14	9.6	18	14	37	252	1,490	567	526	4.5	3.1
13	2.3	14	9.2	18	14	41	306	1,500	568	490	4.5	3.1
14	2.3	14	8.8	16	14	39	343	1,370	568	487	4.2	3.1
15	2.5	14	8.8	18	14	36	399	1,120	567	487	4.2	2.9
16	2.5	13	8.8	18	14	34	492	1,060	570	215	4.2	2.9
17	2.3	12	8.8	18	14	36	643	1,090	574	42	4.0	2.9
18	2.3	10	8.8	18	13	35	795	1,120	697	38	4.2	2.9
19	2.3	10	8.4	18	13	34	904	1,110	766	128	4.0	2.9
20	2.3	10	8.8	18	14	195	977	1,240	764	37	4.0	2.9
21	2.3	10	17	17	14	635	1,060	1,470	763	279	4.0	2.9
22	2.3	10	33	17	13	505	1,140	1,470	780	452	4.0	2.9
23	2.3	10	33	17	14	411	1,240	1,480	712	305	3.8	2.9
24	2.2	9.6	34	17	16	351	1,340	1,480	656	160	3.8	2.9
25	1.8	9.6	31	16	16	303	1,400	1,480	627	611	3.8	2.9
26	1.8	12	27	18	15	268	1,410	1,500	626	798	3.8	2.9
27	1.8	11	26	18	16	266	1,430	1,490	728	641	3.8	2.9
28	2.0	11	28	18	20	255	1,460	1,480	710	240	3.5	2.9
29	20	11	33	17	-	254	1,480	1,480	551	29	3.5	2.9
30	167	10	30	16	-	247	1,480	1,490	454	6.9	3.5	2.9
31	32	-	27	16	-	253	-	1,490	-	6.3	3.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	285.7	167	1.8	9.22	567
November.....	343.8	19	9.6	11.5	682
December.....	503.6	34	6.4	16.2	999
Calendar year 1945	126,411.5	1,560	1.2	346	250,700
January.....	590	26	16	19.0	1,170
February.....	416	20	15	14.9	825
March.....	4,542	635	20	147	9,010
April.....	20,689	1,480	159	690	41,040
May.....	44,030	1,540	1,060	1,420	87,330
June.....	23,461	1,490	454	782	46,530
July.....	12,383.2	798	6.3	399	24,560
August.....	135.1	5.9	3.5	4.36	268
September.....	91.2	3.5	2.9	3.04	161
Water year 1945-46	107,470.6	1,540	1.8	294	213,200

Note.- Discharge for Mar. 21 to July 15, July 22, 25-27 computed on basis of unpublished records for intake, Pitman Creek shaft, and seepage inflow (3 sec.-ft.) in tunnel.

North Fork Willow Creek below Crane Valley Reservoir, Calif.

Location.- Water-stage recorder, lat. 37°17', long. 119°32', in SE $\frac{1}{4}$ sec. 26, T. 7 S., R. 22 E., 1,500 feet downstream from Crane Valley Reservoir spillway. Altitude of gage, about 3,200 feet (from topographic map).

Drainage area.- 50.8 square miles.

Records available.- May 1940 to September 1946.

Extremes.- Maximum discharge during year, 198 second-feet, (regulated) Sept. 17 (gage height, 3.36 feet); minimum, 0.5 second-foot (regulated) many days in March and September.

1940-46: Maximum discharge, 847 second-feet Feb. 11, 1941 (gage height, 5.85 feet); minimum, 0.1 second-foot Nov. 13-16, 1940.

Remarks.- Records fair. Flow regulated by Crane Valley Reservoir (capacity, 45,000 acre-feet) and diversion into Pacific Gas & Electric Co. conduit No. 3 near Crane Valley Reservoir (see following page).

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.8	0.8	84	0.7	0.6	2.0	1.1	1.2	1.0	0.9	0.9
2	.8	.8	.8	84	.7	.6	1.7	1.1	1.2	1.0	.9	.9
3	.8	.7	.8	84	21	.6	1.6	1.1	1.2	1.0	.9	.9
4	.8	.7	1.4	84	66	.5	1.5	1.1	1.2	1.0	.9	.9
5	.9	.7	1.5	84	.8	.6	1.4	1.1	1.2	1.0	.9	.9
6	1.0	.8	1.1	84	.8	.6	1.3	96	1.2	1.0	.9	.9
7	1.0	.8	1.1	83	.8	.6	1.4	53	1.2	1.0	.9	.9
8	1.1	.7	1.0	83	.8	.6	1.3	1.1	1.2	1.0	.9	.9
9	1.1	.7	1.0	83	.7	.6	1.3	1.0	1.2	1.0	.9	.9
10	1.1	.8	1.0	83	.7	.6	1.2	1.0	1.2	1.0	.9	.8
11	1.3	.9	1.0	33	.7	.6	1.2	1.0	1.2	1.0	.9	.8
12	1.1	.8	1.0	.9	.7	.6	1.2	1.0	1.2	1.0	.9	.8
13	1.1	.8	1.0	.8	.7	1.2	1.2	1.0	1.2	1.0	.9	.8
14	1.1	.8	1.0	.8	.7	.7	1.2	1.0	1.1	1.0	.9	.8
15	1.2	.8	1.0	.8	.7	.6	1.2	1.0	1.1	1.0	.9	.8
16	1.2	.7	1.0	.8	.8	.6	1.2	1.0	1.1	1.0	.9	.8
17	1.2	.8	1.0	.8	.7	.5	1.2	1.0	1.1	1.1	.9	72
18	1.2	.7	1.0	.8	.7	.5	1.2	1.0	1.1	1.1	.9	33
19	1.1	.7	1.0	.8	.7	.7	1.2	1.0	1.1	1.0	.9	.9
20	1.1	.7	1.0	.8	.7	.8	1.2	1.0	1.1	1.0	.9	.5
21	1.1	.7	3.3	.8	.7	.7	1.2	1.0	1.0	1.0	.9	.5
22	1.1	.7	4.7	.8	.6	.6	1.2	1.1	1.0	1.0	.9	.5
23	1.1	.7	3.1	.8	.6	.6	1.2	1.1	1.0	1.0	.9	.5
24	1.1	.9	2.6	4.5	.6	.6	1.2	1.1	1.0	1.0	.9	.5
25	1.0	1.0	6.1	.7	.6	.5	1.2	1.1	1.0	1.0	.9	.5
26	1.0	.8	48	.7	.6	.5	1.1	1.3	1.0	1.0	.9	.5
27	1.0	.8	87	.7	.6	.5	1.1	1.2	1.0	1.0	1.0	.5
28	1.0	.8	87	.7	.6	.5	1.1	1.2	1.0	1.0	.9	.5
29	1.2	.8	86	.7	-	.7	1.1	1.1	1.0	1.0	.9	.5
30	1.5	.8	86	.7	-	3.5	1.1	1.1	1.0	.9	.9	.5
31	.9	-	85	.7	-	2.5	-	1.2	-	.9	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	33.0	1.5	0.8	1.06	85
November.....	23.2	1.0	.7	.77	46
December.....	519.3	87	.8	16.8	1,030
Calendar year 1945.....	5,922.9	232	.5	16.2	11,740
January.....	888.1	84	.7	28.6	1,760
February.....	105.0	66	.6	3.75	208
March.....	23.9	3.5	.5	.77	47
April.....	38.2	2.0	1.1	1.27	76
May.....	180.1	96	1.0	5.81	357
June.....	33.3	1.2	1.0	1.11	66
July.....	31.0	1.1	.9	1.00	61
August.....	28.0	1.0	.9	.90	56
September.....	125.1	72	.5	4.17	248
Water year 1945-46.....	2,028.2	96	.5	5.56	4,020

Note.- No gage-height record Jan. 16-30, Mar. 16-31; discharge computed on basis of powerhouse records and recorded range in stage.

Pacific Gas & Electric Co. conduit No. 3 near Crane Valley Reservoir, Calif.

Location.- Water-stage recorder, lat. 37°17', long. 119°32', in SE¹ sec. 26, T. 7 S., R. 22 E., 1,000 feet downstream from Crane Valley Dam and powerhouse. Altitude of gage, about 3,300 feet (from topographic map).

Records available.- October 1940 to September 1946.

Extremes.- Maximum daily discharge during year, 153 second-feet Dec. 23; minimum daily, 0.4 second-foot June 9.

1940-46: Maximum daily discharge, 164 second-feet Sept. 21, 1944; no flow at times during each year except 1945, 1946.

Remarks.- Records good. Conduit diverts from Crane Valley Reservoir in sec. 26, T. 7 S., R. 22 E. Water passes through Crane Valley powerhouse, then to powerhouse No. 3 and eventually returns to North Fork Willow Creek.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	73	87	151	93	95	81	84	9.9	38	93	20
2	73	67	80	152	78	94	87	72	.6	58	93	18
3	74	73	88	152	14	53	85	71	11	59	85	43
4	73	66	90	152	29	97	85	71	5.5	32	80	42
5	75	75	93	152	90	97	89	71	.6	49	92	96
6	79	72	84	152	92	96	72	1.5	3.6	34	95	98
7	9.6	65	82	152	89	88	33	44	.5	23	92	95
8	64	68	81	152	92	88	68	92	6.2	54	100	23
9	69	68	41	152	89	92	86	91	.4	54	99	98
10	68	75	87	152	79	77	87	49	23	66	94	96
11	36	75	92	152	92	94	83	20	38	79	25	98
12	65	72	85	112	89	96	87	.9	69	75	96	95
13	32	71	86	31	90	90	89	.59	21	63	96	93
14	25	72	83	105	92	90	79	90	26	23	98	99
15	69	74	83	150	95	88	88	86	48	48	98	40
16	70	75	26	149	92	87	92	86	48	52	98	95
17	68	74	80	149	49	27	83	86	60	64	99	5
18	59	62	82	149	94	87	52	85	77	92	20	27
19	66	68	88	145	94	51	48	51	.76	80	98	84
20	29	67	88	128	89	92	46	69	67	88	98	92
21	20	67	90	109	92	90	2.5	61	26	58	98	83
22	75	45	108	150	93	92	60	64	2.2	88	97	16
23	86	66	153	150	93	90	63	66	3.5	83	97	89
24	99	69	147	143	87	33	82	49	22	92	100	86
25	118	63	152	150	95	94	58	13	32	85	21	89
26	109	69	151	133	94	93	55	.9	30	57	101	76
27	114	69	149	21	91	96	47	19	31	86	101	90
28	107	87	149	92	92	85	1.6	17	30	89	98	87
29	117	85	149	92	-	92	53	21	29	86	99	16
30	130	87	149	94	-	38	70	.9	26	94	100	94
31	116	-	149	95	-	36	-	7.9	-	88	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,272.6	130	9.6	73.3	4,510
November.....	2,119	87	45	70.6	4,200
December.....	3,152	153	26	102	6,250
Calendar year 1945.....	35,599.4	160	.2	97.5	70,610
January.....	4,018	152	21	130	7,970
February.....	2,358	95	14	84.2	4,680
March.....	2,680	98	27	82.6	5,080
April.....	2,012.1	92	1.6	67.1	3,990
May.....	1,600.1	92	.9	51.6	3,170
June.....	823.0	77	.4	27.4	1,630
July.....	2,037	94	23	65.7	4,040
August.....	2,688	101	20	86.7	5,330
September.....	2,074.5	99	.5	69.2	4,110
Water year 1945-46.....	27,714.3	153	.4	75.9	54,960

Fine Gold Creek near Friant, Calif.

Location.- Water-stage recorder, lat. 37°03', long. 119°39', in NW¹ sec. 14, T. 10 S., R. 21 E., 1,000 feet downstream from Willow Creek and 5.5 miles northeast of Friant. Altitude of gage, about 680 feet (from topographic map).

Drainage area.- 89.2 square miles.

Records available.- October 1936 to September 1946.

Average discharge.- 10 years, 53.2 second-feet.

Extremes.- Maximum discharge during year, 942 second-feet Mar. 30 (gage height, 6.55 feet); no flow Oct. 1-15, July 1 to Sept. 30.

1936-46: Maximum discharge, 10,300 second-feet Mar. 12, 1938 (gage height, 20.4 feet, from floodmarks), from rating curve extended above 6,500 second-feet; no flow at times during each year.

Remarks.- Records fair. No storage or diversion above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 11 to Dec. 21)

Oct. 1 to Dec. 22					Dec. 22 to Sept. 30				
1.4	0.0	1.8	6.0	1.0	0.0	1.9	2.8	2.7	52
1.5	.3	1.9	10	1.2	.1	2.0	6.0	2.9	75
1.6	1.2	2.0	15	1.4	.2	2.1	10	3.1	102
1.7	3.0	2.2	28	1.7	.5	2.3	21	3.4	153
				1.8	1.0	2.5	35	3.7	212

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.2	3.9	20	7.6	12	121	11	3.8			
2	0	3.0	3.6	18	7.2	10	84	10	3.4			
3	0	2.6	3.3	17	19	10	63	9.6	2.8			
4	0	2.3	3.9	17	32	11	53	9.2	2.4			
5	0	2.5	22	43	19	9.2	47	8.8	2.3			
6	0	2.6	19	38	16	8.8	41	8.4	2.1			
7	0	3.0	10	27	17	8.4	37	7.6	1.9			
8	0	3.0	6.8	20	17	8.0	36	7.2	1.7			
9	0	3.0	5.7	16	15	8.0	32	6.8	1.5			
10	0	3.0	5.7	15	14	7.6	29	6.4	1.5			
11	0	3.6	5.4	14	14	6.8	28	6.0	1.5			
12	0	3.9	5.4	14	14	6.8	27	6.0	1.5			
13	0	3.9	5.1	14	12	24	25	5.7	1.0			
14	0	3.6	5.1	13	12	36	24	5.4	1.0			
15	0	3.9	5.1	13	13	19	23	5.0	.9			
16	1.1	3.9	5.1	12	31	16	22	5.0	.8			
17	1.4	3.6	5.1	12	23	14	21	5.4	.8			
18	1.2	3.6	5.1	12	19	13	20	5.0	.8			
19	1.4	3.6	5.1	12	18	20	19	4.7	.6			
20	1.4	3.6	5.1	10	17	24	19	4.1	.5			
21	1.6	3.6	13	10	16	19	18	3.8	.5			
22	1.6	3.6	250	10	14	17	17	5.0	.4			
23	1.6	3.6	142	9.6	14	15	16	6.4	.4			
24	1.6	3.6	50	9.6	13	14	15	6.0	.4			
25	1.6	9	295	9.6	12	13	14	5.4	.2			
26	1.6	6.5	132	9.2	12	12	14	9.6	.2			
27	1.6	4.5	63	8.8	12	11	13	17	.1			
28	1.6	4.6	43	9.4	12	11	12	9.6	.1			
29	2.6	5	33	8.0	-	50	12	7.2	.1			
30	7.2	4.5	27	7.6	-	596	12	5.7	.1			
31	6.8	-	23	7.6	-	216	-	4.7	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	35.9	7.2	0	1.16	71
November.....	114.9	9	2.3	3.83	228
December.....	1,206.5	295	3.3	38.9	2,390
Calendar year 1945.....	18,365.1	2,160	0	50.3	36,420
January.....	455.4	43	7.6	14.7	903
February.....	441.8	32	7.2	15.8	876
March.....	1,246.6	596	6.8	40.2	2,470
April.....	914	121	12	30.5	1,810
May.....	217.7	17	3.8	7.02	432
June.....	35.3	3.8	.1	1.18	70
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	4,668.1	596	0	12.8	9,250

Peak discharge.- Dec. 22 (8 a.m.) 636 sec.-ft.; Dec. 25 (10 a.m.) 514 sec.-ft.; Mar. 30 (10 a.m.) 942 sec.-ft.

Note.- No gage-height record Nov. 16-29, Dec. 6, 7, 9-14, Jan. 6-14, Feb. 1-4; discharge computed on basis of recorded range in stage and records for Fresno River near Knowles.

Cottonwood Creek near Friant, Calif.

Location.- Water-stage recorder, lat. 37°00'05", long. 119°43'10", in SE $\frac{1}{4}$ sec. 6, T. 11 S., R. 21 E., 1 mile upstream from mouth and 1 mile northwest of Friant. Altitude of gage, about 355 feet (from topographic map).

Drainage area.- 38 square miles.

Records available.- October 1941 to September 1946.

Extremes.- Maximum discharge during year, 37 second-feet Mar. 30 (gage height, 1.37 feet); no flow for several months.
1942-46: Maximum discharge, 569 second-feet Jan. 22, 1943 (gage height, 3.89 feet); no flow for several months each year.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.2	0.2	0.4	4.2					
2			0	.2	.3	.4	3.2					
3			0	.2	3.5	.4	2.2					
4			0	.2	2.9	.4	1.9					
5			0	.9	1.2	.3	1.8					
6			0	.9	.8	.3	1.6					
7			0	.5	.8	.3	1.5					
8			0	.4	.6	.3	1.4					
9			0	.4	.5	.2	1.0					
10			0	.4	.5	.2	.9					
11			0	.3	.5	.2	.8					
12			0	.3	.5	.2	.8					
13			0	.3	.4	.9	.6					
14			0	.3	.4	1.9	.5					
15			0	.3	.8	.8	.4					
16			0	.3	3.7	.5	.4					
17			0	.3	1.6	.4	.2					
18			0	.3	1.1	.4	.1					
19			0	.3	1.0	.8	.1					
20			0	.3	.9	1.0	0					
21			0	.3	.8	.8	0					
22			0.2	.3	.8	.5	0					
23			.5	.3	.7	.4	0					
24			.3	.3	.6	.4	0					
25			.4	.3	.5	.3	0					
26			.4	.4	.5	.3	0					
27			.3	.4	.5	.2	0					
28			.2	.3	.5	.2	0					
29			.2	.3	-	1.2	0					
30			.2	.3	-	24	0					
31			.2	.2	-	7.0	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	2.9	.5	0	.09	5.8
Calendar year 1945	1,879.0	105	0	5.15	3,730
January.....	10.7	.9	.2	.35	21
February.....	27.1	3.7	.2	.97	54
March.....	45.6	24	.2	1.47	90
April.....	23.6	4.2	0	.79	47
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	109.9	24	0	.30	218

Little Dry Creek near Friant, Calif.

Location.- Water-stage recorder, lat. 36°56'25", long. 119°40'55", in SE $\frac{1}{4}$ sec. 28, T. 11 S., R. 21 E., 4 miles upstream from mouth and 3.5 miles (revised) southeast of Friant. Datum of gage is 357.02 feet above mean sea level (levels by State of California).

Drainage area.- 58 square miles.

Records available.- October 1941 to September 1946.

Extremes.- 1943-44: Maximum discharge during year, 639 second-feet Feb. 22 (gage height, 3.52 feet), from rating curve extended above 360 second-feet by logarithmic plotting; no flow for several months.

1944-45: Maximum discharge during year, 1,530 second-feet Feb. 1 (gage height, 4.58 feet), from rating curve extended above 360 second-feet by logarithmic plotting; no flow for several months.

1945-46: Maximum discharge during year, 174 second-feet Mar. 30 (gage height, 2.61 feet); no flow for several months.

1941-46: Maximum discharge, that of Feb. 1, 1945; no flow for several months each year.

Remarks.- Records fair except those for periods of no gage-height record and those above 200 second-feet, which are poor.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, 1943-46

1943-44													
Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	Day	Dec.	Jan.	Feb.	Mar.	Apr.	May
1	0	h0.4	0.6	62	3.8	2	16	0	0.5	2.2	10	2	0.2
2	0	.7	.6	36	3.5	1.9	17	0	.5	2.0	10	2	.2
3	0	1.0	.9	26	3	1.9	18	0	.5	1.8	9.7	2	.6
4	0	.6	1.9	110	3	1.4	19	h.1	.5	1.8	7.9	4	.6
5	0	.6	2.0	73	2.5	1.2	20	.2	.6	2.5	7.0	8	.4
6	0	.8	1.4	42	2.5	1.0	21	h.3	.6	35	6.6	6	.2
7	0	.5	1.2	33	2	.9	22	.2	.6	240	5.7	4	.2
8	0	.5	2.0	26	2	.6	23	.2	1.0	73	5.4	3	.1
9	0	.5	28	22	3	.6	24	.1	3.0	34	5.4	2.5	.1
10	0	.5	9.7	20	4	.5	25	.1	2.4	22	5.4	2	0
11	0	.5	5.2	17	8	.4	26	.1	1.6	23	5.2	2	0
12	0	.5	3.8	15	10	.3	27	.1	1.2	18	4.9	3	0
13	0	.5	3.0	14	6	.2	28	h.1	1.1	13	4.5	5	0
14	0	.5	2.6	14	5	.2	29	.3	.8	114	4.0	4	0
15	0	.5	2.5	12	3	.2	30	1.0	.9	-	4.0	3	0
							31	.6	.9	-	4.0	-	0

h Computed from staff-gage reading.

Note.- No gage-height record Dec. 20, 22-27, 29-31, Jan. 2, 3, 6-11, Apr. 2 to May 1; discharge computed on basis of records for stations on nearby streams.

1944-45

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.5	3.8	569	11	40	4.2	0.9			
2		0	11	3.6	537	9.7	35	3.8	.7			
3		0	6.5	3.1	252	9.7	28	3.3	.5			
4		0	4	2.8	103	28	25	3.0	.4			
5		0	3.5	2.8	78	14	23	2.5	.4			
6		0	3	2.8	58	12	22	2.0	.4			
7		0	2.5	2.6	45	12	20	1.9	.3			
8		0	2	2.6	39	10	23	1.9	.2			
9		0	2	2.5	34	10	40	1.8	.2			
10		0	1.5	2.5	30	9.7	24	1.8	.2			
11		0	1.5	2.5	26	8.5	20	1.6	.2			
12		.4	1.5	2.4	22	8.2	17	1.5	.2			
13		11	1	2.5	20	7.9	16	1.5	.1			
14		2.5	.8	2.2	23	8.2	14	1.6	.1			
15		.8	.9	2.2	29	100	13	1.6	.1			
16		.4	.9	2.2	20	42	13	1.4	0			
17		.2	.9	2.2	17	45	12	1.2	0			
18		.1	1.0	2.2	19	33	12	1.2	0			
19		.1	1.1	2.2	28	23	10	1.2	0			
20		.1	1.1	2.2	17	21	9.7	1.2	0			
21		.1	1.2	2.0	15	20	8.9	1.2	0			
22		.1	1.9	1.9	13	90	8.5	1.2	0			
23		.1	3.3	1.8	12	197	8.2	1.1	0			
24		.1	3.1	1.8	12	68	7.3	.9	0			
25		.1	2.4	1.8	11	82	7.0	.8	0			
26		.1	1.9	1.8	9.7	209	8.3	.7	0			
27		.2	1.8	1.8	11	99	6.0	.6	0			
28		.2	2.2	1.6	15	71	5.4	.6	0			
29		.2	19	1.6	-	61	5.2	.8	0			
30		.2	6.6	1.6	-	51	4.9	.8	0			
31		-	4.5	4.8	-	44	-	1.1	-			

Note.- No gage-height record Nov. 29 to Dec. 13; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Discharge, in second-feet, of Little Dry Creek near Friant, Calif., 1943-46--Continued

1945-46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1	0.8	2.2	19					
2			0	1	.9	2.0	12					
3			0	1	8.5	2.0	9.7					
4			0	1.5	28	2.0	7.9					
5			0	4	8.5	1.8	6.3					
6			0	3	5.7	1.6	5.2					
7			0	2	4.5	1.6	4.7					
8			0	2	3.8	1.6	4.0					
9			0	1.5	3.1	1.6	3.1					
10			0	1.5	3.0	1.5	2.8					
11			0	1.4	2.8	1.5	2.5					
12			0	1.3	2.6	1.4	2.4					
13			0	1.3	2.4	3.0	2.2					
14			0	1.2	2.2	7.0	1.9					
15			0	1.2	2.6	3.1	1.8					
16			0		7.7	2.5	1.5					
17			0	1.1	6.6	2.2	1.2					
18			0	1.1	4.2	2.0	1.2					
19			0	1.1	3.8	2.5	1.0					
20			0	1.1	3.6	2.8	1.0					
21			0	1.1	3.1	2.4	.9					
22			5	1.0	3.0	1.9	.8					
23			5	1.0	2.6	1.9	.6					
24			3	1.0	2.6	1.8	.4					
25			8	1.0	2.5	1.6	.4					
26			4	1.0	2.5	1.5	.2					
27			3	1.0	2.4	1.4	.2					
28			2	1.0	2.4	1.6	.1					
29			1	.9	-	3.5	.1					
30			1	.8	-	96	0					
31			1	.8	-	40	-					

Note.- No gage-height record Dec. 22 to Jan. 14; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Monthly discharge, in second-feet, 1943-46

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1943	0	0	0	0	0
November	0	0	0	0	0
December	3.4	1.0	0	.11	6.7
Calendar year 1943	1,951.6	125	0	5.29	3,890
January 1944	25.3	3.0	.4	.82	50
February	647.7	240	.8	22.3	1,280
March	621.7	110	4.0	20.1	1,230
April	113.8	10	2	3.79	226
May	15.9	2	0	.51	32
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1943-44	1,427.8	240	0	3.90	2,820
October 1944	0	0	0	0	0
November	17.0	11	0	.57	34
December	95.1	19	.5	3.07	189
Calendar year 1944	1,536.5	240	0	4.20	3,040
January 1945	74.4	4.8	1.6	2.40	148
February	2,064.7	569	9.7	73.7	4,100
March	1,414.9	209	7.9	45.6	2,810
April	484.4	40	4.9	16.1	961
May	49.8	4.2	.6	1.61	99
June	4.9	.9	0	.16	9.7
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1944-45	4,205.2	569	0	11.5	8,350
October 1945	0	0	0	0	0
November	0	0	0	0	0
December	29.5	8	0	.95	59
Calendar year 1945	4,122.6	569	0	11.3	8,190
January 1946	41.0	4	.8	1.32	81
February	126.2	28	.8	4.51	250
March	199.5	96	1.4	6.44	396
April	95.1	19	0	3.17	189
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1945-46	491.3	96	0	1.35	975

Fresno River near Knowles, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°14', long. 119°46', in NW $\frac{1}{4}$ sec. 15, T. 8 S., R. 20 E., at Fresno Crossing, 0.1 mile downstream from Bean Gulch and 6 miles northeast of Knowles. Altitude of gage, about 1,140 feet (from topographic map).

Drainage area.- 132 square miles.

Records available.- September 1911 to December 1913, November 1915 to September 1946.

Average discharge.- 31 years (1911-12, 1916-46), 83.4 second-feet.

Extremes.- Maximum discharge during year, 1,470 second-feet Mar. 30 (gage height, 3.74 feet); minimum, 0.9 second-foot Aug. 29, 30 (gage height, 0.84 foot).

1911-13, 1915-46: Maximum discharge, 7,630 second-feet Mar. 12, 1938 (gage height, 8.67 feet); no flow at times in 1919, 1924, 1926, 1928-31, 1933-34.

Remarks.- Records good. Water diverted into Fresno River Basin above station from San Joaquín and Merced River Basins. Small diversions above station for irrigation.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 1 to Sept. 30)

0.8	0.3	1.3	20	2.0	283
.9	1.3	1.4	36	2.3	385
1.0	3.0	1.5	57	2.6	560
1.1	6.3	1.6	84	3.1	910
1.2	12	1.8	152		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	28	19	62	31	44	234	148	110	33	6.0	2.5
2	2.7	18	18	57	31	42	190	148	110	31	5.6	2.7
3	2.7	16	17	57	53	40	165	152	106	28	4.3	3.0
4	2.5	14	18	60	49	38	156	156	103	26	4.0	3.7
5	2.5	13	44	116	42	36	165	152	97	25	4.0	6.8
6	2.7	14	42	100	44	36	160	148	90	22	4.0	11
7	3.7	18	28	73	44	36	145	152	87	20	4.0	7.3
8	4.3	17	25	65	44	36	145	152	84	20	4.0	6.3
9	5.3	16	22	57	40	36	134	156	81	19	3.0	6.0
10	6.3	16	20	55	38	34	127	152	79	19	2.8	5.3
11	24	20	19	55	40	33	127	156	70	17	3.0	5.3
12	17	18	23	51	34	33	127	148	68	17	2.7	4.6
13	10	16	22	49	36	90	127	145	62	16	2.7	3.7
14	8.9	15	19	46	34	97	123	138	57	16	2.8	3.3
15	8.4	14	18	46	40	62	120	138	60	15	3.7	2.8
16	8.9	14	18	44	53	57	120	130	55	14	3.7	2.8
17	7.9	16	18	42	46	55	116	127	55	14	3.3	4.0
18	7.3	16	18	42	42	53	113	127	53	13	3.3	5.0
19	6.8	14	18	40	42	73	130	127	49	13	3.3	5.0
20	6.8	12	17	40	42	76	138	127	46	14	3.0	4.3
21	6.3	12	67	38	46	73	134	127	46	14	3.0	4.0
22	6.3	12	633	36	46	65	130	130	46	13	3.0	3.7
23	6.3	12	350	34	46	62	134	127	44	12	2.8	3.3
24	6.8	14	190	33	46	60	130	120	44	12	2.7	2.7
25	6.8	34	440	33	46	57	138	116	42	12	2.5	2.3
26	6.8	28	295	31	44	65	138	141	40	12	2.0	2.3
27	6.8	22	152	30	42	73	138	145	38	9.9	1.2	2.2
28	6.8	19	116	31	44	87	138	127	36	8.4	1.0	1.5
29	8.4	19	94	31	-	296	138	120	34	6.8	.9	2.0
30	47	20	79	31	-	842	145	116	34	6.3	.9	2.8
31	49	-	68	30	-	330	-	113	-	6.0	2.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	298.3	49	2.3	9.62	592
November	517	34	12	17.2	1,030
December	2,927	633	17	94.4	5,810
Calendar year 1945	41,186.3	2,910	1.2	113	81,710
January	1,515	116	30	48.9	3,000
February	1,185	53	31	42.3	2,350
March	3,017	842	33	97.3	5,980
April	4,225	234	113	141	8,380
May	4,261	156	113	137	8,450
June	1,926	110	34	64.2	3,820
July	504.4	33	6.0	16.3	1,000
August	95.5	5.0	.9	3.08	189
September	122.2	11	1.5	4.07	242
Water year 1945-46	20,593.4	842	.9	56.4	40,840

Peak discharge.- Dec. 22 (8 a.m.) 1,310 sec.-ft.; Dec. 23 (4 p.m.) 524 sec.-ft.; Dec. 25 (10:30 a.m.) 780 sec.-ft.; Mar. 29 (10 a.m.) 345 sec.-ft.; Mar. 30 (5 a.m.) 1,470 sec.-ft.

FRESNO RIVER BASIN

Fresno River near Daulton, Calif.

Location.- Water-stage recorder, lat. 37°06', long. 119°53', in NW¼ sec. 3, T. 10 S., R. 19 E., 0.5 mile downstream from Willow Creek and 5 miles southeast of Daulton. Altitude of gage, about 385 feet (from topographic map).

Drainage area.- 270 square miles.

Records available.- October 1941 to September 1946.

Extremes.- Maximum discharge during year, 2,460 second-feet Mar. 30 (gage height, 3.88 feet); minimum, 0.2 second-foot Aug. 29-31, Sept. 30.
1944-46: Maximum discharge, 8,090 second-feet Feb. 2, 1945 (gage height, 7.10 feet); no flow at times in September 1945.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Water diverted into Fresno River Basin above station from San Joaquin and Merced River Basins. Small diversions above station for irrigation.

Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	36	22	82	36	41	330	198	121	29	a3	a0.8
2	1.8	26	20	68	38	38	243	206	114	29	a2	a.9
3	1.4	21	16	66	73	34	198	189	105	28	a1.5	a1.0
4	1.6	13	16	68	79	38	189	193	92	28	a1.2	a1.2
5	1.6	12	26	140	57	41	169	202	90	a27	a1.0	1.6
6	2.0	12	55	149	59	41	181	220	84	a27	a1.0	3.5
7	2.5	11	32	101	71	38	168	206	84	a26	a1.0	7.9
8	3.5	17	24	92	68	41	177	193	82	a25	a1.0	6.5
9	3.5	15	21	82	64	48	164	185	82	a25	.6	4.5
10	4.5	15	22	73	57	50	160	181	87	24	a.5	3.5
11	36	17	22	64	57	46	157	172	84	22	a.5	3.0
12	15	25	25	66	53	48	157	168	76	19	a.5	3.0
13	13	25	24	64	46	71	168	164	71	16	a.5	2.0
14	11	22	24	57	43	160	157	164	68	15	a.5	1.4
15	7.9	21	21	57	44	84	142	149	66	15	a.5	1.4
16	7.0	20	21	55	73	66	142	149	66	15	a1.0	1.2
17	7.0	20	21	48	68	57	138	146	59	14	a1.1	.8
18	6.5	20	21	44	50	57	134	149	59	14	a1.0	1.0
19	6.0	21	20	43	50	68	157	142	57	14	a1.1	1.8
20	5.5	17	20	43	53	95	198	142	53	14	a1.1	2.5
21	5.0	17	24	41	59	79	177	142	46	15	1.2	2.0
22	4.5	16	708	43	59	64	168	146	44	14	.6	1.8
23	5.0	14	400	43	53	59	164	164	41	12	1.7	1.6
24	5.5	15	276	41	43	61	164	146	39	12	.8	1.0
25	5.0	21	555	41	43	55	177	121	36	12	1.8	1.2
26	5.5	32	522	41	38	50	177	131	32	12	1.6	.3
27	5.5	22	234	39	36	66	181	198	31	12	1.2	.8
28	5.5	19	164	38	38	71	185	142	29	12	a.4	.8
29	6.0	19	127	36	-	206	181	124	29	a10	.2	.8
30	12	20	105	36	-	1,840	198	117	29	a7	a.2	.2
31	61	-	92	34	-	532	-	117	-	4.5	a.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	259.8	61	1.4	8.38	515
November.....	581	36	11	19.4	1,150
December.....	3,680	708	16	119	7,300
Calendar year 1945.....	56,963.8	4,610	0	156	113,000
January.....	1,895	149	34	61.1	3,760
February.....	1,508	79	36	53.9	2,990
March.....	4,245	1,840	34	137	8,420
April.....	5,321	330	134	177	10,550
May.....	5,066	220	117	163	10,060
June.....	1,966	121	29	65.2	3,880
July.....	548.5	29	4.5	17.7	1,090
August.....	30.5	3	.2	.98	60
September.....	60.2	7.9	.2	2.01	119
Water year 1945-46.....	25,151.0	1,840	.2	68.9	49,880

Peak discharge.- Dec. 22 (11:30 a.m.) 1,390 sec.-ft.; Dec. 23 (10:30 p.m.) 549 sec.-ft.; Dec. 25 (2:30 p.m.) 1,040 sec.-ft.; Mar. 30 (10 a.m.) 2,460 sec.-ft.

a No gage-height record; discharge computed on basis of 3 discharge measurements, weather records, and records for station near Knowles.

Chamberlain Slough near El Nido, Calif.

Location.- Water-stage recorder, lat. 37°06'45", long. 120°35'20", in NE $\frac{1}{4}$ sec. 31, T. 9 S., R. 13 E., 30 feet downstream from head and 5 miles southwest of El Nido. Datum of gage is 100.14 feet above mean sea level (Bureau of Reclamation bench mark).

Records available.- October 1939 to September 1946.

Extremes.- Maximum discharge during year, 1,510 second-feet May 13 (gage height, 8.41 feet); no flow June 25 and parts of June 24, 26 (result of irrigation operations).
1944-46: Maximum discharge 2,060 second-feet Feb. 9, 1945 (gage height, 9.84 feet); no flow at times (result of irrigation operations).

Remarks.- Records good except those for periods of no gage-height record, which are fair. Flow regulated by Friant and Mendota Dams and by diversion through Temple Slough. Many diversions from river above station for irrigation. Same recorder used for San Joaquin River near El Nido; add discharge at that station to obtain total flow of river at this point.

Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a70	109	516	1,140	890	a160	96	188	539	67	18	13
2	a70	100	505	1,050	769	a190	142	255	537	210	17	16
3	70	124	497	986	608	a210	154	431	518	204	17	21
4	68	230	507	932	556	192	123	490	499	200	18	23
5	68	263	560	938	541	172	86	495	514	196	14	20
6	74	258	654	995	526	142	64	512	576	195	16	18
7	77	278	628	1,150	512	119	51	584	735	193	14	17
8	87	288	624	1,260	501	85	46	850	925	184	12	16
9	109	298	614	1,310	499	71	42	1,190	938	176	11	14
10	108	317	584	1,300	492	72	31	1,410	898	160	12	10
11	180	342	564	1,240	482	81	34	1,480	800	111	14	8.8
12	256	344	554	1,150	377	70	39	1,510	574	64	15	8.8
13	282	344	532	1,110	d416	71	40	1,510	499	36	20	9.1
14	291	355	514	1,090	d440	83	40	1,480	470	26	16	9.4
15	292	382	499	1,070	d441	122	37	1,040	348	23	12	9.4
16	287	404	484	1,050	d446	107	34	795	323	21	10	9.1
17	288	433	482	1,030	d462	73	35	745	326	22	10	10
18	281	445	475	1,020	d448	a45	36	760	312	20	10	10
19	274	434	470	1,000	d440	a40	36	812	263	18	9.7	11
20	301	450	466	989	d434	a38	38	818	213	16	10	11
21	267	459	473	977	d424	a35	39	810	200	15	9.7	9.7
22	263	461	488	977	d417	a25	38	830	199	15	9.4	8.8
23	248	452	494	965	d409	a23	36	1,130	228	14	9.1	9.4
24	230	441	541	959	d388	a23	34	1,350	88	14	9.1	9.4
25	228	446	722	956	d352	a23	33	1,310	0	15	10	9.4
26	220	433	1,090	945	d333	22	32	1,080	69	16	9.7	12
27	207	429	1,310	932	d322	22	41	918	174	16	9.4	13
28	175	490	1,390	928	a15c	22	90	828	1.2	15	9.4	29
29	118	480	1,420	922	-	22	111	841	.4	16	12	35
30	115	501	1,440	912	-	22	142	507	.4	16	6.4	35
31	112	-	1,300	802	-	24	-	518	-	16	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,716	301	68	184	11,340
November.....	10,790	501	100	360	21,400
December.....	21,397	1,440	466	690	42,440
Calendar year 1945.....	245,752.0	2,040	30	673	487,400
January.....	32,185	1,310	902	1,038	63,840
February.....	13,085	890	160	467	25,950
March.....	2,406	210	22	77.6	4,770
April.....	1,800	154	31	60.0	3,570
May.....	27,178	1,510	188	877	53,910
June.....	11,757	938	0	392	23,320
July.....	2,310	210	14	74.5	4,560
August.....	379.9	20	6.4	12.3	754
September.....	435.3	35	8.8	14.5	863
Water year 1945-46.....	129,439.2	1,510	0	355	256,740

a No gage-height record; discharge computed on basis of recorded range in stage and records for stations on San Joaquin River.

d Doubtful gage-height record; discharge computed on basis of 1 discharge measurement, recorded gage heights, and records for stations on San Joaquin River.

Salt Slough near Los Banos, Calif.

Location.- Water-stage recorder, lat. 37°09', long. 120°49', in Sanjon de Santa Rita Grant at San Luis Ranch, 7 miles north of Los Banos, Merced County. Altitude of gage, about 80 feet (from topographic map).

Records available.- December 1940 to September 1946.

Extremes.- Maximum discharge during year, 938 second-feet May 26; maximum gage height, 7.64 feet May 13; minimum discharge, 74 second-feet Aug. 12.
1944-46: Maximum discharge, 1,200 second-feet May 18, 1945 (gage height, 8.32 feet); minimum, 40 second-feet Oct. 9, 1944.

Remarks.- Records fair. Flow regulated by irrigation operations above station.

Cooperation.- Twelve discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	156	99	218	551	365	117	264	192	293	177	158	213
2	159	102	216	495	358	104	271	198	304	153	137	230
3	154	101	213	470	336	108	278	189	299	94	122	261
4	148	104	216	457	298	111	280	196	282	123	127	251
5	158	105	224	462	275	118	278	214	270	127	131	265
6	159	165	236	459	267	109	270	220	272	130	121	281
7	168	122	228	470	266	98	260	216	308	142	108	284
8	188	121	223	484	247	87	251	207	414	147	106	277
9	197	126	219	502	243	94	253	207	539	150	99	272
10	207	131	215	510	236	102	237	260	592	141	86	267
11	205	125	209	504	231	105	231	617	570	133	87	243
12	193	130	213	486	227	109	230	840	501	127	79	220
13	184	147	197	469	209	121	228	305	352	122	79	205
14	182	137	230	457	215	126	231	692	253	134	82	202
15	171	141	190	448	224	130	231	825	202	134	94	198
16	153	153	172	437	232	128	216	546	194	137	144	196
17	144	161	156	434	228	114	205	314	205	127	144	192
18	140	164	147	430	224	115	201	265	196	121	146	188
19	125	159	136	422	219	133	205	259	182	117	133	184
20	121	156	126	408	213	140	205	293	167	113	115	200
21	116	155	125	405	206	152	206	310	161	118	116	178
22	112	158	140	417	200	150	205	305	149	122	111	170
23	109	160	148	427	194	158	198	325	156	127	108	164
24	100	165	153	427	188	159	193	471	159	121	137	161
25	96	205	159	420	179	167	194	752	168	120	161	161
26	100	206	161	414	170	182	193	915	178	124	167	156
27	100	205	190	403	162	188	194	830	172	123	193	155
28	94	210	577	395	155	193	189	674	158	132	253	160
29	91	219	547	388	-	197	193	560	159	137	206	160
30	94	219	547	378	-	211	198	331	171	136	200	158
31	94	-	550	371	-	243	-	282	-	132	202	-
Month				Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet				
October				4,418	207	91	143	8,760				
November				4,551	219	99	152	9,030				
December				7,281	577	125	235	14,440				
Calendar year 1945				126,323	1,200	91	346	250,600				
January				13,780	531	371	445	27,330				
February				6,557	365	155	234	13,010				
March				4,269	243	87	138	8,470				
April				6,788	280	189	226	13,460				
May				13,607	915	189	439	27,000				
June				8,026	592	149	268	15,920				
July				4,041	177	94	130	8,020				
August				4,132	253	79	133	8,200				
September				6,232	281	155	208	12,360				
Water year 1945-46				83,682	915	79	229	166,000				

Chowchilla River at Buchanan dam site, Calif.

Location.- Water-stage recorder, lat. 37°13', long. 120°00', in SW¹/₄ sec. 22, T. 8 S., R. 18 E., 1.4 miles upstream from Raynor Creek and 5 miles west of Raymond. Datum of gage is 407.30 feet above mean sea level, adjustment of 1912 (levels by Merced Irrigation District).

Drainage area.- 238 square miles.

Records available.- October 1921 to September 1923, October 1930 to September 1946.

Average discharge.- 16 years (1930-46), 120 second-feet.

Extremes.- Maximum discharge during year, 3,450 second-feet Mar. 30 (gage height, 8.46 feet); no flow Oct. 1-9, July 28 to Sept. 30.
1921-23, 1930-46: Maximum discharge, 18,900 second-feet Mar. '2, 1938 (gage height, 14.4 feet, from floodmarks), from rating curve extended above 6,000 second-feet by logarithmic plotting; no flow for part of each year except 1937, 1938, 1940-43.

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

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 26 to July 27)

0.5	0.1	1.2	5.0	2.3	55	4.5	505
.6	.2	1.4	8.9	2.6	85	5.0	705
.7	.4	1.6	14	3.0	136	5.5	945
.8	.8	1.8	22	3.5	226	6.0	1,230
1.0	2.3	2.0	33	4.0	348	7.0	1,990

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	25	15	81	36	52	481	49	22	2.5		
2	0	17	14	73	37	49	371	48	20	2.3		
3	0	13	14	71	86	48	308	46	19	2.1		
4	0	10	14	73	107	46	271	44	17	1.8		
5	0	9.2	28	182	71	44	248	42	16	1.4		
6	0	8.7	73	196	59	44	224	40	15	1.2		
7	0	9.2	41	125	60	43	200	37	14	.9		
8	0	15	29	102	67	42	195	34	14	.8		
9	0	12	24	89	66	41	167	32	13	.6		
10	.8	11	21	77	63	39	150	32	13	.6		
11	12	12	20	72	65	38	141	34	13	.4		
12	29	18	26	68	61	36	133	34	13	.4		
13	12	16	30	62	56	78	125	31	12	.3		
14	6.8	14	26	60	53	147	119	30	11	.2		
15	5.7	14	22	58	56	82	112	29	10	.2		
16	4.7	15	21	54	126	65	104	29	9.4	.2		
17	3.8	18	21	53	97	59	98	29	8.7	.1		
18	3.5	17	21	51	81	55	92	28	8.3	.1		
19	3.1	17	20	49	73	68	87	26	7.8	.1		
20	3.0	14	19	48	71	103	83	24	7.0	.1		
21	2.9	13	58	47	73	85	77	23	6.1	.1		
22	2.8	12	1,140	46	69	75	74	26	5.7	.1		
23	2.7	12	661	44	64	68	70	31	5.4	.1		
24	2.7	12	348	44	61	63	66	31	5.2	.1		
25	2.7	19	957	43	59	60	62	28	5.0	.1		
26	2.7	37	620	42	57	57	58	31	4.6	.1		
27	2.7	22	269	40	54	54	56	58	4.1	.1		
28	2.7	18	182	39	53	53	54	44	3.6	0		
29	4.0	17	133	38	-	116	53	34	3.1	0		
30	9.4	16	109	36	-	1,990	50	29	2.9	0		
31	46	-	92	36	-	754	-	25	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	165.7	46	0	5.35	329
November.....	461.1	37	8.7	15.4	915
December.....	5,068	1,140	14	163	10,050
Calendar year 1945.....	46,548.6	5,200	0	128	92,320
January.....	2,097	196	36	67.6	4,160
February.....	1,881	126	36	67.2	3,730
March.....	4,554	1,990	36	147	9,030
April.....	4,329	481	50	144	8,590
May.....	1,058	58	23	34.1	2,100
June.....	308.9	22	2.9	10.3	613
July.....	17.0	2.5	0	.55	34
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	19,939.7	1,990	0	54.6	39,550

Peak discharge.- Dec. 22 (8 a.m.) 2,040 sec.-ft.; Dec. 23 (5 p.m.) 1,170 sec.-ft.; Dec. 25 (9 a.m.) 3,080 sec.-ft.; Jan. 5 (6:30 p.m.) 241 sec.-ft.; Mar. 14 (2 a.m.) 228 sec.-ft.; Mar. 30 (8 a.m.) 3,450 sec.-ft.

Merced River at Happy Isles Bridge, near Yosemite, Calif.

Location.- Water-stage recorder, lat. 37°43'54", long. 119°33'28", at Happy Isles Bridge, 0.4 mile downstream from Illioullette Creek and 2.3 miles southeast of Yosemite Lodge in Yosemite National Park, Mariposa County. Altitude of gage, about 4,000 feet (from topographic map).

Drainage area.- 181 square miles.

Records available.- August 1915 to September 1946.

Average discharge.- 31 years, 341 second-feet.

Extremes.- Maximum discharge during year, 3,690 second-feet probably on Oct. 30 (gage height, 7.22 feet); minimum, 7.8 second-feet Oct. 5, 6.
1915-46: Maximum discharge, 10,600 second-feet Dec. 11, 1937 (gage height, 10.4 feet), from rating curve extended above 4,000 second-feet on basis of velocity-area studies; minimum, 1.5 second-feet Sept. 30, 1926.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Small diversion above station for Yosemite Valley water supply.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.4	6	2.2	68	4.1	685
1.5	9	2.3	83	4.5	910
1.7	18	2.6	139	5.0	1,260
1.8	25	2.9	215	5.5	1,680
1.9	34	3.3	337	6.3	2,490
2.1	55	3.7	494		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	350	108	220	110	140	240	1,780	1,510	670	141	35
2	9.0	270	106	110	110	160	230	1,810	1,780	660	127	32
3	8.4	280	110	200	115	160	221	1,910	2,010	620	119	32
4	8.1	240	102	200	105	140	238	2,070	1,940	562	115	35
5	8.1	220	110	210	100	130	259	2,190	1,790	516	113	158
6	8.7	210	121	180	115	140	262	2,420	1,480	472	110	146
7	16	190	117	170	110	170	241	2,460	1,400	431	100	98
8	94	170	108	140	105	220	224	2,220	1,430	392	93	74
9	110	161	104	150	105	270	221	2,100	1,460	366	88	65
10	93	184	104	140	100	300	235	1,750	1,260	381	93	55
11	77	181	104	133	100	270	293	1,400	1,040	384	123	46
12	74	191	102	135	90	250	381	1,430	1,110	381	137	41
13	70	186	85	137	95	320	477	1,520	1,200	351	110	36
14	63	202	85	140	90	260	468	1,560	1,180	323	93	30
15	102	191	95	140	95	247	605	1,700	1,070	284	78	25
16	170	166	105	140	95	238	817	1,600	946	244	68	20
17	130	176	95	150	90	250	1,040	1,780	892	235	59	19
18	110	154	90	150	95	240	1,190	2,040	898	230	54	18
19	90	154	90	140	95	235	1,190	2,040	922	253	50	17
20	70	146	90	130	95	216	1,090	2,140	998	265	48	16
21	60	143	250	120	95	202	1,030	2,050	1,000	287	50	15
22	50	141	400	130	90	189	1,080	1,440	928	297	53	14
23	45	133	310	130	95	186	1,280	1,030	806	265	59	14
24	40	131	280	140	110	200	1,510	984	685	256	59	13
25	36	133	280	140	110	210	1,800	1,080	696	513	58	12
26	33	137	260	130	110	280	1,940	1,120	740	550	53	12
27	31	159	250	130	120	350	1,880	922	729	513	48	12
28	29	137	270	130	140	310	1,820	868	702	233	45	12
29	200	133	310	130	-	280	1,830	892	650	200	42	12
30	2,000	123	270	105	-	240	1,740	1,070	675	176	41	12
31	700	-	240	115	-	260	-	1,360	-	159	37	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,545.1	2,000	8.1	147	9,020
November	5,352	350	123	178	10,620
December	5,141	400	85	166	10,200
Calendar year 1945	152,441.1	2,230	8.1	418	302,400
January	4,615	220	105	149	9,150
February	2,885	140	90	103	5,720
March	7,043	330	130	227	13,970
April	25,832	1,940	221	861	51,240
May	50,716	2,460	868	1,635	100,600
June	33,927	2,010	650	1,131	67,290
July	11,269	670	159	364	22,350
August	2,464	141	37	79.5	4,890
September	1,126	158	12	37.5	2,230
Water year 1945-46	154,915.1	2,460	8.1	424	307,300

Notes.- No gage-height record Oct. 16 to Nov. 8, Dec. 13 to Jan. 10, Jan. 14 to Mar. 14, Mar. 17, 18, Mar. 24 to Apr. 1, Sept. 14, 15; discharge computed on basis of recorded range in stage and records for station at Pohono Bridge.

Merced River at Pohono Bridge, near Yosemite, Calif.

Location.- Water-stage recorder, lat. 37°43'01", long. 119°39'55", 0.4 mile upstream from Artist Creek and 4.2 miles southwest of Yosemite Lodge, in Yosemite National Park, Mariposa County. Altitude of gage, about 3,870 feet (from topographic map).

Drainage area.- 321 square miles.

Records available.- November 1916 to September 1946.

Average discharge.- 29 years (1917-46), 592 second-feet.

Extremes.- Maximum discharge during year, 4,680 second-feet May 7 (gage height, 8.15 feet); minimum, 25 second-feet Oct. 6, 1916-46; Maximum discharge, 22,000 second-feet Dec. 11, 1937 (gage height, 19.1 feet, from floodmarks in gage house), by computation of flow over diversion dam for Yosemite powerhouse 1 mile downstream; minimum, 3.3 second-feet Sept. 29, Oct. 1, 1924.

Remarks.- Records good except those for period of no gage-height record, which are fair. Small diversion above station for Yosemite Valley water supply.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 21

Dec. 22 to Sept. 30

0.8	26	1.8	153	3.6	705	0.8	26	1.8	164	4.0	970
0.9	32.5	2.1	218	4.0	910	0.9	32.5	2.1	234	5.0	1,590
1.1	50	2.4	291	4.5	1,200	1.0	40	2.4	332	6.0	2,380
1.3	73	2.8	403	5.5	1,870	1.1	50	2.8	440	7.0	3,360
1.5	101	3.2	538	6.7	2,820	1.3	75	3.2	590	8.0	4,500
						1.5	106	3.6	765		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	571	195	450	229	293	506	3,150	2,080	783	186	a50
2	29	454	193	426	227	321	489	3,290	2,330	760	171	a50
3	27	435	202	412	232	321	479	3,420	2,540	724	168	a50
4	27	397	193	412	215	277	522	3,610	2,500	662	162	a50
5	26	353	195	419	210	272	566	3,820	2,320	618	158	a180
6	27	348	204	369	254	298	586	4,120	1,990	578	151	a160
7	31	321	213	363	229	347	558	4,130	1,840	530	143	a140
8	70	281	193	335	215	458	496	3,710	1,810	482	134	a110
9	121	276	188	312	212	570	476	3,510	1,830	450	124	a95
10	109	318	188	318	203	634	496	3,040	1,690	454	122	a80
11	95	310	191	293	203	570	618	2,510	1,400	454	145	a70
12	86	321	175	282	186	508	797	2,490	1,420	450	173	a65
13	87	323	157	292	198	668	990	2,610	1,490	426	145	a55
14	81	353	159	290	188	534	975	2,800	1,470	366	126	a50
15	98	337	175	296	209	526	1,220	2,740	1,340	347	111	a45
16	184	294	186	293	196	496	1,600	2,580	1,220	307	103	a40
17	171	313	171	301	191	518	2,010	2,760	1,140	285	92	38
18	148	276	165	304	198	508	2,230	3,190	1,110	280	84	37
19	122	271	161	290	200	492	2,300	3,240	1,120	290	78	36
20	103	264	163	277	200	454	2,100	3,260	1,160	309	75	35
21	90	259	424	262	200	426	1,960	3,150	1,180	332	74	33
22	81	254	840	269	193	395	2,030	2,350	1,120	362	74	32
23	74	242	578	269	198	405	2,420	1,780	985	324	81	31
24	67	235	496	285	224	419	2,810	1,660	870	301	a85	30
25	61	247	503	288	227	430	3,250	1,740	845	509	a85	29
26	57	244	464	275	224	570	3,470	1,970	890	648	a80	29
27	53	254	447	272	242	720	3,420	1,710	880	398	a75	28
28	50	256	534	269	290	666	3,370	1,570	835	301	a70	28
29	222	244	602	254	-	582	3,340	1,510	778	256	a65	28
30	2,740	220	538	222	-	510	3,150	1,660	783	227	a60	31
31	1,090	-	486	232	-	538	-	1,930	-	208	a55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,258	2,740	26	202	12,410
November.....	9,271	571	220	309	18,390
December.....	9,579	640	157	309	19,000
Calendar year 1945	256,352	4,520	26	702	508,500
January.....	9,621	450	222	310	19,080
February.....	5,978	290	186	213	11,850
March.....	14,720	720	272	475	29,200
April.....	49,214	3,470	476	1,640	97,610
May.....	84,810	4,130	1,510	2,736	168,200
June.....	42,936	2,540	778	1,431	85,160
July.....	13,441	783	208	434	26,660
August.....	3,455	186	55	111	6,850
September.....	1,740	180	28	58.0	3,450
Water year 1945-46	251,018	4,130	26	688	497,900

a No gage-height record; discharge computed on basis of recorded range in stage and records for station at Happy Isles Bridge, near Yosemite.

Merced River at Kittridge, Calif.

Location.- Water-stage recorder, lat. 37°39', long. 120°11', in sec. 26, T. 3 S., R. 16 E., 0.2 mile downstream from Whites Gulch, 0.3 mile downstream from Kittridge, and 3.5 miles downstream from Bagby. Altitude of gage, about 750 feet (from topographic map).

Drainage area.- 935 square miles.

Records available.- November 1928 to September 1946. November 1922 to November 1928 at site 1.2 miles downstream.

Average discharge.- 20 years (1923-27, 1929-30, 1931-46), 1,278 second-feet.

Extremes.- Maximum discharge during year, 15,000 second-feet Dec. 22 (gage height, 14.48 feet); minimum, 39 second-feet Sept. 30.

1922-46: Maximum discharge, 59,000 second-feet Dec. 11, 1937 (gage height, 31.0 feet, from floodmarks), from rating curve extended above 11,000 second-feet on basis of velocity-area studies and records of storage increase in Lake McClure; minimum, 13 second-feet Oct. 5, 1925.

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

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 21					Dec. 22 to Sept. 30						
1.0"	54	3.0	456	6.0	2,050	0.7	35	2.2	292	6.5	2,520
1.2	72	3.5	635	7.0	2,880	.9	56	2.6	396	7.5	3,650
1.6	126	4.0	855	8.0	3,930	1.1	82	3.2	570	8.5	5,000
2.0	200	4.5	1,100	8.6	4,640	1.3	110	3.8	790	10.0	7,200
2.5	314	5.0	1,400			1.5	142	4.5	1,100	11.3	9,280
						1.8	202	5.5	1,730		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	1,180	450	1,230	602	794	2,580	5,130	2,980	937	273	82
2	67	814	414	1,120	605	790	2,290	5,380	3,230	898	250	78
3	64	711	399	1,120	770	802	2,080	5,460	3,570	870	226	78
4	62	655	502	1,110	830	766	1,980	5,800	3,470	822	211	78
5	61	591	1,170	1,680	790	710	2,030	5,970	3,230	766	202	83
6	62	563	774	1,530	766	710	1,980	6,500	2,790	714	195	154
7	69	645	603	1,280	750	742	1,740	6,570	2,470	675	189	209
8	60	530	530	1,140	726	846	1,560	5,970	2,380	630	180	160
9	112	488	478	1,000	703	1,030	1,450	5,740	2,380	a590	170	131
10	182	507	453	950	700	1,170	1,410	4,800	2,260	a560	158	113
11	190	706	450	902	778	1,110	1,510	4,130	1,910	a545	151	99
12	198	615	485	854	722	996	1,760	3,950	1,820	534	166	90
13	187	651	438	838	692	1,500	2,080	4,220	1,880	525	202	82
14	160	635	393	830	675	1,340	2,040	4,160	1,850	492	182	76
15	148	635	414	818	689	1,230	2,260	4,370	1,730	458	160	70
16	196	635	426	802	802	1,100	2,760	3,960	1,580	424	142	68
17	269	659	432	794	774	1,100	3,470	4,120	1,460	393	131	68
18	249	659	408	790	754	1,090	4,130	4,750	1,390	371	121	68
19	216	548	396	774	746	1,200	4,070	4,920	1,380	363	112	66
20	186	524	385	750	742	1,150	3,780	4,930	1,410	382	106	62
21	164	501	2,800	718	756	1,080	3,470	5,060	1,430	393	102	61
22	149	485	9,230	696	742	996	3,380	3,840	1,360	430	100	59
23	139	472	5,290	689	710	1,010	3,960	2,830	1,240	430	99	57
24	128	456	2,660	689	706	1,000	4,620	2,430	1,100	388	100	55
25	120	675	4,820	706	718	996	5,360	2,560	1,000	402	103	53
26	113	567	3,380	703	710	1,080	5,760	3,080	1,020	706	102	49
27	106	527	2,040	682	689	1,340	5,590	2,960	1,010	619	99	47
28	103	517	1,830	675	738	1,340	5,600	2,540	986	446	93	47
29	112	517	1,770	664	-	2,180	5,720	2,320	942	365	89	46
30	4,620	514	1,560	626	-	4,970	5,200	2,430	914	321	86	43
31	2,400	-	1,360	591	-	3,350	-	2,720	-	294	85	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	10,960	4,620	61	354	21,740
November.....	18,180	1,180	456	606	36,060
December.....	46,740	9,230	385	1,508	82,710
Calendar year 1945.....	603,244	28,700	61	1,653	1,196,000
January.....	27,731	1,660	591	895	55,000
February.....	20,387	830	602	728	40,440
March.....	39,518	4,970	710	1,275	78,380
April.....	95,600	5,760	1,410	3,187	189,600
May.....	133,500	6,570	2,320	4,306	264,800
June.....	56,172	3,570	914	1,872	111,400
July.....	16,743	937	294	540	33,210
August.....	4,585	273	65	148	9,090
September.....	2,432	209	43	81.1	4,820
Water year 1945-46.....	472,548	9,230	43	1,295	937,200

Peak discharge.- Oct. 30 (2 p.m.) 10,400 sec.-ft.; Dec. 22 (2 a.m.) 15,000 sec.-ft.

a No gage-height record; discharge computed on basis of 1 discharge measurement and records for stations on nearby streams.

Lake McClure at Exchequer, Calif.

Location.- Indicator in powerhouse, lat. 37°35', long. 120°16', in SW¹ sec. 13, T. 4 S., R. 15 E., at Exchequer Dam on Merced River, 5 miles northeast of Merced Falls. Datum of gage is at mean sea level (levels by Merced Irrigation District).

Drainage area.- 1,020 square miles.

Records available.- April 1926 to September 1946.

Extremes.- Maximum contents during year, 284,000 acre-feet June 3-5 (elevation, 708.0 feet); minimum, 15,100 acre-feet Sept. 30 (elevation, 523.0 feet).
1926-46: Maximum contents, 289,400 acre-feet June 4, 1938 (elevation, 710.0 feet); practically no storage at times in 1926, 1930, 1931, 1934.

Remarks.- Reservoir is formed by concrete gravity-type dam completed in 1926; storage began in April 1926. Usable capacity, 280,900 acre-feet between elevations 442.6 feet (bottom of sluice valve) and 707.0 feet (top of spillway gates) above mean sea level. Water passes through power plant at dam and down Merced River to diversion dam of Merced Irrigation District's main canal. Records show total contents at 12 p.m.; dead storage, 400 acre-feet or less.

Cooperation.- Gage-height record, furnished by Merced Irrigation District, obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65,900	62,700	99,300	195,400	177,500	147,700	180,700	235,500	282,900	283,500	179,900	87,600
2	63,900	64,500	100,100	196,400	176,100	147,000	183,100	235,000	283,500	281,200	176,700	85,000
3	61,800	65,900	101,000	197,500	175,300	146,100	184,900	234,300	284,000	289,500	173,700	82,300
4	59,800	67,200	102,100	197,900	174,300	145,400	186,300	234,800	284,000	257,200	170,500	79,700
5	57,600	68,500	104,000	199,200	173,100	144,300	187,900	236,000	284,000	255,000	167,400	77,300
6	55,800	69,600	106,300	200,000	171,800	143,400	189,100	237,700	283,500	252,800	164,200	74,700
7	53,600	71,000	107,400	200,600	170,800	142,600	190,100	238,200	283,200	250,200	161,100	72,500
8	51,800	72,200	108,800	200,600	169,700	142,000	190,800	238,200	283,200	247,800	158,100	69,900
9	50,100	73,200	109,800	200,400	168,600	142,400	191,000	239,400	283,700	245,400	155,000	67,500
10	48,800	74,100	110,800	200,000	167,400	143,100	191,000	243,700	283,700	243,000	151,800	65,000
11	47,800	75,700	111,800	199,200	166,300	143,400	191,400	248,000	283,700	240,100	148,800	62,600
12	46,800	76,900	112,700	198,500	165,000	143,400	192,400	251,800	283,200	237,200	145,800	60,100
13	46,000	78,300	113,600	197,700	163,800	145,100	193,900	256,500	283,200	234,300	142,700	57,600
14	45,000	79,500	114,500	196,800	162,600	146,800	195,400	260,800	283,200	231,500	139,500	55,200
15	44,200	80,900	115,200	196,000	161,500	148,200	197,100	265,600	282,600	228,800	136,300	52,800
16	43,300	82,300	116,000	195,200	160,600	149,200	199,600	269,500	282,400	225,800	133,200	50,200
17	42,700	83,800	116,900	194,100	159,700	150,400	203,600	273,700	281,800	222,800	130,200	47,800
18	42,900	85,300	117,500	193,300	158,400	151,400	208,600	279,400	281,800	219,800	127,300	45,400
19	43,200	86,300	118,200	192,200	157,500	152,500	213,700	282,100	281,000	216,800	124,300	42,800
20	43,400	87,500	119,300	191,200	156,400	153,600	218,000	282,400	280,200	213,700	121,400	40,300
21	43,600	88,400	122,200	190,100	155,500	154,500	221,900	282,900	279,400	210,600	118,600	37,900
22	44,100	89,400	125,100	189,100	154,500	155,500	225,800	281,300	278,500	207,700	115,800	35,400
23	44,300	90,300	123,600	187,900	153,400	155,900	230,400	279,700	277,000	204,900	113,200	33,000
24	44,500	91,400	120,800	186,900	152,500	156,400	234,300	278,600	275,500	201,900	110,300	30,500
25	44,700	92,800	170,800	185,900	151,400	157,200	235,800	278,600	274,200	199,000	107,400	28,100
26	44,900	93,800	180,700	184,700	150,400	157,500	236,700	279,700	272,100	196,800	104,600	25,600
27	45,000	94,900	185,100	183,700	149,400	158,400	237,200	280,000	270,300	194,300	101,800	23,000
28	45,100	95,200	187,700	182,700	148,300	159,100	237,200	279,400	268,700	191,600	98,900	20,400
29	45,900	97,300	190,300	181,300	-	161,500	237,200	278,600	266,900	188,700	95,600	17,800
30	54,700	98,300	192,400	180,100	-	171,000	236,200	278,300	265,100	185,700	92,900	15,100
31	59,100	-	193,900	178,900	-	177,100	-	280,500	-	182,900	89,300	-

a No gage-height record, contents interpolated.

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	590.1	68,000	-
Oct. 31.....	582.0	59,100	-8,900
Nov. 30.....	614.0	98,300	+39,200
Dec. 31.....	670.1	193,900	+95,600
Calendar year 1945....	-	-	+110,500
Jan. 31.....	662.7	178,900	-15,000
Feb. 28.....	646.2	148,300	-30,600
Mar. 31.....	661.8	177,100	+28,800
Apr. 30.....	689.1	236,200	+59,100
May 31.....	706.7	280,500	+44,300
June 30.....	700.8	265,100	-15,400
July 31.....	664.7	182,900	-82,200
Aug. 31.....	-	90,300	-92,600
Sept. 30.....	523.0	15,100	-75,200
Water year 1945-46....	-	-	-52,900

Merced River at Exchequer, Calif.

Location.- Long distance water-stage transmitter, lat. 37°35', long. 120°17', on line between secs. 14 and 23, T. 4 S., R. 15 E., at Exchequer, 0.5 mile downstream from Lake McClure, 0.7 mile downstream from Cotton Creek, and 5 miles northeast of Merced Falls; recording receiver at power plant 0.5 mile upstream. Altitude of gage, about 400 feet (from topographic map).

Drainage area.- 1,035 square miles.

Records available.- October 1922 to September 1946. November 1915 to October 1922 at site 1 mile upstream.

Average discharge.- 30 years (1916-46), 1,258 second-feet; affected by storage in Lake McClure since Apr. 20, 1926.

Extremes.- Maximum discharge during year, 6,310 second-feet (regulated) May 8 (gage height, 8.48 feet); minimum, 13 second-feet (regulated) Dec. 27.

1915-46: Maximum discharge observed, about 22,000 second-feet Jan. 17, 1916 (gage height, 20.0 feet, site and datum then in use), from rating curve extended above 9,000 second-feet; minimum, 5 second-feet (regulated) Jan. 5, 1935.

Remarks.- Records excellent. No large diversions above station. Flow regulated by Exchequer power plant and Lake McClure (see preceding page).

Cooperation.- Assistance in collecting gage-height record furnished by Merced Irrigation District.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.1	37	1.5	327	5.0	2,400
.5	62	2.0	498	6.0	3,320
.5	93	2.5	716	7.0	4,420
.8	148	3.0	975	8.3	6,060
1.1	217	4.0	1,610		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,020	44	44	660	1,170	1,120	1,030	5,650	1,880	1,850	1,740	1,320
2	1,010	43	44	638	1,160	1,120	1,280	5,650	2,950	1,870	1,740	1,310
3	1,010	43	44	636	1,160	1,120	1,320	5,630	3,230	1,870	1,740	1,310
4	1,010	43	45	1,170	1,160	1,140	1,330	5,440	3,400	1,870	1,740	1,280
5	1,010	42	45	1,210	1,140	1,100	1,350	5,320	3,350	1,860	1,740	1,280
6	1,000	42	44	1,190	1,150	1,110	1,370	5,710	3,140	1,870	1,740	1,260
7	992	42	44	1,210	1,140	1,130	1,380	6,000	2,610	1,840	1,720	1,260
8	898	39	44	1,200	1,160	1,140	1,370	6,020	2,320	1,840	1,670	1,260
9	850	42	44	1,200	1,140	732	1,370	4,880	2,240	1,820	1,690	1,260
10	759	42	44	1,190	1,160	888	1,390	2,530	2,290	1,820	1,700	1,250
11	702	42	44	1,200	1,160	992	1,380	1,880	2,200	1,850	1,690	1,240
12	624	41	44	1,190	1,150	1,020	1,410	1,850	1,990	1,880	1,690	1,240
13	598	41	44	1,160	1,150	830	1,410	1,840	1,930	1,890	1,690	1,220
14	563	41	44	1,190	1,140	578	1,450	1,810	2,040	1,890	1,690	1,220
15	555	41	44	1,200	1,140	589	1,480	1,800	1,930	1,890	1,690	1,210
16	555	41	44	1,210	1,140	585	1,500	1,800	1,820	1,840	1,640	1,210
17	546	42	44	1,170	1,130	588	1,580	1,800	1,690	1,810	1,590	1,210
18	130	42	43	1,190	1,120	590	1,550	1,800	1,640	1,830	1,550	1,200
19	45	42	43	1,170	1,130	702	1,530	3,450	1,720	1,850	1,530	1,190
20	49	42	43	1,180	1,120	702	1,530	4,580	1,810	1,870	1,480	1,200
21	44	42	49	1,170	1,120	721	1,540	4,700	1,870	1,880	1,440	1,220
22	49	42	47	1,170	1,110	721	1,550	4,520	1,890	1,870	1,420	1,190
23	49	42	48	1,180	1,130	716	1,550	3,780	1,890	1,870	1,420	1,190
24	48	42	44	1,170	1,120	716	2,560	2,980	1,890	1,880	1,440	1,190
25	47	44	48	1,170	1,150	774	4,640	2,620	1,870	1,850	1,450	1,190
26	47	43	45	1,170	1,110	856	5,200	2,490	1,860	1,820	1,440	1,190
27	47	43	42	1,160	1,140	958	5,500	2,900	1,850	1,810	1,460	1,180
28	47	43	562	1,180	1,110	1,050	5,650	2,900	1,850	1,790	1,480	1,200
29	70	43	597	1,160	-	1,080	5,650	2,900	1,850	1,770	1,420	1,230
30	91	44	607	1,170	-	835	5,630	2,440	1,850	1,770	1,370	1,250
31	72	-	615	1,180	-	611	-	1,610	-	1,740	1,340	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	14,535	1,020	43	469	28,830
November	1,265	44	39	42.2	2,510
December	3,583	615	42	116	7,110
Calendar year 1945	542,450	6,760	34	1,486	1,076,000
January	35,044	1,210	636	1,130	69,510
February	31,910	1,170	1,110	1,140	63,290
March	26,814	1,140	578	865	53,180
April	67,480	5,650	1,030	2,249	133,800
May	109,260	6,020	1,610	3,525	216,700
June	84,850	3,400	1,640	2,162	128,600
July	57,160	1,890	1,740	1,844	115,440
August	49,140	1,740	1,340	1,585	97,470
September	36,940	1,320	1,180	1,231	73,270
Water year 1945-46	497,981	6,020	39	1,364	987,700

Merced River near Stevinson, Calif.

Location.- Water-stage recorder, lat. 37°22', long. 120°56', in sec. 36, T. 6 S., R. 9 E., 5 miles upstream from mouth and 6 miles northwest of Stevinson. Datum of gage is 56.09 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 1,274 square miles.

Records available.- October 1940 to September 1946.

Extremes.- Maximum discharge during year, 4,050 second-feet May 10 (gage height, 11.93 feet); minimum, 170 second-feet Nov. 18.
1944-46: Maximum discharge, 4,960 second-feet May 10, 1945 (gage height, 13.15 feet, revised); minimum, 169 second-feet Jan. 31, 1945.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Practically entire flow is diverted above station during irrigation season; some return flow enters above. Flow regulated by Lake McClure (see p. 237).

Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	289	181	a180	735	1,340	1,270	522	3,570	1,260	302	267	264
2	292	182	a180	741	1,350	1,270	636	3,600	1,000	291	250	259
3	282	183	176	735	1,360	1,260	942	3,630	1,810	302	282	234
4	291	182	176	738	1,430	1,260	948	3,680	2,100	292	304	256
5	275	179	179	994	1,510	1,260	918	3,670	2,200	284	318	261
6	299	178	183	1,700	1,400	1,260	843	3,560	2,140	279	304	240
7	369	177	189	1,490	1,370	1,240	831	3,620	1,960	306	286	232
8	448	a177	a210	1,410	1,350	1,240	843	3,940	1,600	309	256	248
9	464	a177	a190	1,380	1,340	1,120	798	4,010	1,220	299	279	261
10	428	177	a180	1,370	1,330	723	688	3,650	1,100	279	287	253
11	404	176	a180	1,370	1,310	512	615	1,970	1,010	279	294	245
12	404	174	a180	1,370	1,310	444	568	865	975	269	311	238
13	402	173	a180	1,380	1,310	444	508	747	840	274	287	250
14	386	173	a180	1,370	1,310	572	474	620	692	289	274	271
15	384	173	a180	1,360	1,320	625	424	548	670	275	284	289
16	386	172	a180	1,360	1,400	612	396	506	670	282	304	309
17	375	172	a190	1,370	1,800	555	342	498	632	286	299	275
18	377	172	178	1,370	1,500	452	316	492	518	264	296	264
19	384	176	178	1,360	1,390	424	333	496	442	245	282	280
20	359	179	a180	1,360	1,360	500	353	1,060	382	289	275	280
21	269	178	a180	1,360	1,340	542	386	2,520	335	296	259	272
22	240	177	a180	1,360	1,320	520	424	2,930	326	306	263	266
23	227	177	a500	1,360	1,320	486	410	3,000	371	266	244	267
24	219	177	a620	1,360	1,300	480	378	2,640	373	239	233	256
25	212	179	a500	1,370	1,300	428	351	1,960	320	248	244	250
26	199	181	a600	1,360	1,280	389	1,820	1,780	308	250	256	258
27	193	a180	a620	1,350	1,280	339	2,870	1,930	294	263	234	287
28	184	a180	a450	1,350	1,270	359	3,220	2,510	308	292	240	289
29	179	a180	a350	1,340	-	375	3,500	2,230	308	318	261	297
30	181	a180	a700	1,340	-	434	3,540	2,120	297	286	269	320
31	179	-	723	1,340	-	450	-	1,910	-	269	258	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	9,580	464	179	309	19,000
November.....	5,322	183	172	177	10,560
December.....	9,172	723	176	296	18,190
Calendar year 1945.....	342,017	4,940	170	937	678,400
January.....	39,853	1,700	735	1,286	79,050
February.....	38,200	1,800	1,270	1,364	75,770
March.....	21,845	1,270	339	705	43,330
April.....	29,197	3,540	316	973	57,910
May.....	70,282	4,010	492	2,267	139,400
June.....	26,461	2,200	294	882	52,480
July.....	8,724	318	239	281	17,300
August.....	8,480	318	233	274	16,820
September.....	7,961	320	232	265	15,790
Water year 1945-46.....	275,075	4,010	172	754	545,600

a No gage-height record; discharge computed on basis of records for Merced River Slough near Newman and unpublished records for Merced River at Cressley.

Tenaya Creek near Yosemite, Calif.

Location.- Water-stage recorder, lat. 37°44'33", long. 119°33'25", in Yosemite National Park, at bridge, 0.7 mile upstream from mouth and 2.2 miles east of Yosemite Lodge, Mariposa County. Altitude of gage, about 4,000 feet (from topographic map).

Drainage area.- 47 square miles.

Records available.- July 1904 to June 1909, January 1912 to September 1946.

Average discharge.- 33 years (1913-46), 105 second-feet.

Extremes.- Maximum discharge during year, 1,030 second-feet Oct. 30 (gage height, 4.50 feet); minimum, 1.4 second-feet Aug. 19.

1904-9, 1912-46: Maximum discharge, 5,550 second-feet Dec. 11, 1937 (gage height, 10.0 feet), from rating curve extended above 2,000 second-feet on basis of velocity-area studies; minimum, 0.6 second-foot Dec. 18-22, 1929, Dec. 2, 6-15, 1940.

Remarks.- Records good except those for periods of doubtful gage-height record and those below 30 second-feet, which are fair. No storage or diversion.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	128	49	84	40	55	94	620	331	36	9.0	2.2
2	2.4	117	47	77	39	60	92	624	355	33	8.6	2.2
3	2.4	108	47	74	39	60	91	648	358	29	7.8	2.2
4	2.4	89	44	74	38	49	96	680	349	27	7.3	1.9
5	2.4	73	46	76	38	48	99	728	325	25	7.3	1.9
6	2.7	76	50	67	40	49	103	760	283	23	6.5	1.9
7	3.0	76	50	64	41	60	94	728	250	21	6.1	1.9
8	3.0	70	48	59	40	82	86	676	230	20	6.1	1.9
9	3.0	66	46	56	41	99	84	612	218	19	5.4	1.9
10	3.0	77	45	55	40	110	86	534	203	17	5.1	1.9
11	3.0	74	47	52	40	96	106	478	181	16	5.1	1.9
12	3.0	76	46	46	38	86	148	484	172	15	3.9	1.9
13	3.0	76	43	45	38	108	185	488	163	14	3.3	1.9
14	3.0	84	42	48	38	98	194	498	148	13	3.3	1.9
15	3.3	77	44	49	36	96	262	468	136	12	2.4	1.9
16	3.3	68	45	49	35	91	343	488	126	11	2.2	1.9
17	3.0	74	44	50	35	91	456	530	117	10	2.2	1.9
18	3.9	68	44	52	36	86	495	586	106	9.8	1.6	1.9
19	4.5	64	42	48	36	84	506	568	98	9.4	1.4	1.9
20	4.2	61	43	47	36	80	464	576	92	9.4	1.9	1.9
21	4.2	60	93	45	37	77	430	520	88	13	2.2	1.9
22	4.2	80	135	43	37	73	450	425	82	12	2.2	1.9
23	3.9	58	108	43	37	71	512	343	74	10	2.2	1.9
24	3.9	55	96	44	40	73	590	316	68	9.8	2.2	1.9
25	3.9	60	96	45	41	76	652	301	61	16	2.2	1.9
26	3.9	59	91	44	41	104	672	366	55	14	2.2	1.9
27	3.9	59	89	45	43	119	652	319	52	13	2.2	1.9
28	3.9	60	106	44	52	106	860	292	47	11	2.2	1.6
29	94	59	113	42	-	92	660	283	43	10	2.2	1.6
30	522	54	103	41	-	84	582	292	40	10	2.2	1.6
31	192	-	92	40	-	86	-	316	-	9.4	2.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	900.7	522	2.4	29.1	1,790
November.....	2,186	128	54	72.9	4,340
December.....	2,032	135	42	65.5	4,030
Calendar year 1945.....	48,155.6	832	2.2	132	95,520
January.....	1,648	84	40	53.2	3,270
February.....	1,092	52	35	39.0	2,170
March.....	2,547	119	46	82.2	5,050
April.....	9,946	672	84	332	19,730
May.....	15,567	760	283	502	30,880
June.....	4,851	358	40	162	9,620
July.....	497.8	36	9.4	16.1	987
August.....	120.7	9.0	1.4	3.89	239
September.....	57.0	2.2	1.6	1.90	113
Water year 1945-46.....	41,445.2	760	1.4	114	82,220

Note.- Doubtful gage-height record June 1-24, July 21 to Aug. 19; discharge computed on basis of recorded gage heights and records for Merced River at Happy Isles Bridge and at Pohono Bridge, near Yosemite.

Merced River Slough near Newman, Calif.

Location.- Water-stage recorder, lat. 37°22', long. 120°58', in NE $\frac{1}{4}$ sec. 3, T. 7 S., R. 9 E., at bridge 500 feet downstream from head of slough between Merced and San Joaquin Rivers and 4.5 miles northeast of Newman. Datum of gage is 56.44 feet above mean sea level (levels by Bureau of Reclamation).

Records available.- October 1941 to September 1946.

Extremes.- Maximum discharge during year, 681 second-feet May 10 (gage height, 6.23 feet); no flow for several months.

1944-46: Maximum discharge, 990 second-feet May 10, 12, 1945 (gage height, 7.50 feet); no flow for several months each year.

Remarks.- Records good except those for periods of backwater from aquatic vegetation or no gage-height record, which are fair.

Cooperation.- One discharge measurement furnished by Bureau of Reclamation.

Rating table, water year 1945-46, except periods of backwater from aquatic vegetation (gage height, in feet, and discharge, in second-feet)

-0.5	0.2	0.0	5.2	0.7	31	3.0	184
-.4	.5	.1	8.3	1.0	46	3.5	236
-.3	.8	.2	12	1.5	72	4.0	296
-.2	1.6	.3	15	2.0	102	5.0	448
-.1	3.2	.5	23	2.5	139	6.2	675

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				27	71	49	0	572	61			
2			0	24	70	48	0	580	27			
3			0	19	74	46	4.6	584	142			
4			0	15	79	46	7.4	591	212			
5			0	31	89	a45	4.8	593	238			
6			0	136	75	a43	1.4	570	226			
7			0	106	68	a42	1.2	590	183			
8			0	95	64	a41	1.6	648	113			
9			0	95	62	a30	.9	667	c50			
10			0	98	61	a10	.3	613	c36			
11			0	98	59	.1	a0	226	c25			
12			0	97	58	0	a0	37	c22			
13			0	96	57	0	a0	18	c8.0			
14			0	91	56	0	a0	5.2	c.8			
15			0	84	56	0	a0	4.0	c.4			
16			0	83	64	0	a0	1.2	c.5			
17			0	83	129	0	a0	.6	c.2			
18			0	83	84	0	a0	.3	c.1			
19			0	82	71	0	a0	.2	c0			
20			0	80	66	0	a0	32	c0			
21			0	80	61	0	a0	300	c0			
22			0	80	58	0	a0	411	0			
23			0	80	55	0	a0	438	0			
24			0	80	54	0	a0	372	0			
25			0	79	54	0	a0	208	0			
26			1.4	78	54	0	a200	155	0			
27			1.0	77	52	0	398	188	0			
28			.3	77	52	0	481	337	0			
29			1.4	74	-	0	551	271	0			
30			21	73	-	0	565	233	0			
31			28	71	-	0	-	186	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	53.1	28	0	1.71	105
Calendar year 1945.....	37,220.3	984	0	102	73,830
January.....	2,372	136	15	76.5	4,700
February.....	1,853	129	52	66.2	3,680
March.....	400.1	49	0	12.9	794
April.....	2,217.2	565	0	75.9	4,400
May.....	9,422.5	667	.2	304	18,690
June.....	1,345.0	238	0	44.8	2,670
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	17,662.9	667	0	48.4	35,040

a No gage-height record; discharge computed on basis of records for Merced River near Stevenson.
c Backwater from aquatic vegetation.

ORESTIMBA CREEK BASIN

Orestimba Creek near Newman, Calif.

Location.- Water-stage recorder, lat. 37°19'09", long. 121°07'14", in NW¼ sec. 20, T. 7 S., R. 8 E., at highway bridge, 3 miles downstream from Oso Creek and 5 miles west of Newman. Datum of gage is 191.86 feet above mean sea level (unadjusted).

Drainage area.- 129 square miles.

Records available.- January 1932 to September 1946.

Average discharge.- 14 years, 20.0 second-feet.

Extremes.- Maximum discharge during year, 782 second-feet Dec. 25 (gage height, 2.87 feet); no flow during several months.

1932-46: Maximum discharge, 4,900 second-feet Jan. 21, 1943 (gage height, 5.95 feet), from rating curve extended above 1,200 second-feet on basis of slope-area computations and logarithmic plotting; no flow during several months each year.

Remarks.- Records fair. No storage or large diversion.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	7.5	0.4	1.0	6.4	0.2				
2			0	5.6	.4	.9	7.9	a.2				
3			0	4.9	4.3	.8	6.4	a.2				
4			0	6.0	10	.7	4.0	a.2				
5			0	40	8.2	.7	2.8	a.1				
6			0	34	5.2	.7	2.0	a.1				
7			0	16	4.0	.6	1.6	a.1				
8			0	12	3.5	.5	1.1	.1				
9			0	8.2	3.1	.4	.9	.1				
10			0	5.6	2.8	.4	.7	.1				
11			0	4.5	2.3	.4	.6	.1				
12			0	4.9	2.1	.4	.5	.1				
13			0	4.0	2.0	.4	.5	.1				
14			0	3.8	2.0	.4	.4	.1				
15			0	3.5	a1.9	.4	.4	.1				
16			0	3.5	a4.0	.4	.4	.1				
17			0	a3.8	a3.8	.4	.4	.1				
18			0	a3.2	a3.5	.4	.4	.1				
19			0	a2.9	a3.2	.4	.4	.1				
20			0	a2.7	a3.0	.4	.4	0				
21			0	a2.4	a2.8	.4	.3	0				
22			0	a2.2	a2.5	.4	.3	0				
23		139	a1.9	a2.2	.4	.3	0	0				
24		46	a1.7	a2.0	.4	.3	0	0				
25		354	a1.4	a1.8	.3	.2	0	0				
26		88	a1.2	a1.6	.3	.2	0	0				
27		37	a.9	1.4	.2	.2	0	0				
28		42	a.7	1.2	.2	.2	0	0				
29		31	.5	-	.3	.2	0	0				
30		19	.4	-	.3	.2	0	0				
31		11	.4	-	4.3	-	0	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	767	354	0	24.7	1,520
Calendar year 1945	4,888.8	2,110	0	13.4	9,700
January.....	189.9	40	.4	6.13	377
February.....	85.2	10	.4	3.04	169
March.....	18.2	4.3	.2	.59	36
April.....	40.6	7.9	.2	1.35	81
May.....	2.3	.2	0	.07	4.6
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	1,103.2	354	0	3.02	2,190

Peak discharge.- Dec. 23 (10:45 a.m.) 487 sec.-ft.; Dec. 25 (3:30 a.m.) 782 sec.-ft.
 a No gage-height record; discharge computed on basis of weather records and recorded range in stage, or interpolated.

Hetch Hetchy Reservoir at Hetch Hetchy, Calif.

Location.- Water-stage recorder, lat. 37°57', long. 119°47', in sec. 16, T. 1 N., R. 20 E., at O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy in Yosemite National Park, 1.5 miles downstream from Falls Creek. Datum of gage is at mean sea level (levels by city of San Francisco).

Drainage area.- 460 square miles.

Records available.- May 1923 to September 1946 (1923-30, gage heights only).

Extremes.- Maximum contents during year, 349,400 acre-feet May 20 (elevation, 3,800.4 feet); minimum, 202,200 acre-feet Mar. 7 (elevation, 3,717.6 feet).

1923-46: Maximum contents, 354,100 acre-feet June 1, 1943 (elevation, 3,802.8 feet); no contents Jan. 5 to Mar. 9, 1929, Jan. 5-18, Jan. 21 to Feb. 13, 1930, Jan. 22 to Mar. 18, 1931

Remarks.- Reservoir is formed by concrete gravity-type dam, completed to crest elevation 3,726.5 feet in 1923 and raised to 3,812.0 feet in 1937; storage began Apr. 6, 1923. Total usable capacity, 340,400 acre-feet between elevations 3,512.0 feet (somewhat above bottom outlet) and 3,795.8 feet (spillway crest elevation) above mean sea level. Water flows down Tuolumne River 15 miles to Early intake, where part is diverted through Hetch Hetchy aqueduct to Mokcasin Creek power plant. At Mokcasin Creek diversion dam water reenters Hetch Hetchy aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir at Red Mountain Bar. Hetch Hetchy Reservoir is main storage unit of Hetch Hetchy water-supply system for San Francisco. Records show contents at 12 p.m., all of which is available for release.

Contents, in acre-feet, water year September 1945 to October 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	284,900	240,600	234,300	233,000	217,100	203,300	210,000	307,000	347,200	343,700	325,900	256,800
2	282,600	240,900	233,800	233,000	216,300	203,200	210,200	313,900	347,800	343,500	324,000	254,400
3	281,200	241,400	233,000	233,000	215,700	203,200	210,200	322,100	348,200	343,400	321,900	251,900
4	259,600	241,400	232,700	233,200	215,000	203,000	210,200	320,600	348,200	343,400	319,800	249,700
5	258,200	241,400	232,000	233,200	214,400	202,700	210,500	340,300	347,800	343,200	317,500	247,800
6	256,800	241,400	231,500	233,000	213,900	202,400	210,600	348,000	347,000	343,200	315,300	245,400
7	255,600	241,300	230,800	232,700	213,600	202,200	210,600	349,000	346,600	343,000	313,200	243,000
8	254,400	240,900	230,200	232,000	212,900	202,500	210,600	348,800	346,600	342,000	310,800	240,800
9	253,300	240,600	229,500	231,700	212,900	203,000	210,600	348,400	346,600	341,400	308,500	238,600
10	252,300	240,400	228,800	231,200	212,700	203,600	210,500	347,800	346,500	341,000	306,300	236,200
11	251,100	240,300	228,200	230,500	212,600	203,800	210,600	347,000	346,100	340,400	304,600	233,800
12	249,900	240,100	227,500	230,200	212,100	203,900	211,100	347,000	345,900	340,300	302,700	231,700
13	248,600	239,800	226,800	229,500	211,600	205,200	212,400	347,000	346,100	339,900	300,500	229,500
14	247,400	239,600	226,800	228,800	211,100	205,400	213,600	347,400	345,900	339,500	298,300	227,200
15	246,400	239,400	226,200	228,800	210,500	205,500	216,000	347,600	345,500	338,900	296,400	224,700
16	245,700	239,100	224,500	227,800	210,000	205,800	218,900	347,600	345,300	338,100	294,000	223,000
17	244,900	238,900	223,800	227,200	209,400	205,800	223,400	348,000	345,100	337,400	291,800	221,500
18	243,800	238,600	223,000	226,800	208,700	205,800	228,300	348,600	344,900	336,600	289,500	220,200
19	242,600	238,100	222,200	226,200	208,200	205,800	235,000	349,000	344,900	335,800	287,100	218,900
20	241,600	237,500	221,500	225,500	207,600	206,000	237,000	349,400	345,100	335,000	284,700	217,600
21	240,400	237,000	224,500	224,800	207,000	206,000	240,300	348,400	345,100	334,500	282,300	216,000
22	239,100	236,500	227,200	224,200	206,300	206,000	244,000	346,800	344,900	333,700	280,000	214,400
23	237,900	236,200	228,000	223,500	205,700	206,000	248,600	345,900	344,500	333,100	277,800	215,600
24	236,500	235,900	228,700	222,900	205,100	206,000	254,900	345,500	344,100	332,700	275,500	211,300
25	235,400	235,700	229,300	222,200	204,600	206,200	262,700	345,500	344,100	332,200	273,300	209,800
26	234,000	235,500	229,500	221,500	203,900	206,500	270,500	345,900	344,100	331,800	270,900	208,600
27	232,700	235,400	229,700	220,900	203,500	207,300	277,800	345,500	344,100	331,000	268,400	207,300
28	231,300	235,200	231,200	220,200	203,500	208,100	286,000	345,300	343,900	330,300	266,100	206,000
29	231,500	235,200	232,500	219,600	-	208,900	283,700	345,100	343,700	329,500	263,800	204,600
30	238,400	234,800	232,600	218,900	-	209,400	300,100	345,700	343,700	328,200	261,500	203,600
31	240,300	-	232,800	218,100	-	209,700	-	346,600	-	327,000	259,100	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	3,755.4	265,500	-
Oct. 31.....	3,740.8	240,500	-25,200
Nov. 30.....	3,737.6	234,800	-5,500
Dec. 31.....	3,736.4	232,800	-2,000
Calendar year 1945...	-	-	+95,900
Jan. 31.....	3,727.5	218,100	-14,700
Feb. 28.....	3,718.4	203,500	-14,600
Mar. 31.....	3,722.3	209,700	6,200
Apr. 30.....	3,774.5	300,100	+90,400
May 31.....	3,799.0	346,600	+46,500
June 30.....	3,797.5	343,700	-2,900
July 31.....	3,788.8	327,000	-16,700
Aug. 31.....	3,751.7	259,100	-67,900
Sept. 30.....	3,718.2	203,200	-55,900
Water year 1945-46...	-	-	-62,300

Tuolumne River near Hetch Hetchy, Calif.

Location.- Water-stage recorder, lat. 37°56', long. 119°48', in SE $\frac{1}{4}$ sec. 17, T. 1 N., R. 20 E., in Yosemite National Park, 1 mile downstream from O'Shaughnessy Dam at Hetch Hetchy and 2.5 miles downstream from Falls Creek. Altitude of gage, about 3,450 feet (from topographic map).

Drainage area.- 462 square miles.

Records available.- December 1914 to September 1946.

Average discharge.- 31 years (1915-46), 989 second-feet.

Extremes.- Maximum discharge during year, 6,660 second-feet May 21 (gage height, 11.63 feet); minimum, 294 second-feet (regulated) Feb. 8-10.

1915-46: Maximum discharge, 12,900 second-feet June 1, 1943 (gage height, 13.90 feet), from rating curve extended above 10,000 second-feet; minimum, 1.2 second-feet (regulated) Jan. 18, 1931.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Flow regulated by Hetch Hetchy Reservoir (see preceding page); no diversion above station.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)

4.0	292	6.0	730	8.0	1,640	10	3,570
4.5	330	6.5	895	8.5	2,010	10.5	4,350
5.0	480	7.0	1,090	9.0	2,440	11	5,290
5.5	590	7.5	1,330	9.5	2,930	11.5	6,350

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	781	797	632	736	700	575	562	970	a3,600	1,310	766	1,260
2	778	797	655	736	697	558	646	982	a4,250	1,280	1,080	1,250
3	775	797	694	736	697	538	727	994	a4,900	1,210	1,260	1,240
4	772	797	748	739	697	538	745	1,000	a5,100	1,110	1,260	1,240
5	769	797	751	742	640	538	742	1,020	a5,000	1,040	1,260	1,260
6	766	800	748	736	600	538	742	2,610	a4,300	970	1,250	1,280
7	766	800	745	736	560	538	742	5,590	a3,650	888	1,250	1,260
8	763	797	745	736	385	538	742	5,430	3,500	1,140	1,240	1,260
9	760	797	742	733	294	538	742	5,490	3,540	1,030	1,260	1,250
10	760	797	739	733	356	575	748	4,950	3,490	867	1,260	1,240
11	757	797	760	730	404	618	778	4,010	3,060	794	1,260	1,230
12	754	797	772	727	499	638	794	3,700	2,890	772	1,260	1,220
13	754	794	769	727	552	643	794	3,850	2,850	757	1,250	1,220
14	754	794	751	724	552	643	797	3,950	2,920	751	1,240	1,200
15	751	790	739	724	552	643	804	4,390	2,720	751	1,250	1,200
16	751	790	736	721	550	643	808	4,250	2,530	751	1,260	919
17	766	797	736	721	550	643	814	4,480	2,320	748	1,250	754
18	778	794	721	718	550	643	826	5,290	2,180	748	1,240	751
19	775	790	709	718	580	628	839	5,760	2,110	745	1,240	760
20	772	790	709	718	625	600	850	6,090	2,190	745	1,260	766
21	769	787	733	715	643	588	860	6,090	2,300	745	1,260	763
22	766	748	736	715	640	588	867	4,390	2,260	745	1,260	760
23	766	700	739	715	640	588	878	3,090	2,030	745	1,260	757
24	763	703	733	712	638	560	888	2,600	1,720	745	1,250	754
25	760	655	742	709	638	545	902	2,510	1,540	745	1,240	751
26	760	628	733	709	638	545	916	2,730	1,550	760	1,260	748
27	757	608	733	706	635	545	930	2,630	1,530	769	1,260	745
28	754	585	736	706	635	548	942	2,470	1,490	769	1,260	742
29	749	572	736	706	-	555	954	a2,350	1,380	766	1,250	754
30	751	570	736	703	-	560	962	a2,500	1,340	766	1,250	763
31	794	-	736	703	-	562	-	a3,000	-	766	1,260	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	23,720	794	751	765	47,050
November.....	22,475	800	570	749	44,580
December.....	22,694	772	632	732	45,010
Calendar year 1945.....	424,285	7,780	570	1,162	841,600
January.....	22,390	740	703	722	44,410
February.....	16,147	700	294	577	32,050
March.....	17,980	643	538	590	35,680
April.....	24,343	962	562	811	48,280
May.....	109,176	6,090	970	3,522	216,500
June.....	84,340	5,100	1,340	2,811	167,300
July.....	26,728	1,310	745	862	53,010
August.....	38,206	1,260	766	1,232	75,780
September.....	30,097	1,280	742	1,003	59,700
Water year 1945-46.....	438,296	6,090	294	1,201	869,300

a No gage-height record; discharge computed on basis of flow over O'Shaughnessy Dam.

Don Pedro Reservoir near La Grange, Calif.

Location.- Water-stage recorder, lat. 37°42'48", long. 120°24'14", in SW $\frac{1}{4}$ sec. 35, T. 2 S., R. 14 E., at Don Pedro Dam on Tuolumne River, 1 mile downstream from Rogers Creek and 5.5 miles upstream from La Grange. Datum of gage is at mean sea level (levels by Turlock Irrigation District).

Drainage area.- 1,539 square miles.

Records available.- October 1924 to September 1946 (1924-30, gage heights only).

Extremes.- Maximum contents during year, 285,800 acre-feet June 22, 23, 28, 29 (elevation, 504.1 feet); minimum, 64,500 acre-feet Oct. 29 (elevation, 510.2 feet).

1924-46: Maximum contents, 292,100 acre-feet June 13, 1937 (elevation, 606.1 feet); minimum, 29,200 acre-feet Sept. 1-3, 5, 1934; minimum elevation, 475.0 feet Sept. 1, 2, 1934.

Remarks.- Reservoir is formed by concrete gravity-type dam, completed about Jan. 1, 1923; storage began Nov. 14, 1922. Total usable capacity, 260,000 acre-feet between elevations 476 feet (mutually agreed-upon minimum) and 605.55 feet (top of drum-type spillway gates) above mean sea level. Water passes through power plant at dam and down Tuolumne River to La Grange Dam, 4 miles downstream, where it is diverted into Turlock and Modesto Canals for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Records show total contents at 12 p.m. of which 30,000 acre-feet (mutually agreed-upon minimum) is not available for release.

Cooperation.- Water-stage recorder graph furnished by Turlock and Modesto Irrigation Districts.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100,500	88,200	105,300	208,600	199,800	217,900	263,000	266,700	274,200	285,500	188,600	136,500
2	98,700	89,200	104,400	209,400	200,400	219,400	263,600	267,000	275,400	284,800	185,600	135,800
3	97,000	90,400	103,400	212,200	199,300	220,500	263,600	267,000	276,300	283,900	183,500	134,600
4	95,200	91,200	102,600	216,200	198,700	221,400	263,600	267,300	276,300	283,300	181,400	133,900
5	93,100	91,400	104,500	222,000	199,500	222,200	263,900	267,300	275,400	282,300	179,000	133,200
6	91,000	91,500	104,900	225,100	200,100	223,100	263,900	267,900	275,400	280,700	176,900	132,800
7	89,500	91,900	104,900	225,700	200,700	224,000	263,000	270,400	274,800	279,200	174,900	132,600
8	87,700	92,100	104,500	224,600	201,200	225,400	263,600	267,400	274,800	277,600	172,500	132,100
9	86,100	91,900	104,200	223,100	202,100	226,900	263,300	270,400	276,000	276,500	170,500	131,200
10	84,500	91,900	103,400	221,400	202,400	228,300	263,300	269,800	277,000	274,500	168,200	130,700
11	83,200	92,900	102,800	219,600	202,900	230,400	263,300	269,200	276,700	272,600	166,200	130,000
12	82,200	93,800	102,200	217,600	203,200	231,800	263,900	268,600	276,300	270,400	164,400	129,300
13	81,000	94,300	101,500	215,300	203,500	235,100	264,500	268,900	277,300	269,700	162,900	128,600
14	80,200	94,700	100,300	213,100	203,900	238,000	264,800	268,900	279,200	269,400	161,400	127,700
15	79,200	95,200	99,200	210,800	204,600	240,100	265,100	269,200	281,000	268,400	159,900	127,000
16	78,100	96,100	98,400	208,300	204,900	241,900	265,800	269,200	282,900	264,100	158,200	126,100
17	77,300	97,600	97,600	206,000	205,400	243,000	266,100	269,500	283,900	260,200	156,500	124,800
18	76,200	99,200	96,500	204,900	205,700	244,200	266,700	270,400	284,500	246,000	155,000	123,200
19	75,100	100,000	95,200	204,300	206,800	246,000	266,400	270,400	284,800	241,900	153,300	121,700
20	73,900	100,900	94,000	203,800	207,400	247,500	266,700	271,000	284,800	237,700	151,800	120,500
21	73,100	101,300	104,200	202,900	208,500	249,300	266,100	271,000	285,500	233,300	150,100	118,800
22	71,800	102,000	135,600	202,400	209,400	250,500	266,100	269,500	285,800	228,900	148,400	117,700
23	70,600	102,200	154,000	201,500	210,200	251,400	266,700	267,900	285,800	224,800	147,000	116,000
24	69,500	102,200	161,600	201,000	210,800	252,300	267,000	267,000	285,500	220,500	145,300	114,500
25	68,100	104,000	173,100	200,400	211,900	252,300	267,300	266,700	284,800	216,200	144,100	113,000
26	66,600	104,500	183,000	199,800	212,800	251,700	267,600	268,200	285,100	211,600	143,100	111,400
27	65,700	104,900	187,500	199,000	214,200	251,700	267,000	267,900	285,500	207,400	142,200	109,700
28	65,100	105,100	192,100	198,200	215,900	252,000	267,000	267,600	285,800	202,600	141,200	108,300
29	64,500	105,700	196,800	198,200	-	254,100	267,300	268,600	285,800	197,900	140,300	107,300
30	81,400	106,100	200,700	199,000	-	259,300	267,000	269,200	285,500	194,600	139,100	105,500
31	86,400	-	203,900	199,500	-	261,800	-	271,700	-	191,900	137,900	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	534.4	102,200	-
Oct. 31.....	525.4	86,400	-15,800
Nov. 30.....	536.4	106,100	+19,700
Dec. 31.....	576.4	203,200	+97,100
Calendar year 1945.....	-	-	+120,700
Jan. 31.....	575.1	199,500	-3,700
Feb. 28.....	580.9	215,900	+16,400
Mar. 31.....	596.4	261,800	+45,900
Apr. 30.....	598.1	267,000	+5,200
May 31.....	599.6	271,700	+4,700
June 30.....	604.0	285,500	+13,800
July 31.....	572.3	191,900	-93,600
Aug. 31.....	550.9	137,900	-54,000
Sept. 30.....	536.1	105,500	-32,400
Water year 1945-46.....	-	-	+3,300

Tuolumne River above La Grange Dam, near La Grange, Calif.

Location.- Water-stage recorder, lat. 37°42'35", long. 120°24'45", in NE $\frac{1}{4}$ sec. 3, T. 3 S., R. 14 E., 0.5 mile downstream from Don Pedro Dam, 3.5 miles upstream from La Grange Dam, and 5 miles upstream from La Grange. Altitude of gage, about 330 feet (from topographic map).

Drainage area.- 1,540 square miles.

Records available.- March 1915 to September 1946. August 1895 to September 1917 at La Grange Dam, 3.5 miles downstream; records equivalent if flow of Yosemite Power Co. canal (abandoned in 1926) and Modesto and Turlock Canals is added to flow at La Grange Dam.

Average discharge.- 51 years (1895-1946), 2,593 second-feet, using 1895-1916 records of combined flow of river and canals, and including Hetch Hetchy diversion to San Francisco.

Extremes.- Maximum discharge during year, 10,300 second-feet (regulated) May 21 (gage height, 15.50 feet); minimum, 54 second-feet (regulated) Sept. 30.
1895-1946: Maximum discharge, 60,300 second-feet Jan. 31, 1911 (gage height, 16.45 feet at site at La Grange Dam, from graph constructed on basis of frequent gage readings), from rating curve extended above 18,000 second-feet; maximum gage height at present site, 29.6 feet Mar. 25, 1928; minimum discharge, 0.5 second-foot (regulated) on many days in October and November 1931.

Remarks.- Records excellent. A small amount of water is diverted above station for irrigation. Diversion through Hetch Hetchy aqueduct to San Francisco began Oct. 19, 1934; for present year it amounted to an average of 25 second-feet. Flow regulated by Don Pedro power plant, Don Pedro Reservoir (see preceding page), Hetch Hetchy Reservoir (see p. 243), and Lake Eleanor (see p. 250).

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

6.8	730	10.0	3,230
7.0	840	11.0	4,180
7.5	1,160	12.0	5,300
8.0	1,510	14.0	8,020
9.0	2,340	15.5	10,300

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,740	1,350	1,750	1,240	1,170	1,250	2,530	5,410	4,880	1,880	2,270	1,740
2	1,740	1,320	1,600	1,310	1,180	1,290	2,890	5,490	6,310	1,900	2,290	1,770
3	1,730	1,250	1,730	1,360	2,200	1,280	2,920	5,670	7,190	1,910	2,300	1,780
4	1,700	1,040	1,800	1,400	1,780	1,360	2,920	5,900	8,110	1,910	2,310	1,810
5	1,770	1,320	1,780	1,660	1,160	1,310	2,950	5,900	8,050	1,910	2,340	1,560
6	1,770	1,340	1,750	2,060	1,160	1,280	3,070	6,320	6,870	1,900	2,330	1,560
7	1,480	1,300	1,740	2,600	1,150	1,290	2,910	8,480	6,260	1,900	2,320	1,540
8	1,650	1,350	1,740	3,110	1,140	1,310	2,860	9,600	5,250	1,900	2,350	1,500
9	1,680	1,320	1,600	3,100	1,110	1,430	2,800	9,520	4,900	2,070	2,350	1,570
10	1,630	1,290	1,740	3,090	1,160	1,400	2,740	9,100	5,080	2,060	2,350	1,580
11	1,450	1,000	1,720	3,080	1,140	1,440	2,780	8,200	5,170	2,060	2,220	1,600
12	1,400	1,070	1,740	3,050	1,140	1,440	2,960	7,340	4,740	2,070	2,210	1,600
13	1,340	1,260	1,780	2,930	1,140	1,450	3,320	7,100	3,950	2,620	2,010	1,580
14	1,100	1,320	1,760	3,040	1,140	1,430	3,480	7,290	3,610	3,000	2,020	1,600
15	1,380	1,310	1,760	3,050	1,160	1,420	3,710	7,500	3,010	2,990	2,030	1,550
16	1,390	1,310	1,650	3,060	1,090	1,400	4,180	7,890	2,980	2,990	2,070	1,620
17	1,390	1,220	1,750	2,920	1,120	1,350	4,790	7,750	3,000	2,990	2,080	1,640
18	1,390	976	1,800	2,290	1,080	1,450	5,250	8,360	3,010	2,990	2,010	1,470
19	1,400	1,240	1,810	2,000	1,100	1,430	5,380	8,920	3,050	3,000	2,040	1,490
20	1,350	1,240	1,810	2,000	1,090	1,470	5,060	8,990	3,070	3,000	2,050	1,470
21	1,130	1,280	1,780	1,940	1,110	1,500	4,710	9,910	3,070	3,000	2,090	1,480
22	1,420	768	1,690	1,910	1,060	1,480	4,480	8,680	3,050	3,000	2,060	1,330
23	1,370	1,160	1,500	1,910	1,060	1,500	4,700	6,660	2,830	3,000	2,070	1,490
24	1,420	1,240	1,560	1,910	1,090	1,430	5,230	5,400	2,850	3,000	2,060	1,530
25	1,420	928	1,350	1,910	1,100	2,070	5,710	4,860	2,460	3,020	1,740	1,480
26	1,430	1,250	1,750	1,890	1,070	2,410	6,260	5,670	2,010	3,020	1,810	1,510
27	1,370	1,250	2,020	1,920	1,100	2,420	5,800	6,460	1,900	3,020	1,800	1,510
28	1,170	1,280	2,000	1,930	1,120	2,440	5,590	5,630	1,900	3,030	1,750	1,480
29	1,520	1,250	2,000	1,480	-	2,420	5,720	4,140	1,900	3,040	1,770	1,270
30	1,360	1,230	1,950	1,160	-	2,410	5,680	4,210	1,860	2,550	1,810	1,510
31	1,350	-	1,980	1,150	-	2,370	-	4,040	-	2,280	1,810	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	45,420	1,770	1,100	1,465	90,090
November.....	36,442	1,350	768	1,215	72,280
December.....	54,500	2,020	1,350	1,752	107,700
Calendar year 1945.....	1,000,970	10,200	485	2,742	1,985,000
January.....	67,460	3,110	1,150	2,176	133,800
February.....	33,120	2,200	1,060	1,183	65,690
March.....	49,930	2,440	1,250	1,611	99,030
April.....	123,380	6,260	2,530	4,113	244,700
May.....	218,690	9,910	4,040	6,990	429,800
June.....	122,320	8,110	1,860	4,077	242,600
July.....	78,990	3,040	1,880	2,548	156,700
August.....	64,720	2,350	1,740	2,088	128,400
September.....	46,420	1,780	1,270	1,547	92,070
Water year 1945-46.....	939,192	9,910	768	2,573	1,863,000

Note.- Discharge for periods June 15 to Aug. 26, Aug. 29 to Sept. 30 is sum of flow in Turlock and Modesto Canals.

Tuolumne River at Modesto, Calif.

Location.- Water-stage recorder, lat. 37°38', long. 120°59', on west line of sec. 33, T. 3 S., R. 9 E., at highway bridge at south city limits of Modesto; 0.5 mile downstream from Dry Creek. Datum of gage is mean sea level, unadjusted (levels by Modesto Irrigation District).

Records available.- 1878-84, 1891-97 (gage heights only); October 1943 to September 1946. March 1940 to December 1945 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 7,640 second-feet May 22 (gage height, 50.54 feet); minimum daily, 246 second-feet Sept. 29.
1943-46: Maximum discharge, 8,070 second-feet Feb. 5, 1945 (gage height, 51.32 feet); minimum observed, 246 second-feet Sept. 29, 1946.

Remarks.- Records fair except those for periods of fragmentary or no gage-height record and those based on wire-weight gage readings, which are poor. Storage and many diversions above station for power and irrigation.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California, who also furnished six discharge measurements.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	660	1,440	1,490	2,340	1,470	1,340	632	2,920	2,510	428	a350	a380
2	598	1,450	1,870	1,690	1,450	1,420	747	2,730	3,270	f406	a340	a370
3	539	1,400	1,780	1,720	1,530	1,460	1,420	2,890	4,480	f363	h333	a360
4	542	1,340	1,950	1,780	2,700	1,440	1,570	2,960	5,030	f339	a340	a350
5	632	1,200	2,040	2,150	1,840	1,510	1,600	3,120	5,860	f348	a360	h348
6	536	1,370	2,020	3,100	1,560	1,470	1,600	3,160	5,580	f392	a360	342
7	580	1,400	1,970	2,780	1,510	1,450	1,680	3,810	4,100	f375	a350	351
8	686	1,400	2,000	3,200	1,470	1,250	1,580	6,240	3,600	f412	h351	342
9	514	1,390	1,950	3,500	1,440	1,210	1,500	7,000	2,590	a390	a350	324
10	567	1,380	1,830	3,490	1,430	978	1,420	7,070	2,460	a380	h330	315
11	592	1,370	1,980	3,500	1,460	689	1,440	6,540	2,890	a370	a350	312
12	744	1,170	1,940	3,460	1,460	527	1,160	5,560	3,000	a350	a360	335
13	886	1,190	1,970	3,420	1,430	477	1,060	4,740	2,360	h339	a330	312
14	919	1,360	1,990	3,340	1,430	583	1,260	4,650	1,550	a340	a290	306
15	1,020	1,420	1,950	3,460	1,430	680	1,310	4,760	1,200	a360	a280	a300
16	1,160	1,420	1,950	3,470	1,490	626	1,390	5,010	814	a360	a290	a290
17	975	1,440	1,800	2,980	1,470	696	1,820	5,070	708	a360	h297	a290
18	869	1,380	2,000	2,700	1,550	552	2,490	3,300	645	a360	a310	a280
19	849	1,170	2,040	1,990	1,420	689	2,920	5,960	580	a360	a320	a280
20	859	1,340	2,050	1,720	1,400	785	3,060	6,520	546	h363	a320	a270
21	853	1,400	2,120	1,710	1,390	843	2,700	7,090	530	a350	a310	h264
22	820	1,410	2,320	1,470	1,380	876	2,370	7,300	564	a370	h294	a270
23	859	1,190	2,620	1,310	1,320	776	2,160	5,820	518	a360	a290	a270
24	856	1,290	2,470	1,320	1,310	567	2,420	3,970	480	h345	h276	a280
25	862	1,400	2,220	1,290	1,330	487	2,910	2,890	434	a350	a290	a270
26	862	1,160	1,900	1,320	1,320	676	3,290	2,860	440	a360	a320	a270
27	869	1,370	2,400	1,280	1,300	958	3,680	4,720	446	h375	a350	a260
28	849	1,410	2,540	2,000	1,330	827	3,100	5,100	431	a370	h351	258
29	798	1,480	2,500	2,220	-	886	2,840	4,310	449	a390	a350	f246
30	1,060	1,460	2,440	1,680	-	942	3,050	2,800	459	a350	a350	f252
31	1,350	-	2,360	1,460	-	836	-	2,820	-	a350	h342	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	24,765	1,350	514	799	49,120
November.....	40,600	1,480	1,160	1,353	80,530
December.....	64,660	2,820	1,490	2,086	128,300
Calendar year 1945.....	636,152	7,770	306	1,743	1,262,000
January.....	72,850	3,500	1,280	2,350	144,500
February.....	41,620	2,700	1,300	1,486	82,550
March.....	28,506	1,510	477	920	56,540
April.....	60,179	3,680	632	2,006	119,400
May.....	145,690	7,090	2,750	4,700	289,000
June.....	58,524	5,860	431	1,951	116,100
July.....	11,395	428	339	368	22,600
August.....	10,134	360	276	327	20,100
September.....	9,085	370	246	303	18,020
Water year 1945-46.....	568,008	7,090	246	1,556	1,127,000

Peak discharge.- May 10 (8:30 a.m.), 7,380 sec.-ft.; May 22 (8 a.m.), 7,640 sec.-ft.
a No gage-height record; discharge computed on basis of unpublished records for station at Tuolumne City.

f Fragmentary gage-height record; discharge computed on basis of partly estimated gage-height record.

h Computed from wire-weight gage readings.

Falls Creek near Hetch Hetchy, Calif.

Location.- Water-stage recorder, lat. 37°58', long. 119°46', in NE¼ sec. 3, T. 1 N., R. 20 E., in Yosemite National Park; 0.2 mile upstream from Wapama Falls, 1 mile upstream from mouth, and 2 miles northeast of Hetch Hetchy. Altitude of gage, about 5,600 feet (from topographic map).

Drainage area.- 45.2 square miles.

Records available.- November 1915 to September 1946.

Average discharge.- 30 years (1916-46), 141 second-feet.

Extremes.- Maximum discharge during year, 1,240 second-feet Oct. 30 (gage height, 5.97 feet); minimum, 0.3 second-foot Sept. 30.

1915-46: Maximum discharge, 6,300 second-feet Dec. 11, 1937 (gage height, 8.90 feet), from rating curve extended above 1,850 second-feet on basis of velocity-area studies; no flow at times during several summers.

Remarks.- Records good. No storage or diversion.

Rating table, water year 1945-46, except period of ice effect
(gage height, in feet, and discharge, in second feet)

1.6	0.2	2.2	4.7	3.0	44	4.2	307
1.7	.4	2.4	9.7	3.3	85	4.5	409
1.8	.8	2.6	17	3.6	145	5.0	605
2.0	2.1	2.8	28	3.9	218	5.5	885

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	264	58	119	40	94	94	551	545	141	13	0.7
2	.9	202	53	107	38	94	83	615	605	138	11	.6
3	.8	224	52	98	53	83	77	680	680	121	9.4	.6
4	.7	197	52	94	58	63	89	738	695	103	8.3	.8
5	.6	163	56	85	62	58	109	744	700	94	7.5	1.7
6	.6	152	69	72	46	66	107	820	553	85	6.9	9.4
7	.8	138	71	69	42	80	85	760	472	79	6.2	9.7
8	2.5	119	65	68	52	107	77	640	456	71	5.6	7.5
9	2.5	101	59	65	40	130	75	705	472	63	4.9	5.8
10	1.3	132	53	58	46	150	90	625	494	56	4.4	4.7
11	10	121	54	59	46	136	127	506	416	54	3.9	3.7
12	7.7	121	b55	61	52	113	166	494	395	53	3.7	3.1
13	6.0	117	*b53	46	40	200	202	521	416	51	3.7	2.7
14	5.1	125	b53	53	40	123	224	529	395	46	3.6	2.3
15	15	119	47	56	37	107	276	596	363	40	3.4	2.0
16	25	105	53	58	37	98	346	583	356	34	3.3	1.9
17	19	113	51	59	42	96	449	645	313	30	3.0	1.8
18	13	98	46	62	36	87	517	732	285	27	2.7	1.7
19	11	94	44	56	37	82	533	754	273	26	2.4	1.5
20	8.9	90	44	52	37	77	498	766	285	26	2.1	1.4
21	7.2	87	31.9	48	39	69	420	784	298	24	2.0	1.3
22	6.2	83	31.7	45	37	72	402	521	282	24	1.8	1.2
23	5.4	77	150	46	42	75	468	359	238	23	1.6	1.2
24	4.5	77	113	52	52	74	557	320	192	23	1.5	1.0
25	4.2	94	103	55	50	80	655	363	173	25	1.4	.9
26	3.7	85	101	55	47	111	716	483	175	32	1.3	.7
27	3.3	83	113	53	59	136	645	380	170	27	1.2	.6
28	3.0	82	197	51	123	136	640	333	163	23	1.2	.5
29	50	80	187	47	-	115	670	320	150	19	1.0	.4
30	883	69	156	55	-	96	596	349	145	17	1.0	.3
31	555	-	134	50	-	92	-	441	-	15	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,637.9	863	0.6	52.8	3,250
November.....	3,612	264	64	120	7,150
December.....	2,978	319	44	96.1	5,910
Calendar year 1945.....	66,564.6	1,010	.6	182	132,000
January.....	1,952	119	45	53.0	3,870
February.....	1,330	123	36	47.5	2,640
March.....	3,100	200	58	100	6,150
April.....	9,993	716	75	333	19,820
May.....	17,667	820	320	570	35,040
June.....	11,155	700	145	372	22,130
July.....	1,590	141	15	51.3	3,150
August.....	123.8	13	.8	3.99	246
September.....	71.7	9.7	.3	2.39	142
Water year 1945-46.....	55,210.4	863	.3	151	109,500

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Cherry Creek near Hetch Hetchy, Calif.

Location. Water-stage recorder, lat. 38°00', long. 119°54', in SW $\frac{1}{4}$ sec. 28, T. 2 N., R. 19 E., 2.5 miles northwest of Lake Eleanor Dam, 4 miles upstream from Eleanor Creek, and 7.5 miles northwest of Hetch Hetchy. Altitude of gage, about 4,500 feet (from topographic map).

Drainage area. 111 square miles.

Records available. April 1910 to September 1946.

Average discharge. 36 years, 371 second-feet.

Extremes. Maximum discharge during year, 9,640 second-feet Oct. 30 (gage height, 16.05 feet); minimum, 1.6 second-feet Oct. 5, 6.

1910-46: Maximum discharge, 18,100 second-feet Dec. 11, 1937 (gage height, 25.1 feet, from floodmarks), from rating curve extended above 4,000 second-feet on basis of velocity-area studies; no flow Sept. 6-12, 1910.

Remarks. Records good. No diversion above station. Release from small reservoirs increases normal summer flow.

Rating table, water year 1945-46, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

0.9	0.6	1.5	24	2.1	100	4.0	850
1.0	2.0	1.7	39	2.2	128	5.0	1,320
1.1	5.3	1.8	50	2.4	203	7.0	2,490
1.2	8.9	1.9	62	2.7	336	9.0	3,880
1.4	18.5	2.0	78	3.3	575	10.8	5,300

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	726	162	344	117	274	247	1,510	1,370	278	19	2.3
2	2.7	678	145	310	114	274	216	1,630	1,510	260	16	2.3
3	2.0	607	145	305	114	260	221	1,610	1,580	216	14	2.3
4	1.9	456	131	301	128	182	265	1,850	1,590	182	12	36
5	1.7	353	162	292	128	178	336	1,980	1,510	159	11	47
6	1.6	456	225	238	128	229	314	2,000	1,200	148	8.9	19
7	7.6	395	203	216	122	501	260	1,610	1,040	128	8.2	11
8	46	310	178	199	117	374	243	1,640	1,020	117	7.1	8.2
9	51	270	170	178	120	428	247	1,630	1,090	100	6.4	7.1
10	18	382	159	182	117	448	288	1,520	1,070	89	6.0	5.7
11	54	370	162	170	114	370	403	1,300	850	80	5.7	5.0
12	48	374	*162	162	106	323	554	1,340	854	76	5.0	4.6
13	17	365	b128	162	106	585	670	1,420	890	73	4.6	4.0
14	11	365	b128	174	108	328	658	1,400	850	65	4.3	3.6
15	159	344	131	182	117	278	874	1,450	790	57	3.6	3.3
16	122	327	152	178	108	247	1,070	1,540	762	51	3.6	3.6
17	48	340	142	182	108	256	1,280	1,670	850	44	3.0	12
18	30	292	128	195	111	238	1,280	1,780	836	40	3.0	7.8
19	21	263	120	170	117	243	1,390	1,830	826	37	2.3	5.7
20	16	274	142	155	117	216	1,220	1,980	840	35	2.3	4.6
21	13	260	1,720	145	131	212	1,030	1,680	640	34	2.3	4.0
22	11	247	1,280	138	125	207	1,060	1,140	591	34	2.0	3.6
23	9.3	221	607	138	128	221	1,290	890	484	33	1.9	3.3
24	8.2	247	428	166	162	207	1,530	770	391	30	1.9	3.0
25	7.8	310	456	178	145	247	1,760	940	357	33	2.7	2.7
26	6.7	256	336	170	145	382	1,630	1,800	378	60	2.7	2.7
27	6.4	247	361	162	221	432	1,510	1,000	353	56	2.7	2.3
28	6.4	247	579	159	412	395	1,610	830	336	43	2.7	2.3
29	1,870	238	626	142	-	327	1,610	822	305	34	2.7	2.3
30	5,250	191	492	122	-	301	1,450	984	283	28	2.7	2.3
31	1,320	-	395	122	-	292	-	1,240	-	22	2.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	9,170.6	5,250	1.6	296	18,190
November	10,431	726	191	348	20,690
December	10,335	1,720	120	333	20,500
Calendar year 1945	177,053.4	5,250	1.6	465	351,200
January	5,937	344	122	192	11,780
February	3,786	412	106	135	7,510
March	9,253	585	178	298	18,350
April	26,516	1,760	216	684	52,590
May	45,186	2,000	770	1,458	89,630
June	24,646	1,590	283	822	48,880
July	2,642	278	22	85.2	5,240
August	173.0	19	1.9	5.58	343
September	223.6	47	2.3	7.45	444
Water year 1945-46	148,299.2	5,250	1.6	406	294,100

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Lake Eleanor near Hetch Hetchy, Calif.

Location.- Water-stage recorder, lat. 37°58', long. 119°53', in NW¼ sec. 3, T. 1 N., R. 19 E., at dam on Eleanor Creek, 1.7 miles upstream from Miguel Creek and 5.5 miles northwest of Hetch Hetchy. Datum of gage is at mean sea level (levels by city of San Francisco).

Drainage area.- 79 square miles.

Records available.- October 1919 to September 1946 (1919-30, gage heights only).

Extremes.- Maximum contents during year, 27,200 acre-feet June 20 (elevation, 4,661.1 feet); minimum, 6,850 acre-feet Sept. 30 (elevation, 4,637.3 feet).

1919-46: Maximum contents, 29,400 acre-feet Mar. 25, 1928 (elevation, 4,661.7 feet); no usable contents Nov. 28 to Dec. 20, 1921, Feb. 21 to Mar. 3, Nov. 21 to Dec. 10, 1929, Dec. 18-24, 1930.

Remarks.- Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,100 acre-feet between elevations 4,620.9 feet (natural outlet of old lake) and 4,660.0 feet (top of 5-foot flashboards) above mean sea level. Water is released down Eleanor Creek for power development and domestic supply as part of Hetch Hetchy system of city of San Francisco. Records show available contents at 12 p.m. except for a few days when daily 7 a.m. readings were used.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,100	17,600	23,700	24,100	23,600	24,000	24,000	24,800	24,400	27,100	23,100	14,900
2	10,900	18,300	23,700	24,000	23,600	24,000	23,900	24,800	24,500	27,100	22,800	14,600
3	10,900	18,500	23,700	23,900	23,600	23,900	23,900	24,900	24,500	27,100	22,600	14,300
4	10,900	19,100	23,700	24,000	23,600	23,900	23,900	24,900	24,700	27,100	22,300	14,100
5	10,800	19,200	23,700	23,900	23,800	23,800	24,000	25,000	24,900	27,000	22,100	13,600
6	10,800	20,100	23,700	24,000	23,600	23,800	24,000	25,000	25,100	27,000	21,800	13,400
7	10,900	20,500	23,700	23,800	23,600	23,900	24,000	24,800	25,200	26,900	21,500	13,000
8	10,900	20,900	23,700	23,800	23,600	23,900	23,900	24,800	25,300	26,900	21,200	12,800
9	10,900	21,100	23,700	23,800	23,600	24,100	23,900	24,700	25,300	26,900	21,000	12,500
10	10,800	21,700	23,700	23,700	23,500	24,100	24,000	24,700	25,500	26,900	20,800	12,300
11	10,800	22,100	23,700	23,700	23,600	24,100	24,100	24,600	25,600	26,800	20,500	12,000
12	10,800	22,500	23,700	23,700	23,500	24,100	24,300	24,500	25,700	26,700	20,200	11,700
13	10,900	23,000	23,700	23,700	23,500	24,400	24,400	24,500	26,000	26,600	19,900	11,500
14	10,900	23,400	23,600	23,700	23,500	24,300	24,500	24,500	26,000	26,400	19,700	11,300
15	10,900	23,600	23,600	23,700	23,500	24,200	24,600	24,500	26,400	26,300	19,300	10,900
16	11,000	23,800	23,600	23,700	23,500	24,100	24,800	24,500	26,500	26,100	19,100	10,700
17	11,100	23,900	23,600	23,700	23,500	24,000	24,900	24,600	26,700	26,100	19,100	10,500
18	11,100	23,900	23,600	23,700	23,500	24,000	24,900	24,600	26,900	26,000	18,800	10,200
19	11,100	23,900	23,600	23,700	23,500	24,000	24,800	24,600	27,100	25,700	18,500	9,980
20	11,100	23,900	23,600	23,700	23,500	24,000	24,800	24,700	27,200	25,500	18,200	9,660
21	11,100	23,900	25,200	23,700	23,500	23,900	24,800	24,500	27,100	25,300	18,000	9,420
22	11,100	23,800	25,100	23,700	23,600	23,900	24,800	24,600	27,100	25,100	17,700	9,100
23	11,100	23,800	24,600	23,700	23,600	23,800	24,800	24,400	27,000	24,900	17,400	8,870
24	11,200	23,900	24,300	23,700	23,600	23,800	24,900	24,300	27,100	24,800	17,200	8,570
25	11,000	23,900	24,300	23,700	23,700	23,800	25,000	24,300	27,100	24,500	16,800	8,290
26	10,800	23,900	24,100	23,700	23,700	23,900	25,000	24,600	27,100	24,300	16,600	8,020
27	10,500	23,800	24,100	23,700	23,700	23,900	24,900	24,700	27,100	24,100	16,300	7,740
28	10,100	23,600	24,300	23,700	24,000	24,100	24,900	24,500	27,100	23,900	16,000	7,470
29	10,700	23,800	24,400	23,700	-	24,100	24,900	24,300	27,100	23,600	15,800	7,130
30	15,300	23,800	24,300	23,600	-	24,200	24,800	24,300	27,100	23,400	15,500	6,850
31	16,700	-	24,200	23,600	-	24,100	-	24,400	-	23,300	15,300	-

Note.- Contents are those at 7 a.m. Nov. 3, 4, Jan. 5, Feb. 2-6, Mar. 13-21; May 22-26; all others are at 12 p.m.

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	4,643.4	11,400	-
Oct. 31.....	4,649.7	16,700	+5,300
Nov. 30.....	4,657.5	23,800	+7,100
Dec. 31.....	4,657.9	24,200	+400
Calendar year 1945....	-	-	+800
Jan. 31.....	4,657.3	23,600	-800
Feb. 28.....	4,657.7	24,000	+400
Mar. 31.....	4,657.8	24,100	+100
Apr. 30.....	4,658.6	24,800	+700
May 31.....	4,658.1	24,400	-400
June 30.....	4,661.0	27,100	+2,700
July 31.....	4,656.9	23,300	-3,800
Aug. 31.....	4,648.0	15,300	-8,000
Sept. 30.....	4,637.3	6,850	-8,450
Water year 1945-46....	-	-	-4,550

Note.- Contents are those at 7 a.m. Nov. 3, 4, Jan. 5, Feb. 2-6, Mar. 13-21, May 22-26; all others are at 12 p.m.

Eleanor Creek near Hetch Hetchy, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°58', long. 119°53', in SW $\frac{1}{4}$ Sec. 3, T. 1 N., R. 19 E., in Yosemite National Park, 0.6 mile downstream from Lake Eleanor Dam, 1.1 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy. Altitude of gage, about 4,600 feet (from topographic map).

Drainage area.- 80 square miles.

Records available.- November 1915 to September 1946. June to October 1901 and November 1909 to November 1915 at site 1 mile upstream.

Average discharge.- 36 years (1910-46), 222 second-feet.

Extremes.- Maximum discharge during year, 1,530 second-feet Dec. 22 (gage height, 6.02 feet); minimum, 2.8 second-feet (regulated) Oct. 3.

1909-46: Maximum discharge, 10,500 second-feet Dec. 11, 1937 (gage height, 13.95 feet), from rating curve extended above 1,500 second-feet on basis of velocity-area studies; no flow at times during 1910, 1930, 1931, 1933.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. No diversion. Flow regulated by Lake Eleanor (see preceding page).

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.4	5.0	2.2	40	3.8	340
1.5	7.4	2.4	58	4.1	454
1.6	10	2.6	81	4.5	640
1.7	13	2.9	123	5.0	890
1.9	21	3.2	177	5.5	1,170
2.0	27	3.5	248	6.0	1,510

Discharge, in second-foot, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	4.8	145	326	101	294	254	845	434	102	120	135
2	122	4.6	126	285	98	282	220	880	467	91	126	135
3	2.8	4.6	114	273	125	268	200	945	502	74	126	137
4	2.9	4.6	119	273	126	225	203	984	412	75	123	138
5	2.9	4.6	153	285	117	185	230	989	330	65	126	137
6	3.1	5.5	145	243	110	179	256	1,060	335	55	133	138
7	3.3	5.5	144	208	107	198	248	994	276	55	132	140
8	3.5	5.5	140	188	101	245	238	860	279	46	132	140
9	3.5	5.5	132	168	97	306	227	840	300	51	132	138
10	3.5	6.2	123	156	94	354	235	780	235	67	132	142
11	3.7	7.4	123	145	102	347	270	730	230	70	133	145
12	3.7	13	135	135	91	303	358	670	188	81	135	145
13	3.5	23	123	128	89	506	468	660	114	84	137	144
14	3.5	33	112	128	86	446	528	645	137	84	137	144
15	3.5	66	108	130	89	344	600	665	154	93	137	144
16	3.5	149	112	132	93	291	720	670	154	97	135	144
17	3.5	217	111	133	90	265	850	690	154	102	133	142
18	3.3	217	107	137	88	248	934	710	84	105	135	140
19	3.1	200	100	137	89	245	890	730	95	112	144	133
20	3.1	192	98	132	93	245	875	740	138	118	140	137
21	3.1	183	599	123	98	225	760	740	205	114	138	a145
22	3.1	177	1,400	116	102	199	700	620	200	116	136	a145
23	3.1	164	918	111	104	198	770	515	175	117	137	a145
24	3.1	158	566	116	116	196	880	458	119	114	135	a145
25	57	208	506	123	123	198	1,020	410	104	112	135	a158
28	164	196	414	128	126	235	1,090	715	110	118	135	151
27	166	183	347	130	137	300	984	765	112	117	133	149
28	195	177	446	128	248	347	962	615	111	116	133	149
29	168	175	533	123	-	304	972	484	108	117	135	149
30	175	168	480	111	-	387	912	410	104	116	133	135
31	127	-	395	105	-	309	-	403	-	116	135	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,357.3	175	2.8	43.8	2,690
November.....	2,951.8	217	4.6	98.4	5,850
December.....	9,073	1,400	98	293	18,000
Calendar year 1945.....	101,447.1	5,710	2.8	278	201,200
January.....	5,056	326	105	163	10,030
February.....	3,040	248	86	109	6,030
March.....	8,753	506	179	282	17,360
April.....	17,874	1,090	200	596	35,450
May.....	22,222	1,060	403	717	44,080
June.....	6,562	502	84	212	12,620
July.....	2,898	116	46	95.5	5,750
August.....	4,133	144	120	133	8,200
September.....	4,269	158	133	142	8,470
Water year 1945-46.....	87,989.1	1,400	2.8	241	174,500

a No gage-height record; discharge computed on basis of recorded range in stage.

South Fork Tuolumne River near Oakland Recreation Camp, Calif.

Location.- Water-stage recorder, lat. 37°49', long. 120°00', in SE $\frac{1}{4}$ sec. 29, T. 1 S., R. 18 E., at Cliff House, 75 feet downstream from highway bridge on Big Oak Flat road, 0.5 mile southwest of Oakland Recreation Camp, and 0.6 mile upstream from Middle Tuolumne River. Altitude of gage, about 2,800 feet (from topographic map).

Drainage area.- 87.6 square miles.

Records available.- March 1923 to September 1946.

Average discharge.- 23 years, 93.9 second-feet.

Extremes.- Maximum discharge during year, 3,110 second-feet Dec. 21 (gage height, 7.03 feet); minimum, 11 second-feet Sept. 30.

1923-46: Maximum discharge, 6,950 second-feet Dec. 11, 1937 (gage height, 10.00 feet), from rating curve extended above 1,000 second-feet on basis of velocity-area studies; minimum, 0.3 second-foot Aug. 23, 1934.

Remarks.- Records good. No storage or diversion.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.2	11	1.7	25	2.5	87	4.0	400
1.3	13	1.8	30	2.8	123	4.4	575
1.4	16	1.9	35	3.1	167	4.8	800
1.5	18	2.0	42	3.4	222	5.4	1,210
1.6	22	2.2	57	3.7	300		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	62	44	162	76	105	186	358	162	42	21	13
2	14	50	42	150	76	104	177	368	161	41	20	13
3	14	46	43	156	76	101	177	372	154	39	20	14
4	14	38	68	201	76	93	204	376	142	38	19	14
5	14	33	112	254	75	88	231	382	153	37	19	17
6	14	43	72	193	77	89	224	382	123	36	18	15
7	18	46	60	161	77	93	206	365	113	35	18	14
8	20	38	53	146	73	101	210	337	107	34	18	14
9	20	36	48	131	74	112	206	315	103	34	18	14
10	18	54	46	127	74	118	214	291	98	32	18	14
11	24	63	48	121	76	113	233	276	92	32	18	13
12	23	55	46	111	68	107	257	265	87	31	17	13
13	19	56	40	110	73	192	276	260	83	30	17	13
14	18	53	38	109	71	145	260	252	78	30	17	13
15	22	60	46	105	74	139	282	247	74	29	17	13
16	26	61	47	101	73	136	309	237	72	28	17	14
17	21	91	45	99	72	133	334	231	68	28	16	15
18	19	64	43	97	74	133	348	242	65	28	16	14
19	18	52	41	93	76	153	344	235	62	26	16	14
20	18	48	43	91	86	148	318	244	59	27	16	14
21	18	45	825	87	97	139	303	220	57	27	15	13
22	18	43	1,200	86	93	136	303	202	55	26	16	13
23	18	42	782	85	93	136	337	174	55	25	15	13
24	17	47	428	87	96	131	365	159	53	25	14	12
25	17	89	758	87	95	128	393	164	51	26	14	12
26	17	59	507	85	89	136	393	262	49	27	14	12
27	17	52	337	84	93	148	386	220	48	24	14	12
28	17	51	315	83	116	169	390	197	47	23	13	12
29	32	55	282	79	-	244	376	182	46	23	13	12
30	189	51	224	72	-	212	354	169	44	22	13	12
31	105	-	186	74	-	204	-	167	-	22	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	833	189	14	26.9	1,650
November.....	1,583	91	33	52.8	3,140
December.....	6,869	1,200	38	222	13,620
Calendar year 1945.....	51,574	4,040	13	141	102,300
January.....	3,627	254	72	117	7,190
February.....	2,273	116	68	81.2	4,510
March.....	4,186	244	88	135	8,300
April.....	8,596	393	177	267	17,050
May.....	8,151	382	159	263	16,170
June.....	2,541	182	44	84.7	5,040
July.....	927	42	22	29.9	1,840
August.....	510	21	13	16.5	1,010
September.....	401	17	12	13.4	795
Water year 1945-46.....	40,497	1,200	12	111	80,320

Middle Tuolumne River at Oakland Recreation Camp, Calif.

Location.- Water-stage recorder, lat. 37°50', long. 120°00', in NW¼ sec. 28, T. 1 S., R. 18 E., at Oakland Recreation Camp, 0.5 mile upstream from South Fork Tuolumne River and 4 miles east of Buck Meadows post office. Altitude of gage, about 2,800 feet (from topographic map).

Drainage area.- 71.0 square miles.

Records available.- November 1916 to September 1946.

Average discharge.- 29 years (1917-46), 73.5 second-feet.

Extremes.- Maximum discharge during year, 1,040 second-feet Dec. 21 (gage height, 6.64 feet); minimum, 2.5 second-feet Oct. 3-6, Sept. 29, 30.

1917-46: Maximum discharge, 2,910 second-feet Dec. 11, 1937 (gage height, 10.4 feet, from floodmarks), from rating curve extended above 1,000 second-feet on basis of velocity-area studies; no flow Sept. 4-14, 1924, Aug. 12 to Oct. 5, 1931, Sept. 11-17, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Small diversion above station for irrigation.

Rating tables, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 14-19, Sept. 3-19)

Oct. 1 to Dec. 21

Dec. 22 to Sept. 30

1.0	3.7	2.5	70	0.8	2.3	1.4	10	2.5	70
1.2	6.4	2.8	103	.9	3.0	1.5	13	2.7	91
1.4	10	3.1	144	1.0	3.9	1.7	20	3.0	133
1.6	16	3.5	210	1.1	5.1	1.9	30	3.4	203
1.9	28	4.0	315	1.2	6.6	2.1	40	4.0	330
2.2	46	4.2	362	1.3	8.4	2.3	53	5.0	570

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	44	21	91	b47	66	126	421	266	39	9.9	2.8
2	2.6	30	22	84	49	63	120	452	266	37	9.0	2.7
3	2.5	28	26	87	47	63	120	473	260	36	8.0	3.4
4	2.5	26	54	121	44	57	130	495	239	34	7.9	2.9
5	2.5	22	65	161	48	56	146	522	221	32	7.3	3.5
6	2.6	26	37	110	50	58	143	552	195	31	7.1	3.8
7	3.7	27	32	94	48	38	128	532	173	30	6.8	3.4
8	6.0	22	28	81	46	64	126	490	161	28	6.6	3.1
9	6.0	21	26	67	46	72	122	473	156	27	6.3	2.9
10	6.1	28	26	75	45	79	122	416	143	26	6.0	3.5
11	6.8	33	26	66	47	78	130	406	130	25	5.7	4.0
12	6.9	30	25	61	44	72	144	399	121	23	5.4	4.1
13	6.1	32	22	66	46	121	161	399	112	22	5.1	4.0
14	5.4	30	21	64	45	96	156	365	104	21	4.9	3.5
15	7.1	34	27	59	47	94	180	394	98	20	4.6	2.9
16	15	30	26	58	46	90	213	385	91	19	4.5	2.9
17	12	46	24	57	45	89	254	381	84	18	4.3	3.2
18	8.4	30	24	57	46	88	287	416	78	17	4.3	3.2
19	7.1	26	23	b53	48	95	292	409	73	16	4.0	2.9
20	6.1	26	23	b52	51	94	277	433	68	16	3.9	2.9
21	5.6	24	362	b48	55	90	266	385	63	16	3.8	2.9
22	5.2	24	521	53	55	84	272	323	59	16	3.8	2.8
23	4.9	22	321	51	54	86	316	266	57	15	3.6	2.7
24	4.8	25	180	52	57	83	360	254	55	14	3.4	2.7
25	4.7	44	251	52	56	82	406	272	52	14	3.4	2.6
26	4.5	30	170	b47	53	90	418	337	50	18	3.4	2.6
27	4.4	28	126	b41	54	101	418	298	45	16	3.4	2.6
28	4.3	27	132	b40	71	111	440	283	44	13	3.3	2.6
29	6.9	29	130	b58	-	197	442	268	42	12	3.2	2.6
30	262	26	114	b54	-	154	418	262	41	11	3.0	2.6
31	84	-	101	b42	-	136	-	270	-	11	3.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	509.4	262	2.5	16.4	1,010
November.....	870	46	21	29.0	1,790
December.....	2,986	521	21	96.3	5,920
Calendar year 1945	36,120.9	1,350	2.1	99.0	71,650
January.....	2,062	161	34	66.5	4,090
February.....	1,390	71	44	49.6	2,780
March.....	2,767	197	56	89.5	5,490
April.....	7,135	442	120	238	14,150
May.....	12,061	552	254	389	23,900
June.....	3,547	266	41	118	7,040
July.....	673	39	11	21.7	1,330
August.....	158.9	9.9	3.0	5.13	315
September.....	92.3	4.1	2.6	3.08	183
Water year 1945-46	34,241.6	552	2.5	93.8	67,920

b Stage-discharge relation affected by ice.

TUOLUMNE RIVER BASIN

Woods Creek near Jacksonville, Calif.

Location.- Water-stage recorder, lat. 37°51', long. 120°24', in SW¼ sec. 12, T. 1 S., R. 14 E., 1.5 miles upstream from mouth and 1.5 miles northwest of Jacksonville. Altitude of gage, about 645 feet (from topographic map).

Drainage area.- 98.4 square miles.

Records available.- October 1925 to September 1946.

Average discharge.- 21 years, 63.0 second-feet.

Extremes.- Maximum discharge during year, 3,000 second-feet Dec. 22 (gage height, 7.53 feet); minimum, 0.3 second-foot Aug. 5, 6.

1925-46: Maximum discharge, 13,500 second-feet Feb. 9, 1938, from rating curve extended above 1,000 second-feet on basis of velocity-area studies; maximum gage height, 11.5 feet Feb. 3, 1945; no flow at times during summers of 1929-36, 1939, 1940.

Remarks.- Records good except those for period of no gage-height record, which are poor. At times small amounts of water from Stanislaus River Basin are spilled into Woods Creek above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

-0.6	0.2	0.2	22	2.5	360
-1.5	.8	.4	34	3.0	500
-4	1.8	.7	59	3.5	664
-3	3.3	1.0	89	4.0	856
-2	5.5	1.3	128	4.5	1,070
-1	8.5	1.7	188	5.0	1,320
0	12	2.1	262	5.5	1,600

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	41	44	82	42	61	246	27	13	2.6	0.7	6.7
2	4.2	29	38	77	43	60	169	27	10	2.1	.6	6.4
3	4.0	23	36	163	115	60	135	30	9.3	1.4	.5	7.0
4	3.5	20	49	337	84	60	118	27	8.9	1.2	.5	7.0
5	3.5	20	527	497	59	60	106	25	7.9	1.3	.4	7.0
6	4.2	21	130	252	63	60	94	24	6.4	1.1	.3	7.0
7	5.3	23	68	150	85	60	87	15	6.1	.8	1.5	7.3
8	7.0	21	54	120	101	60	82	11	5.8	.7	2.4	6.4
9	15	20	47	99	78	60	76	20	5.5	.6	3.0	6.1
10	27	22	43	88	69	60	70	20	5.1	.6	3.0	6.1
11	15	45	42	81	74	60	67	20	5.1	.6	3.0	5.8
12	12	35	50	74	65	60	64	20	5.1	.5	4.0	5.1
13	10	30	41	71	58	60	60	20	3.7	.5	3.3	4.8
14	9.3	25	39	66	55	110	57	19	3.3	.8	2.8	5.1
15	12	39	37	63	60	80	55	20	3.0	1.1	3.5	4.0
16	14	100	37	61	101	70	52	21	2.6	1.3	4.2	3.3
17	11	91	36	59	70	70	86	18	2.4	1.2	4.6	3.7
18	10	58	35	57	67	65	34	18	2.2	1.2	4.6	3.7
19	9.7	54	34	54	64	65	27	18	2.2	1.1	5.1	3.2
20	8.5	121	33	52	66	60	40	18	2.0	1.4	5.1	2.6
21	7.6	24	852	50	74	150	39	18	1.7	1.6	5.3	2.1
22	7.6	18	1,550	50	67	90	38	27	1.5	1.2	5.1	2.0
23	7.3	17	948	48	62	80	35	27	1.6	.9	5.1	2.2
24	6.7	18	254	48	58	75	33	23	1.6	1.0	4.8	2.2
25	6.4	76	632	48	71	70	29	23	1.4	1.8	5.3	1.8
26	6.4	46	688	46	71	60	27	73	1.3	2.2	4.8	1.7
27	6.4	38	242	44	54	58	26	54	1.6	2.0	12	1.6
28	6.7	34	199	45	78	61	24	20	2.1	1.6	13	1.8
29	11	95	148	43	-	246	24	14	2.4	1.5	9.7	1.6
30	119	68	115	42	-	835	24	13	2.6	1.1	8.2	1.7
31	42	-	93	42	-	333	-	14	-	1.1	7.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	416.9	119	3.5	13.4	827
November.....	1,262	121	17	42.1	2,500
December.....	6,941	1,550	33	224	13,770
Calendar year 1945.....	33,344.9	3,550	.5	91.4	66,140
January.....	3,009	497	42	97.1	5,970
February.....	1,960	115	42	70.0	3,890
March.....	3,359	835	58	108	6,660
April.....	2,024	246	24	67.5	4,010
May.....	724	73	11	23.4	1,440
June.....	127.4	13	1.3	4.25	253
July.....	38.1	2.6	.5	1.23	76
August.....	133.7	13	1.3	4.31	265
September.....	127.0	7.3	1.6	4.23	252
Water year 1945-46.....	20,122.1	1,550	.3	55.1	39,910

Peak discharge.- Dec. 5 (3:30 p.m.) 506 sec.-ft.; Dec. 22 (12:30 a.m.) 3,000 sec.-ft.; Dec. 23 (2 a.m.) 1,900 sec.-ft.; Dec. 25 (12 p.m.) 1,580 sec.-ft.; Jan. 4 (9:30 p.m.) 976 sec.-ft.; Mar. 30 (2:30 a.m.) 1,530 sec.-ft.

Note.- No gage-height record Mar. 2-26; discharge computed on basis of probable range in stage and records for Calaveras River at Jenny Lind.

Modesto Canal near La Grange, Calif.

Location.- Water-stage recorder, lat. 37°40'04", long. 120°27'26", in SW $\frac{1}{4}$ sec. 17, T. 3 S., R. 14 E., 0.5 mile northeast of La Grange and 1 mile downstream from intake at La Grange Dam. Datum of gage is 272.4 feet above mean sea level (levels by Modesto Irrigation District).

Records available.- April 1903 to September 1946.

Average discharge.- 43 years, 367 second-feet.

Extremes.- Maximum daily discharge during year, 1,420 second-feet May 13, 14, 16; minimum daily, 4 second-feet Oct. 19, 21, Dec. 9, 16, 24-26
1903-46: Maximum daily discharge, 1,820 second-feet July 1, 1935; no flow at times.

Remarks.- Records excellent except those for periods of low flow October to March, which are fair. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford irrigation districts.

Cooperation.- Gage-height record furnished by Modesto Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	442	6	6	6		7	956	1,170	1,290	669	961	724
2	459	6	6	6		7	938	1,170	1,270	666	964	726
3	445	6	6	6		7	932	1,270	1,170	669	961	721
4	437	6	6	6		7	932	1,360	1,050	664	956	804
5	444	6	6	6		7	932	1,380	1,040	660	958	753
6	452	6	6	6		7	940	1,400	1,030	662	956	574
7	456	6	6	6		188	948	1,410	1,040	662	953	547
8	468	6	6	6		296	948	1,400	1,030	662	948	542
9	440	6	6	6		294	953	1,370	1,040	980	953	549
10	358	6	6	6		279	956	1,360	1,050	1,150	860	551
11	341	6	6	6		361	948	1,380	1,040	1,150	827	553
12	346	6	6	6		437	953	1,400	1,030	1,150	820	553
13	323	6	6	6		445	961	1,420	1,080	1,150	764	555
14	296	6	6	6		452	956	1,420	1,140	1,140	739	555
15	260	6	6	6		537	958	1,410	1,150	1,140	726	553
16	49	6	4	378	7	580	969	1,420	1,170	1,150	721	555
17	6	6	6	568		584	961	1,410	1,160	1,150	717	555
18	6	6	6	565		484	958	1,410	1,150	1,150	728	520
19	4	6	6	585		423	958	1,360	1,230	1,150	726	515
20	6	6	6	586		421	956	1,400	1,260	1,150	724	498
21	4	6	6	727		423	964	1,400	1,290	1,150	721	472
22	6	6	6	953		421	969	1,400	1,300	1,150	715	474
23	6	6	6	940		431	971	1,350	1,220	1,150	719	479
24	6	6	4	940		431	977	1,300	1,210	1,150	726	476
25	6	6	4	938		436	971	1,310	933	1,160	728	416
26	6	6	4	935		431	966	1,300	675	1,160	728	420
27	6	6	6	317		524	1,080	1,290	666	1,160	724	426
28	6	6	6	6		562	1,170	1,300	660	1,160	730	431
29	6	6	6	6	-	582	1,170	1,270	658	1,160	732	432
30	6	6	6	6	-	666	1,170	1,290	666	1,000	728	428
31	6	-	6	6	-	945	-	1,270	-	958	721	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,082	468	4	196	12,060
November.....	180	6	6	6.0	357
December.....	176	6	4	5.7	349
Calendar year 1945	191,971	1,320	4	526	380,800
January.....	8,546	953	6	276	16,950
February.....	196	-	-	7	389
March.....	11,875	945	7	383	23,550
April.....	29,421	1,170	932	961	58,360
May.....	41,820	1,420	1,170	1,349	82,950
June.....	31,696	1,300	660	1,057	62,870
July.....	31,282	1,160	660	1,009	62,050
August.....	24,934	964	715	804	49,460
September.....	16,317	804	416	544	32,360
Water year 1945-46	202,525	1,420	4	555	401,700

Note.- No gage-height record Oct. 16 to Jan. 15, Jan. 18, 19, Jan. 28 to Mar. 6; discharge furnished by Modesto Irrigation District.

Turlock Canal near La Grange, Calif.

Location.- Water-stage recorder and concrete control, lat. 37°40'00", long. 120°26'25", near North line of NW¼ sec. 21, T. 3 S.; R. 14 E., 2,400 feet downstream from intake at La Grange Dam and 1.2 miles east of La Grange. Altitude of gage, about 265 feet (from topographic map).

Records available.- October 1898 to September 1946.

Average discharge.- 48 years, 512 second-feet.

Extremes.- Maximum daily discharge during year, 1,880 second-feet July 29; minimum daily, 6.6 second-feet Jan. 27, Feb. 3, 10.

1898-1946: Maximum daily discharge, 2,150 second-feet July 2-4, 1942; no diversion for irrigation during some periods in each year. Prior to 1939, unmeasured small discharge during winter called zero.

Remarks.- Records excellent. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. During fall and winter some unmeasured flow is diverted from canal at tunnel 0.3 mile above gage, passed through La Grange power plant and returned to river.

Cooperation.- Gage-height record furnished by Turlock Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,010	25	14	8.2	8.8	11	1,070	1,820	921	1,210	1,310	1,020
2	1,100	25	17	8.8	11	11	861	1,840	1,090	1,230	1,330	1,040
3	1,060	23	17	8.8	6.6	11	778	1,840	1,380	1,240	1,340	1,060
4	1,040	22	16	8.8	12	13	783	1,840	1,570	1,250	1,350	808
5	1,080	22	16	8.8	8.2	11	785	1,840	1,680	1,250	1,380	802
6	1,090	21	15	8.8	8.8	13	785	1,840	1,740	1,240	1,370	931
7	801	21	16	8.8	8.8	11	783	1,850	1,870	1,240	1,370	996
8	965	20	15	8.2	8.8	11	783	1,850	1,850	1,240	1,400	962
9	1,000	19	16	7.5	8.8	329	780	1,840	1,860	1,090	1,400	1,020
10	1,050	21	15	7.5	6.6	848	778	1,850	1,600	915	1,490	1,030
11	648	18	16	7.5	8.8	949	1,150	1,830	1,360	915	1,390	1,050
12	460	18	15	7.5	9.4	923	1,350	1,840	1,460	921	1,390	1,050
13	442	20	15	7.5	8.8	624	1,470	1,850	1,680	1,470	1,250	1,030
14	208	18	13	7.5	8.8	523	1,800	1,850	1,820	1,860	1,280	1,050
15	562	20	13	8.2	9.4	518	1,690	1,850	1,860	1,850	1,300	995
16	770	20	13	7.5	9.4	335	1,730	1,850	1,810	1,840	1,350	1,070
17	788	20	14	11	7.0	505	1,740	1,850	1,840	1,840	1,360	1,080
18	775	18	13	8.8	9.4	515	1,760	1,870	1,880	1,840	1,280	951
19	741	18	13	11	9.4	510	1,740	1,870	1,820	1,850	1,310	975
20	728	18	13	8.2	9.4	515	1,730	1,860	1,810	1,850	1,330	970
21	549	18	15	12	10	512	1,720	1,860	1,780	1,850	1,370	1,010
22	739	18	13	11	9.4	705	1,720	1,840	1,750	1,850	1,350	855
23	718	18	13	11	8.8	993	1,720	1,840	1,610	1,850	1,350	1,010
24	739	16	13	10	7.5	926	1,730	1,840	1,640	1,850	1,330	1,090
25	728	16	15	8.2	9.4	1,060	1,790	1,680	1,530	1,860	1,010	1,060
26	757	14	13	8.2	8.8	1,280	1,830	1,090	1,340	1,860	1,080	1,090
27	726	15	14	6.6	10	1,390	1,830	874	1,230	1,860	1,000	1,080
28	572	14	15	8.2	9.4	1,480	1,830	882	1,240	1,870	930	1,050
29	533	14	15	8.2	-	1,580	1,830	876	1,240	1,880	1,040	837
30	132	14	18	9.4	-	1,480	1,830	895	1,190	1,550	1,080	1,080
31	26	-	17	8.8	-	1,350	-	884	-	1,300	1,090	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	22,537	1,100	26	727	44,700
November.....	564	25	14	16.8	1,120
December.....	456	18	13	14.7	904
Calendar year 1945.....	296,458.7	2,120	1.8	812	588,000
January.....	271.1	12	6.6	8.75	538
February.....	251.5	12	5.6	8.98	499
March.....	19,942	1,560	11	843	39,550
April.....	41,974	1,830	778	1,399	83,250
May.....	51,491	1,870	874	1,661	102,100
June.....	47,431	1,870	921	1,581	94,080
July.....	47,721	1,880	915	1,539	94,650
August.....	39,610	1,490	930	1,278	78,570
September.....	30,112	1,090	802	1,004	59,730
Water year 1945-46.....	302,360.6	1,880	6.6	828	599,700

Middle Fork Stanislaus River at Kennedy Meadows, Calif.

Location.- Water-stage recorder, lat. 38°18', long. 119°45', in NE $\frac{1}{4}$ sec. 11, T. 5 N., R. 20 E., at upper end of Kennedy Meadows, 1 mile upstream from Deadman Creek and 2 miles downstream from Relief Reservoir. Altitude of gage, about 6,450 feet (from topographic map).

Drainage area.- 49.5 square miles.

Records available.- October 1938 to September 1946 (incomplete).

Extremes.- Maximum discharge during year, not determined; minimum, 16 second-feet

Oct. 27.

1938-46: Maximum discharge recorded, 1,160 second-feet June 1, 1943 (gage height, 6.17 feet); minimum, 5.5 second-feet in March 1944.

Remarks.- Records good. Flow regulated by Relief Reservoir (capacity, 15,800 acre-feet). No diversion.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143							-	451	289	137	32
2	140							-	523	282	136	32
3	139							-	605	246	134	32
4	136							-	628	222	133	49
5	136							-	617	220	132	76
6	132							-	530	209	129	130
7	130							-	448	199	127	126
8	130							-	429	176	77	125
9	126							-	455	165	42	124
10	124							-	468	170	42	122
11	122							-	398	175	42	121
12	118							-	380	147	40	120
13	114							-	395	151	40	119
14	113							-	350	150	39	119
15	113							516	301	127	37	118
16	109							496	322	110	37	119
17	103							560	299	120	36	119
18	96							624	282	127	35	118
19	56							660	299	120	35	118
20	28							684	289	115	35	116
21	26							640	235	114	35	116
22	24							451	220	136	35	115
23	24							337	202	172	35	114
24	22							294	234	172	34	114
25	22							301	273	184	34	168
26	19							335	296	172	33	256
27	16							294	301	162	33	252
28	16							275	296	153	33	248
29	92							271	269	150	33	244
30	324							296	278	146	32	242
31	101							369	-	141	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,994	324	16	96.6	5,940
November.....	-	-	-	-	-
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May 15-31.....	7,403	684	271	435	14,680
June.....	11,074	628	202	369	21,960
July.....	5,222	289	110	168	10,360
August.....	1,834	137	32	59.2	3,640
September.....	3,904	256	32	130	7,740
Water year	-	-	-	-	-

Note.- No record Nov. 1 to May 14.

STANISLAUS RIVER BASIN

Middle Fork Stanislaus River at Sand Bar Flat, near Avery, Calif.

Location.- Water-stage recorder, lat. 38°11', long. 120°09', in sec. 19, T. 4 N., R. 17 E., 1 mile upstream from diversion dam of Pacific Gas & Electric Co. at Sand Bar Flat, and 11 miles southeast of Avery. Altitude of gage, about 2,650 feet (from topographic map).

Drainage area.- 218 square miles.

Records available.- September 1905 to September 1946.

Average discharge.- 40 years (1905-46), 699 second-feet.

Extremes.- Maximum discharge during year, 4,030 second-feet Apr. 25 (gage height, 10.13 feet); minimum, 105 second-feet (regulated) Sept. 1.

1905-46: Maximum discharge recorded, 26,500 second-feet Dec. 11, 1937 (gage height, 21.0 feet, from floodmarks), from rating curve extended above 6,000 second-feet on basis of logarithmic plotting; minimum discharge, 30 second-feet Aug. 24, 1924.

Remarks.- Records excellent except those for period of no gage-height record, which are good. Flow regulated by Relief Reservoir (capacity, 15,800 acre-feet). Water diverted by Philadelphia Canal (see p. 285) from South Fork Stanislaus River through Spring Gap powerhouse into Middle Fork above station. Stanislaus tunnel diverts 1 mile downstream. Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

3.3	116	5.2	540	7.5	1,650
3.6	157	5.6	680	8.0	2,000
4.0	223	6.0	840	8.5	2,400
4.4	308	6.5	1,080	9.0	2,840
4.8	412	7.0	1,340	9.5	3,350

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	251	409	361	724	395	540	716	2,630	1,800	840	313	142
2	249	348	355	676	395	540	684	2,730	1,990	824	306	140
3	247	401	368	666	387	544	680	2,840	2,200	756	301	142
4	245	371	368	676	381	493	704	2,920	2,250	692	294	146
5	245	350	353	680	363	477	744	3,060	2,170	673	290	185
6	247	313	303	603	379	506	752	3,210	1,880	648	283	198
7	249	290	303	578	363	547	704	3,040	1,680	610	281	237
8	257	261	278	547	342	631	680	2,740	1,590	572	276	235
9	255	257	267	500	355	720	666	2,700	1,620	530	210	231
10	245	395	294	520	342	800	680	2,720	1,630	520	188	229
11	255	a440	285	490	353	780	772	2,470	1,440	516	185	225
12	249	a450	270	455	322	724	950	2,380	1,390	513	180	186
13	237	a470	241	477	345	1,130	1,120	2,400	1,400	455	178	177
14	229	a490	225	471	335	867	1,120	2,320	1,370	461	177	175
15	257	a520	270	471	345	800	1,340	2,380	1,220	421	172	174
16	274	a500	276	464	337	748	1,700	2,290	1,200	387	169	177
17	241	480	249	455	325	748	2,100	2,460	1,160	368	166	185
18	225	a470	241	455	327	724	2,350	2,760	1,100	379	163	178
19	212	449	243	445	332	724	2,380	2,820	1,100	368	162	175
20	175	439	253	439	335	708	2,120	2,980	1,160	358	157	172
21	147	427	690	424	348	662	1,970	2,710	1,090	348	157	170
22	142	424	1,480	415	355	642	2,020	2,110	1,040	345	156	168
23	139	415	1,040	409	348	652	2,370	1,760	930	384	156	166
24	135	412	740	415	371	638	2,700	1,570	867	390	153	164
25	133	464	816	430	374	638	3,050	1,560	898	412	153	163
26	132	456	732	424	366	740	3,000	1,890	945	418	150	255
27	129	421	676	421	406	849	2,720	1,660	926	376	149	301
28	126	421	1,090	418	648	867	2,860	1,530	921	358	147	301
29	142	415	1,260	409	-	840	2,890	1,440	858	342	146	296
30	1,490	392	975	379	-	796	2,680	1,480	856	332	144	299
31	656	-	812	381	-	760	-	1,640	-	322	143	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	8,215	1,490	126	265	16,290
November	12,319	520	257	411	24,430
December	16,114	1,480	225	520	31,960
Calendar year 1945	317,468	5,460	126	870	629,700
January	15,317	724	379	494	30,380
February	10,274	648	322	367	20,380
March	21,835	1,130	477	704	43,310
April	49,202	3,050	666	1,640	97,590
May	73,100	3,210	1,440	2,358	145,000
June	40,661	2,250	836	1,355	80,650
July	14,918	840	322	481	29,590
August	6,105	313	143	197	12,110
September	5,992	301	140	200	11,880
Water year 1945-46	274,052	3,210	126	751	543,600

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

Melones Reservoir at Melones Dam, Calif.

Location.- Staff gage and reference point, lat. 37°57'15", long. 120°30'45", near center of sec. 11, T. 1 N., R. 13 E., at Melones Dam on Stanislaus River 0.1 mile downstream from Bear Creek. Datum of gage is at mean sea level.

Drainage area.- 897 square miles.

Records available.- June 1927 to September 1946.

Extremes.- Maximum contents observed during year, 107,500 acre-feet June 22, 23 (elevation 732.2 feet); minimum observed, 6,500 acre-feet Oct. 8 (elevation, 628.1 feet).
1927-46: Maximum contents observed, 115,200 acre-feet May 25, 26, June 1, 1943 (elevation, 736.4 feet); minimum, 5,820 acre-feet Oct. 12, 1929 (elevation, 625.7 feet).

Remarks.- Reservoir is formed by concrete overflow dam; storage began Aug. 21, 1926; dam completed in December 1926. Capacity for power development 1 mile below dam is 106,100 acre-feet between elevations 628.0 feet (minimum operating level) and 735.0 feet (top of drum-type spillway gates) above mean sea level; usable capacity for irrigation, 110,000 acre-feet between elevations 610.0 feet (floor of outlet tunnel) and 735.0 feet above mean sea level. Figures given herein represent total contents at 5 p.m., of which 2,630 acre-feet is not available for release. Released water flows down Stanislaus River to Goodwin Dam, where it is diverted into Oakdale and South San Joaquin Canals for irrigation.

Cooperation.- Record of contents, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,760	17,700	37,700	87,400	51,200	51,400	94,500	96,000	98,000	104,600	67,100	19,800
2	8,820	18,600	38,900	83,500	51,500	53,400	93,500	96,000	98,700	104,000	65,700	18,300
3	8,080	19,000	39,900	79,500	52,700	56,300	93,300	96,200	99,400	103,600	64,200	17,100
4	7,520	19,300	40,200	75,500	53,000	58,500	93,500	96,500	100,400	102,800	62,800	16,100
5	7,290	19,400	41,000	73,800	54,500	59,900	92,700	96,700	100,400	101,900	61,500	15,000
6	7,010	19,600	42,300	72,500	54,600	60,500	93,300	97,000	100,400	101,100	59,900	14,100
7	7,130	19,700	43,000	70,100	54,800	61,200	94,000	97,000	99,700	101,100	58,400	13,200
8	6,500	19,700	43,400	67,100	55,000	61,800	94,000	96,300	101,400	99,000	57,000	12,400
9	6,620	19,600	44,400	64,100	55,700	63,500	92,800	96,300	103,100	97,700	55,600	11,600
10	6,950	19,600	45,600	60,600	56,000	66,600	92,600	96,000	103,600	96,500	54,300	10,900
11	7,290	20,600	44,900	58,000	57,000	70,000	92,300	95,800	103,600	95,300	52,400	10,200
12	7,610	22,000	44,400	57,100	56,900	71,600	92,800	95,500	103,000	94,000	50,900	9,870
13	7,980	22,500	43,700	57,500	56,500	73,100	93,800	95,800	103,600	92,700	49,200	9,530
14	8,320	23,000	42,800	58,000	55,700	77,300	94,100	95,500	104,600	91,300	47,500	9,040
15	8,430	23,400	42,200	56,400	54,900	79,800	94,600	95,300	105,500	89,900	45,900	8,860
16	8,750	24,300	43,100	55,400	54,500	83,200	94,100	95,200	105,800	88,700	44,300	8,570
17	9,110	25,200	44,000	54,200	54,400	85,000	94,600	95,700	106,200	87,400	44,300	8,190
18	9,380	27,100	43,200	52,700	54,400	86,800	95,500	96,700	106,700	86,200	40,900	7,740
19	9,600	28,600	42,400	51,400	53,300	87,900	95,700	97,000	106,900	84,800	39,300	7,290
20	9,760	29,000	41,600	51,600	52,300	89,300	95,800	97,200	107,100	83,600	37,400	7,010
21	9,870	29,500	40,900	51,600	51,300	91,000	95,300	97,300	107,300	82,400	36,000	6,800
22	9,870	29,300	53,500	50,400	50,600	92,500	95,000	97,100	107,500	81,100	34,500	6,780
23	9,790	30,300	66,700	49,200	50,700	93,500	95,300	95,800	107,500	79,600	32,900	6,710
24	9,830	30,900	76,100	47,800	50,900	93,800	96,000	96,200	107,300	78,100	31,300	6,620
25	9,830	32,400	79,600	47,800	51,100	93,800	96,500	96,000	106,900	76,800	29,800	6,590
26	9,790	34,400	87,200	48,200	50,600	93,000	97,000	96,200	106,400	75,500	28,300	6,530
27	9,870	35,000	90,400	49,600	50,400	92,700	96,300	97,800	106,200	74,200	26,800	6,620
28	9,790	35,600	90,500	49,900	49,900	92,700	96,200	97,300	106,000	72,900	25,400	6,620
29	9,830	36,200	92,300	51,000	-	93,600	96,300	96,500	105,600	71,500	23,900	6,590
30	10,200	37,000	92,200	51,300	-	93,900	96,200	96,700	105,300	70,000	22,500	6,620
31	15,300	-	90,700	50,900	-	94,200	-	97,300	-	68,500	21,000	-

a No gage reading; contents interpolated.

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	640.0	10,700	-
Oct. 31.....	649.8	15,300	+4,600
Nov. 30.....	679.4	37,000	+21,700
Dec. 31.....	722.4	90,700	+53,700
Calendar year 1945.....	-	-	+72,100
Jan. 31.....	692.9	50,900	-39,800
Feb. 28.....	692.1	49,900	-1,000
Mar. 31.....	724.5	94,200	+44,300
Apr. 30.....	725.7	96,200	+2,000
May 31.....	726.4	97,300	+1,100
June 30.....	731.0	105,300	+8,000
July 31.....	707.3	58,500	-36,800
Aug. 31.....	659.3	21,000	-47,500
Sept. 30.....	628.5	6,620	-14,400
Water year 1945-46.....	-	-	-4,080

Stanislaus River below Melones powerhouse, Calif.

Location.- Water-stage recorder, lat. 37°56'50", long. 120°31'45", near line between sec. 10 and 15, T. 1 N., R. 13 E., 300 feet downstream from powerhouse, 0.5 mile upstream from Bear Gulch, and 1 mile downstream from Melones Dam. Altitude of gage, about 500 feet (from topographic map).

Drainage area.- 898 square miles.

Records available.- January 1931 to September 1946.

Average discharge.- 15 years, 1,569 second-feet.

Extremes.- Maximum discharge during year, 7,980 second-feet May 6 (gage height, 10.94 feet); minimum, 2.6 second-feet (regulated) Nov. 24.
1931-46: Maximum discharge, 22,800 second-feet Mar. 31, 1940 (gage height, 17.6 feet); minimum, 0.4 second-foot (regulated) Jan. 19, 20, 1943.

Remarks.- Records excellent. Flow regulated by Melones Reservoir (see preceding page), several smaller reservoirs, and diversions above station.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

3.3	2.0	4.3	193	7.0	2,470
3.4	4.2	4.6	340	8.0	3,630
3.5	8.0	5.0	574	9.0	4,950
3.7	24	5.4	866	10.0	6,420
3.9	60	5.8	1,220	11.0	8,080
4.1	116	6.4	1,820		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	694	440	27	4,190	739	768	2,910	5,580	2,900	1,290	1,110	892
2	632	420	27	4,130	324	5.7	2,220	5,860	3,130	1,280	1,110	883
3	537	450	485	4,080	330	5.4	1,910	6,100	3,400	1,280	1,090	761
4	452	456	479	4,040	658	558	1,910	6,660	3,630	1,280	1,080	645
5	424	456	465	3,430	695	880	1,990	6,580	3,680	1,280	1,120	638
6	441	461	466	3,400	792	856	1,250	7,380	3,580	1,280	1,100	645
7	470	462	622	3,580	660	872	1,790	7,230	2,300	1,280	1,070	645
8	310	465	3.4	3,340	828	849	2,380	6,170	1,670	1,270	1,070	645
9	187	452	3.2	3,310	340	5.4	1,840	5,980	2,100	1,270	1,070	645
10	192	3.2	912	3,020	340	5.4	1,710	5,700	2,610	1,270	1,070	612
11	198	3.4	938	2,110	795	956	1,840	5,310	2,610	1,280	1,060	446
12	184	450	931	970	886	961	1,970	4,890	1,930	1,260	1,060	424
13	189	459	938	970	1,200	978	2,050	4,800	1,670	1,250	1,060	418
14	208	460	922	1,840	1,200	748	2,370	4,560	1,670	1,250	1,070	368
15	214	466	3.4	1,830	1,160	1,010	3,430	4,740	1,670	1,170	1,080	381
16	218	466	3.0	1,830	609	52	3,670	4,220	1,670	1,130	1,070	377
17	208	3.6	920	1,820	746	618	4,200	4,340	1,590	1,140	1,070	402
18	217	3.4	912	1,800	1,320	1,080	5,060	5,080	1,460	1,130	1,080	411
19	202	454	928	935	1,340	989	5,360	5,470	1,450	1,130	1,080	364
20	205	466	908	935	1,290	1,000	5,160	5,510	1,460	1,130	1,040	312
21	208	468	898	1,680	1,270	997	4,540	5,600	1,450	1,130	996	254
22	204	472	21	1,640	896	1,030	4,310	4,740	1,450	1,140	987	262
23	203	476	15	1,580	792	931	4,890	3,330	1,450	1,150	978	251
24	209	3.2	1,270	1,060	800	1,490	5,720	2,960	1,450	1,150	978	243
25	205	3.9	1,780	974	1,110	2,090	6,480	2,920	1,450	1,160	978	240
26	204	482	1,970	335	1,050	1,740	7,060	3,210	1,320	1,180	943	226
27	202	490	2,500	330	1,290	1,880	5,920	3,790	1,320	1,170	909	290
28	196	497	2,860	720	1,090	2,060	6,020	3,560	1,300	1,170	900	368
29	203	488	3,330	757	-	2,380	6,290	2,840	1,300	1,160	900	368
30	213	492	3,710	993	-	2,950	5,960	2,540	1,290	1,140	900	368
31	209	-	4,200	672	-	2,670	-	2,700	-	1,100	892	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,638	694	184	279	17,130
November.....	11,170.7	497	3.2	372	22,160
December.....	33,448.0	4,200	3.0	1,079	66,340
Calendar year 1945.....	638,923.7	9,630	1.5	1,750	1,267,000
January.....	62,301	4,190	330	2,010	125,600
February.....	24,540	1,330	324	876	48,670
March.....	33,393.9	2,960	5.4	1,077	66,240
April.....	112,210	7,060	1,250	3,740	222,600
May.....	150,620	7,380	2,540	4,859	298,800
June.....	59,960	3,680	1,290	1,999	118,900
July.....	37,290	1,290	1,100	1,203	73,960
August.....	31,921	1,120	892	1,030	63,510
September.....	13,784	892	226	459	27,540
Water year 1945-46.....	579,276.6	7,380	3.0	1,587	1,149,000

a No gage-height record; discharge computed from powerhouse records.

Stanislaus River at Ripon, Calif.

Location.- Water-stage recorder, lat. 37°43'50", long. 121°06'35", in SE $\frac{1}{4}$ sec. 29, T. 2 S., R. 8 E., at highway bridge, 1 mile southeast of Ripon and 15 miles upstream from mouth. Datum of gage is at mean sea level, unadjusted (levels by Modesto Irrigation District).

Records available.- October 1940 to September 1946 in reports of Geological Survey.

April 1940 to December 1946 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 5,990 second-feet May 8 (gage height, 54.04 feet); minimum, 166 second-feet Sept. 18, 21, 25, 26, 30.

1940-46: Maximum discharge, 19,700 second-feet Mar. 11, 1943 (gage height, 59.83 feet); minimum, 150 second-feet Sept. 12, 1944.

Flood of Feb. 12, 1938, reached a stage of 64.4 feet, from floodmarks. Flood of Apr. 1, 1940, reached a stage of 61.1 feet, from floodmarks.

Remarks.- Records fair. Storage and many diversions above station for power and irrigation.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California, and others. Twelve discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	234	376	649	3,950	990	823	2,100	4,940	2,000	296	226	224
2	250	427	501	4,140	982	842	2,180	4,600	2,080	272	218	246
3	234	543	320	4,180	812	568	1,740	4,480	2,340	224	212	240
4	202	572	340	4,250	826	415	1,450	4,620	2,270	280	246	242
5	200	588	619	4,460	939	478	1,540	4,970	2,370	270	234	270
6	212	603	724	4,500	992	879	1,640	5,340	2,370	264	222	226
7	254	605	682	3,910	1,040	954	1,160	5,700	2,290	252	210	260
8	320	605	709	3,780	1,010	994	1,420	5,950	1,540	270	206	254
9	352	621	570	3,600	1,080	1,040	1,730	5,420	1,010	238	210	244
10	326	603	340	3,470	832	682	1,400	4,850	1,090	256	204	230
11	288	486	513	3,300	734	474	1,150	4,610	1,450	236	216	212
12	258	322	939	2,600	925	687	1,040	4,280	1,550	246	224	212
13	242	332	1,010	1,650	1,130	1,080	1,030	3,800	1,160	248	232	208
14	226	539	1,020	1,460	1,320	1,130	1,100	3,610	844	262	228	226
15	196	579	1,030	1,930	1,330	1,020	1,500	3,410	713	254	204	230
16	202	599	702	2,030	1,200	1,120	1,940	3,400	693	254	226	196
17	210	612	446	2,010	784	784	2,300	3,090	660	254	228	186
18	208	474	625	1,980	a600	796	2,780	3,060	605	264	218	174
19	224	314	1,010	1,960	a900	1,030	3,350	3,420	484	240	238	188
20	234	324	1,090	1,380	958	1,220	3,720	3,730	419	230	232	176
21	226	558	1,120	1,230	942	1,260	3,830	3,830	382	226	214	174
22	230	568	1,750	1,620	922	1,230	3,510	4,120	366	238	216	202
23	232	577	1,680	1,710	709	1,240	3,170	3,580	358	242	196	208
24	288	592	951	1,700	616	f1,150	3,360	2,520	350	218	200	214
25	318	480	1,220	1,380	562	f1,510	3,870	2,000	336	226	220	194
26	328	310	2,150	1,240	685	1,790	4,360	2,080	334	260	220	172
27	332	298	2,430	870	736	1,490	5,060	2,480	314	260	222	176
28	334	537	2,620	743	848	1,180	5,160	5,010	318	264	222	184
29	336	610	3,040	889	-	f1,180	4,880	2,890	324	276	224	182
30	350	652	3,280	987	-	1,490	4,960	2,370	314	238	236	172
31	374	-	3,720	1,140	-	2,200	-	2,010	-	236	246	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,220	374	196	265	16,300
November.....	15,306	652	298	510	30,360
December.....	37,800	3,720	320	1,219	74,980
Calendar year 1945.....	499,516	8,310	182	1,369	990,700
January.....	74,059	4,500	743	2,389	146,900
February.....	25,404	1,330	562	907	50,390
March.....	32,736	2,200	415	1,056	64,930
April.....	78,230	5,160	1,030	2,608	155,200
May.....	118,150	5,950	2,000	3,611	234,500
June.....	31,234	2,370	314	1,041	61,950
July.....	7,814	296	218	252	15,500
August.....	6,850	246	196	221	13,590
September.....	6,322	270	172	211	12,540
Water year 1945-46.....	442,125	5,950	172	1,211	877,000

a No gage-height record; discharge computed on basis of recorded range in stage.

f Fragmentary gage-height record; discharge computed on basis of partly estimated gage-height records.

North Fork Stanislaus River near Avery, Calif.

Location.- Water-stage recorder, lat. 38°14', long. 120°17', in sec. 35, T. 5 N., R. 15 E., 700 feet upstream from intake of Utica Mining Co.'s canal, 3.5 miles upstream from Beaver Creek, and 5 miles northeast of Avery. Altitude of gage, about 3,400 feet (from topographic map).

Drainage area.- 163 square miles.

Records available.- July 1914 to September 1922, November 1928 to September 1946.

Average discharge.- 25 years (1914-22, 1929-46), 423 second-feet.

Extremes.- Maximum discharge during year, 3,730 second-feet Apr. 25 (gage height, 7.30 feet); minimum, 28 second-feet Aug. 27.
1914-22, 1928-46: Maximum discharge, 17,700 second-feet Dec. 11, 1937 (gage height, 14.1 feet, from floodmarks), from rating curve extended above 3,400 second-feet on basis of A.V.D. studies; minimum, 5.5 second-feet Dec. 6, 7, 1929.

Remarks.- Records good. Flow regulated by three reservoirs. Diversion from Beaver Creek into river, above station.

Cooperation.- Water-stage recorder graph, furnished by Emma Rose and Hobart Estate, Co., obtained in connection with a Federal Power Commission project.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 25					Apr. 26 to Sept. 30				
1.2	44	2.6	216	5.0	1,200	0.8	29	2.1	137
1.4	59	3.0	306	5.5	1,620	1.1	45	2.4	180
1.7	88	3.5	450	6.0	2,100	1.5	74	2.6	216
2.0	122	4.0	640	6.5	2,660	1.8	102		
2.2	148	4.5	885						

Note.- Same as preceding table above 2.6 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	206	182	590	230	464	428	2,120	939	125	65	59
2	49	170	172	528	228	450	388	2,250	981	120	62	59
3	48	216	168	520	224	431	395	2,380	993	112	61	59
4	48	145	178	502	222	354	412	2,440	951	103	60	60
5	50	117	200	498	212	322	464	2,550	903	96	59	61
6	50	120	185	424	218	363	484	2,580	751	90	58	58
7	53	123	187	397	220	424	434	2,290	632	86	57	58
8	62	114	182	380	202	524	406	2,020	566	78	57	56
9	58	108	170	343	204	611	397	2,020	558	75	56	55
10	54	142	172	346	200	675	415	1,930	554	68	55	54
11	57	161	172	332	212	598	566	1,660	491	64	53	53
12	59	149	168	314	187	502	780	1,580	444	70	53	53
13	55	165	151	322	187	993	939	1,610	428	83	51	53
14	56	167	147	327	183	632	915	1,500	397	82	50	53
15	64	196	161	324	194	520	1,180	1,480	368	81	49	53
16	63	170	161	319	189	470	1,450	1,400	352	79	48	58
17	58	182	154	316	178	481	1,690	1,580	316	78	58	57
18	56	161	148	319	182	457	1,940	1,730	296	77	58	54
19	54	158	147	306	192	453	1,980	1,690	272	75	56	53
20	53	200	151	294	198	424	1,750	1,650	260	74	54	53
21	51	210	1,440	274	222	388	1,570	1,480	254	73	53	53
22	49	206	1,940	274	220	368	1,630	1,120	240	73	51	53
23	47	196	1,100	267	214	388	2,080	963	218	72	48	52
24	57	202	694	284	243	380	2,400	915	194	72	46	52
25	65	329	830	304	240	394	2,620	897	174	72	42	52
26	50	251	611	294	230	554	2,420	1,480	166	73	36	51
27	49	234	590	286	306	708	2,080	1,170	158	51	33	51
28	49	243	934	279	640	708	2,380	1,000	149	69	48	51
29	84	243	1,100	260	-	615	2,240	885	138	68	53	51
30	904	210	858	234	-	528	2,050	858	131	66	60	51
31	352	-	689	230	-	464	-	909	-	65	59	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,853	904	47	92.0	5,680
November	5,494	329	108	183	10,900
December	14,142	1,940	147	456	28,050
Calendar year 1945	178,355	6,000	42	489	353,700
January	10,687	590	230	345	21,200
February	6,377	640	178	228	12,650
March	15,638	993	322	504	31,020
April	38,883	2,620	385	1,296	77,120
May	50,137	2,580	858	1,617	99,450
June	13,274	993	131	442	26,330
July	2,489	125	64	80.3	4,945
August	1,647	65	33	53.1	3,270
September	1,634	61	51	54.5	3,240
Water year 1945-46	163,255	2,620	33	447	323,800

South Fork Stanislaus River at Strawberry, Calif.

Location.- Water-stage recorder, lat. 38°12', long. 120°01', in SW¹/₄ sec. 16, T. 4 N., R. 18 E., 0.1 mile downstream from bridge on State Highway 108, at Strawberry, and 0.5 mile downstream from Herring Creek. Altitude of gage, about 5,350 feet (from topographic map).

Drainage area.- 45.5 square miles.

Records available.- August 1938 to September 1946. October 1911 to January 1917 at site 1 mile downstream.

Extremes.- Maximum discharge during year, 1,000 second-feet May 5 (gage height, 5.10 feet); minimum, 9.4 second-feet (regulated) Sept. 24-30.

1911-17, 1938-46: Maximum discharge, 1,870 second-feet June 4, 1945 (gage height, 6.3 feet), from rating curve extended above 1,000 second-feet on basis of logarithmic plotting; minimum, 1.7 second-feet (regulated) Nov. 14, 1942.

Remarks.- Records excellent except those for periods of no gage-height record, which are good. Flow regulated by Strawberry Reservoir (capacity, 17,900 acre-feet); no diversion.

Cooperation.- Water-stage recorder graph furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.4	7	2.4	99	3.6	348
1.5	11	2.6	126	3.8	410
1.6	17	2.8	160	4.0	478
1.8	32	3.0	200	4.4	634
2.0	51	3.2	244	4.8	830
2.2	74	3.4	294	5.2	1,060

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	78	72	96	75	78	87	315	525	72	56	132
2	55	81	72	94	75	76	a84	340	592	66	58	132
3	55	84	73	94	74	76	a84	626	634	56	59	149
4	55	80	72	92	75	75	a86	740	613	54	59	164
5	55	78	72	92	74	73	a88	790	552	56	59	164
6	54	78	73	91	74	74	a88	836	454	55	59	162
7	54	74	73	89	74	76	a88	755	404	56	59	160
8	54	74	72	84	74	84	a86	657	388	58	59	e160
9	54	73	72	84	73	91	a84	657	404	58	58	e104
10	54	75	72	82	73	95	85	592	278	56	58	64
11	55	74	72	81	72	92	91	541	229	56	58	51
12	55	74	70	81	70	90	103	556	261	55	56	13
13	55	75	70	81	70	96	113	584	224	58	102	10
14	55	76	70	81	70	92	116	572	244	58	107	10
15	56	75	69	80	70	90	140	407	258	59	107	10
16	56	74	69	80	70	87	128	510	246	58	108	10
17	58	74	68	79	70	87	a200	634	204	58	108	9.8
18	56	74	69	79	70	86	a230	765	149	56	108	9.8
19	55	74	69	79	70	86	a220	695	129	59	109	9.8
20	54	74	68	78	70	85	a210	775	180	62	109	9.8
21	56	74	98	78	70	84	a200	648	192	61	109	9.8
22	56	74	108	76	69	81	a190	444	172	61	108	9.8
23	58	74	90	76	69	84	a250	323	147	60	122	9.8
24	56	74	87	76	69	84	a300	302	125	59	134	9.4
25	56	74	85	76	69	82	320	342	112	59	134	9.4
26	56	74	80	76	70	91	299	533	108	60	134	9.4
27	55	74	80	76	72	99	294	360	98	60	132	9.4
28	54	74	107	76	82	98	312	320	81	59	131	9.4
29	70	74	122	75	-	91	312	320	76	59	129	9.4
30	242	72	108	74	-	89	299	384	75	58	132	76
31	89	-	104	74	-	90	-	478	-	58	134	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,948	242	54	62.8	3,860
November.....	2,257	84	72	75.2	4,480
December.....	2,486	122	68	80.2	4,930
Calendar year 1945.....	56,204	1,280	50	154	111,500
January.....	2,530	96	74	81.6	5,020
February.....	2,015	82	69	72.0	4,000
March.....	2,664	99	73	85.9	5,280
April.....	5,187	320	84	173	10,290
May.....	16,801	836	302	542	33,320
June.....	8,155	634	75	272	16,180
July.....	1,820	72	54	58.7	3,610
August.....	2,965	134	56	85.6	5,880
September.....	1,696.0	164	9.4	56.5	3,360
Water year 1945-46.....	50,524.0	836	9.4	138	100,200

a No gage-height record; discharge computed on basis of records for station near Long Barn.
 e Computed from graph based on range in stage and records of gate operation furnished by Pacific Gas & Electric Co.

South Fork Stanislaus River near Long Barn, Calif.

Location.- Water-stage recorder and masonry control, lat. 38°05', long. 120°11', in sec. 25, T. 3 N., R. 16 E., 600 feet downstream from Lyons Dam, 2 miles west of Long Barn, and 14 miles northeast of Sonora. Altitude of gage, about 4,100 feet (from topographic map).

Drainage area.- 67.2 square miles.

Records available.- November 1937 to September 1946.

Extremes.- Maximum discharge during year, 966 second-feet (regulated) May 7 (gage height, 5.05 feet); no flow (regulated) Sept. 2.

1937-46: Maximum discharge, 2,070 second-feet June 2, 1938 (gage height, 7.14 feet), from rating curve extended above 1,400 second-feet; no flow at times during 1938-39, 1946.

Remarks.- Records good except those for period of no gage-height record, which are fair. Storage and diversions above station for power and domestic use, including Lyons Reservoir (capacity, 5,500 acre-feet), Strawberry Reservoir (capacity, 17,900 acre-feet). Tuolumne Canal (see p. 266) diverts at Lyons Dam; Philadelphia Canal (see following page) diverts 12 miles above station into basin of Middle Fork Stanislaus River.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.1	1.0	1.2	56	2.9	298
.2	3.0	1.4	77	3.2	354
.4	9	1.7	109	3.5	414
.6	18	2.0	148	4.0	540
.8	29	2.3	194	4.5	718
1.0	43	2.6	244	5.0	942

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.2	4.0	all 0	15	62	79	255	423	1.6	4.2	4.6
2	1.2	1.4	4.2	65	14	56	78	280	476	1.2	4.0	3.5
3	1.0	1.4	4.5	100	18	54	83	455	515	1.2	4.0	3.5
4	1.2	1.2	5.0	121	18	49	92	640	394	1.2	4.0	4.2
5	1.2	1.2	5.0	166	16	44	101	694	436	1.2	4.0	3.2
6	1.0	1.2	4.8	124	16	40	104	760	342	1.2	4.0	2.0
7	1.0	1.4	4.8	105	20	42	99	760	291	1.2	4.0	1.0
8	1.2	1.2	4.8	88	19	43	97	587	298	2.6	4.0	1.0
9	1.2	1.2	4.8	76	17	46	92	601	305	4.0	4.0	2.2
10	1.4	1.2	4.8	69	17	52	69	534	264	4.0	4.0	2.2
11	1.2	1.2	4.8	60	16	56	92	470	186	4.2	4.0	2.2
12	1.2	1.4	5.0	51	14	51	102	478	114	4.5	4.0	2.2
13	1.4	1.2	5.0	48	13	96	115	515	144	4.5	4.0	2.0
14	1.2	1.2	5.0	46	15	82	115	468	172	4.5	4.0	2.0
15	1.2	1.4	5.0	42	14	73	128	400	205	4.2	4.2	1.8
16	1.2	1.4	5.0	38	16	65	151	370	199	4.0	4.2	2.0
17	1.2	1.6	5.0	36	16	59	183	512	169	4.2	4.2	2.0
18	1.2	1.4	5.0	35	15	58	210	670	99	4.2	4.2	2.0
19	1.2	1.2	5.0	32	16	65	205	604	57	4.0	4.2	2.0
20	1.2	1.2	4.7	30	18	71	202	667	87	4.0	4.2	2.0
21	1.2	1.2	all 0	28	26	65	178	644	121	4.0	4.2	2.0
22	1.2	1.2	a350	26	29	63	178	427	105	4.0	4.2	2.0
23	1.0	1.2	a300	24	29	66	207	296	78	3.8	4.2	2.0
24	1.0	1.0	a240	23	30	62	242	230	56	3.2	4.2	2.0
25	1.4	1.0	a280	23	32	58	280	253	37	4.0	4.2	2.0
26	1.2	1.2	a240	22	30	60	282	448	26	4.0	4.2	2.0
27	1.2	1.2	a200	21	34	67	249	323	20	4.2	4.2	2.0
28	1.0	1.2	a210	20	74	77	269	258	6.6	4.5	4.0	2.0
29	1.2	1.4	a220	19	-	113	275	237	1.0	4.2	4.2	2.0
30	1.2	3.0	a160	16	-	109	262	284	1.6	4.0	4.8	6.1
31	1.0	-	a140	14	-	86	-	374	-	4.0	4.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	36.4	1.4	1.0	1.17	72
November.....	39.6	5.0	1.0	1.52	79
December.....	2,536.5	350	4.0	81.9	5,040
Calendar year 1945.....	39,519.7	1,140	.9	108	76,390
January.....	1,699	166	14	54.8	3,370
February.....	609	74	13	21.8	1,210
March.....	1,992	115	40	64.3	5,950
April.....	4,839	282	78	161	9,600
May.....	14,514	760	250	468	28,790
June.....	5,652.2	515	1.0	188	11,210
July.....	105.8	4.5	1.2	3.41	210
August.....	128.6	4.8	4.0	4.15	255
September.....	71.9	6.1	1.0	2.40	143
Water year 1945-46.....	32,226.0	760	1.0	88.3	63,930

A no gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Philadelphia Canal near Strawberry, Calif.

Location.- Water-stage recorder and concrete control, lat. 38°11', long. 120°03', in sec. 30, T. 4 N., R. 18 E., 250 feet downstream from diversion dam on South Fork Stanislaus River and 3 miles southwest of Strawberry post office. Altitude of gage, about 4,800 feet (from topographic map).

Records available.- October 1939 to September 1946.

Extremes.- Maximum daily discharge during year, 61 second-feet May 20, June 20; minimum daily, 7.2 second-feet Sept. 21-30.

1939-46: Maximum daily discharge, 64 second-feet Dec. 11, 1941; no flow at times during each year except 1943 and 1946.

Remarks.- Records excellent. Canal diverts from right bank of South Fork Stanislaus River for power development in Spring Gap power plant of Pacific Gas & Electric Co., tailrace empties into middle fork Stanislaus River above station at Sand Bar Flat.

Cooperation.- Water-stage recorder record, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	57	59	57	59	58	57	58	60	59	59	59
2	58	59	59	57	59	59	57	60	60	58	59	59
3	58	59	59	57	59	59	57	59	59	57	59	60
4	58	58	59	56	59	58	57	57	59	56	59	59
5	58	58	58	55	58	58	57	59	58	57	59	59
6	58	59	58	57	54	58	57	59	56	57	59	59
7	58	58	59	58	54	59	57	57	57	57	59	60
8	58	58	59	58	55	59	57	56	59	58	59	59
9	58	59	59	58	56	60	57	58	60	59	59	58
10	58	59	59	58	56	59	57	59	58	60	59	59
11	58	59	59	58	56	58	57	59	59	59	59	52
12	58	59	59	59	58	58	57	60	59	59	59	12
13	58	59	59	59	58	58	58	58	58	60	59	7.5
14	58	59	59	59	58	58	57	57	59	59	59	7.5
15	60	59	59	59	57	58	59	59	59	59	59	7.5
16	59	59	59	59	57	58	59	60	59	59	60	7.5
17	58	59	59	59	57	58	59	60	57	59	60	7.5
18	57	58	59	59	57	58	59	59	58	58	60	7.5
19	57	58	58	58	56	58	59	60	59	59	60	7.5
20	59	58	59	58	55	56	57	61	61	59	60	7.5
21	60	58	56	58	55	56	57	59	59	59	60	7.2
22	59	58	52	58	55	56	59	55	58	59	60	7.2
23	59	58	51	59	54	57	59	56	58	59	60	7.2
24	59	59	56	59	57	58	59	58	58	59	59	7.2
25	59	59	55	59	57	58	58	59	58	59	59	7.2
26	59	59	49	59	58	58	58	59	59	59	59	7.2
27	59	59	49	59	58	58	58	57	58	59	59	7.2
28	59	59	50	59	59	58	59	58	58	59	59	7.2
29	60	59	54	59	-	57	59	58	59	59	59	7.2
30	58	59	56	59	-	57	58	59	59	59	59	7.2
31	55	-	57	59	-	57	-	60	-	59	59	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,808	60	55	58.3	3,590
November.....	1,758	59	57	58.6	3,490
December.....	1,762	59	49	56.8	3,490
Calendar year 1945.....	20,612	60	30	56.5	40,890
January.....	1,805	59	55	58.2	3,580
February.....	1,591	58	54	56.8	3,160
March.....	1,795	60	56	57.9	3,560
April.....	1,735	59	57	57.8	3,440
May.....	1,813	61	55	58.5	3,600
June.....	1,758	61	56	58.6	3,490
July.....	1,817	60	56	58.6	3,600
August.....	1,837	60	59	59.3	3,640
September.....	787.0	60	7.2	26.2	1,560
Water year 1945-46.....	20,266.0	61	7.2	55.5	40,200

STANISLAUS RIVER BASIN

Tuolumne Canal near Long Barn, Calif.

Location.- Water-stage recorder and concrete control, lat. 38°05', long. 120°11', in sec. 25, T. 3 N., R. 16 E., 200 feet downstream from intake, 250 feet downstream from Lyons Reservoir on South Fork Stanislaus River, 2 miles west of Long Barn, and 14 miles northeast of Sonora. Altitude of gage, about 4,100 feet (from topographic map).

Records available.- October 1937 to September 1946.

Extremes.- Maximum daily discharge during year, 53 second-feet May 25, 26, May 28 to June 5; minimum daily, 8.0 second-feet Oct. 12, 15-20.

1937-46: Maximum daily discharge, 54 second-feet June 26, 27, July 1, 1938; no flow at times.

Remarks.- Records excellent. Canal diverts from left bank of South Fork Stanislaus River for power and domestic supply in vicinity of Sonora.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	20	25	25	25	25	25	30	53	26	40	43
2	21	20	25	25	25	25	25	30	53	26	41	41
3	20	21	26	25	25	25	25	30	53	26	41	41
4	20	20	25	25	25	25	25	30	53	26	41	40
5	20	20	25	25	25	25	25	29	53	28	41	41
6	21	20	25	25	25	25	25	31	53	34	41	39
7	20	20	25	25	25	25	25	31	30	34	41	40
8	20	20	25	25	25	25	25	31	17	34	40	40
9	20	20	25	25	25	25	25	30	17	34	40	40
10	20	20	25	25	25	25	25	30	18	36	40	39
11	13	20	25	25	25	25	25	30	18	37	39	39
12	8.0	20	25	h25	25	25	25	30	18	37	40	36
13	8.2	20	25	a25	25	25	25	30	18	37	41	30
14	8.2	20	25	h25	25	25	25	30	18	37	41	22
15	8.0	21	25	h25	25	25	25	30	19	37	41	23
16	8.0	20	25	h25	25	25	25	30	18	37	41	22
17	8.0	20	25	25	25	25	25	30	18	37	41	22
18	8.0	20	25	25	25	25	24	30	20	38	41	23
19	8.0	20	25	25	25	25	24	30	20	39	41	23
20	8.0	20	25	25	25	25	25	30	20	39	41	23
21	8.2	20	25	25	25	25	25	30	27	38	41	22
22	16	20	a25	25	25	25	25	30	33	38	41	22
23	21	24	a25	26	25	25	25	30	35	39	41	22
24	21	26	a25	26	25	25	25	45	35	39	41	23
25	20	25	25	25	25	25	28	53	35	39	41	22
26	20	25	25	25	25	25	30	53	36	39	41	22
27	21	25	25	25	25	25	30	52	35	39	41	22
28	20	25	25	25	26	25	30	53	35	36	42	22
29	21	25	25	25	-	25	30	53	32	36	42	22
30	20	25	25	25	-	25	30	53	25	37	41	29
31	20	-	25	25	-	25	-	53	-	38	42	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	499.6	24	8.0	16.1	991
November.....	642	26	20	21.4	1,270
December.....	776	26	25	25.0	1,540
Calendar year 1945.....	9,983.6	53	8.0	27.4	19,800
January.....	777	26	25	25.1	1,540
February.....	701	26	25	25.0	1,390
March.....	775	25	25	25.0	1,540
April.....	776	30	24	25.9	1,540
May.....	1,107	53	29	35.7	2,200
June.....	916	53	17	30.5	1,820
July.....	1,097	39	26	35.4	2,180
August.....	1,267	42	39	40.9	2,510
September.....	895	43	22	29.8	1,780
Water year 1945-46.....	10,228.6	53	8.0	28.0	20,300

a No gage-height record; discharge interpolated.

h Computed from staff-gage reading.

South San Joaquin Canal near Knights Ferry, Calif.

Location.- Water-stage recorder, lat. 37°51'20", long. 120°38'15", in sec. 15, T. 1 S., R. 12 E., 0.8 mile downstream from head gate at Goodwin Dam and 4 miles upstream from Knights Ferry. Altitude of gage, about 345 feet (from topographic map).

Records available.- May 1914 to September 1946.

Average discharge.- 27 years (1914-30, 1931-32, 1936-46), 367 second-feet.

Extremes.- Maximum daily discharge during year, 966 second-feet May 4; no flow at various times.
1914-46: Maximum daily discharge, 1,070 second-feet July 1-3, 1921; no flow at times each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin irrigation districts.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	484	12	5.6	a1.7	3.5	205	900	929	574	812	700	597
2	477	12	5.3	a1.4	5.0	a.2	893	940	577	807	702	590
3	406	11	5.3	a1.0	5.0	a.2	880	954	713	804	702	544
4	342	11	5.3	a.8	5.0	a0	756	966	839	802	699	440
5	278	11	5.0	a.6	4.7	1.5	539	960	916	801	723	439
6	280	9.0	5.0	a.4	4.4	4.4	529	958	928	802	710	442
7	318	8.4	5.0	a.2	4.4	4.4	534	954	928	802	688	451
8	327	8.0	5.0	5.8	4.1	4.4	539	953	935	801	689	451
9	240	8.7	5.0	6.8	4.1	4.4	556	953	930	802	689	449
10	164	5.6	5.0	2.9	4.7	4.1	601	953	926	801	690	447
11	161	a.2	5.0	2.9	5.3	4.4	752	952	907	800	689	316
12	174	4.0	5.0	3.8	5.3	4.4	856	954	752	798	686	258
13	176	a.2	2.2	4.1	5.0	4.1	857	954	823	795	689	264
14	170	2.8	a.2	3.8	11	4.1	875	942	926	793	689	268
15	163	5.0	a.2	5.0	221	4.1	892	952	932	732	697	229
16	162	5.0	a.2	4.7	443	3.8	896	944	930	695	699	242
17	137	4.7	a.2	4.7	504	1.5	902	948	930	699	689	264
18	128	4.7	a.2	4.7	543	a0	748	947	932	704	704	270
19	137	a.2	3.1	4.4	563	a0	749	947	932	704	714	247
20	128	a.2	6.8	4.4	562	a0	749	944	932	705	702	214
21	121	3.1	7.1	4.4	562	a0	742	936	930	706	675	178
22	63	6.2	a.2	3.2	555	2.0	814	926	932	713	672	154
23	13	a.2	2.5	2.9	553	4.7	863	924	954	721	669	137
24	13	a.2	5.3	4.7	553	19	872	941	935	727	668	131
25	13	1.2	5.0	4.1	556	63	880	887	932	730	668	130
6	13	1.3	4.1	4.1	557	394	924	734	821	737	639	134
7	13	6.5	3.8	3.2	563	718	938	647	822	734	604	137
8	12	6.2	2.9	a.2	513	856	934	608	826	735	602	190
9	12	6.2	2.6	a.2	-	900	928	540	819	737	599	220
9	12	5.9	2.6	a.2	-	899	928	563	812	718	601	224
1	12	-	a2.0	a.2	-	896	-	566	-	697	599	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,149	484	12	166	10,210
November.....	159.7	12	.2	5.32	317
December.....	112.7	7.1	.2	3.64	224
Calendar year 1945.....	160,222.9	995	0	439	317,800
January.....	91.5	6.8	.2	2.95	181
February.....	7,319.5	563	3.5	261	14,520
March.....	5,006.7	900	0	162	9,930
April.....	23,723	938	529	791	47,050
May.....	27,276	966	540	880	54,100
June.....	25,925	935	574	864	51,420
July.....	23,412	812	695	765	46,440
August.....	20,356	725	599	676	41,570
September.....	9,057	597	130	302	17,960
Water year 1945-46.....	148,188.1	966	0	406	293,900

a No gage-height record; discharge computed or interpolated on basis of 1 discharge measurement and engineer's reports.

STANISLAUS RIVER BASIN

Oakdale Canal near Knights Ferry, Calif.

Location.- Water-stage recorder, lat. $37^{\circ}51'30''$, long. $120^{\circ}38'00''$, in SE $\frac{1}{4}$ sec. 10, T. 1 S., R. 12 E., 1,800 feet downstream from head gate at Goodwin Dam and 4 miles upstream from Knights Ferry. Altitude of gage, about 350 feet (from topographic map).

Records available.- May 1914 to September 1946.

Average discharge.- 28 years (1914-32, 1936-46), 114 second-feet.

Extremes.- Maximum daily discharge during year, 403 second-feet June 22, 23; no flow for several months.

1914-46: Maximum daily discharge, that of June 22, 23, 1946; no flow during periods in each year.

Remarks.- Records good. Canal diverts water from left bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale irrigation district.

Cooperation.- Gage-height record and 21 discharge measurements furnished by Oakdale Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	243					0	87	393	389	397	358	281
2	236					0	86	392	391	395	358	278
3	187					0	86	393	392	396	357	253
4	154					0	85	392	391	395	356	203
5	147					0	103	391	391	395	363	199
6	158					0	112	395	396	394	358	196
7	161					0	114	394	393	394	348	193
8	94					0	179	391	394	393	345	191
9	17					0	242	391	394	392	344	193
10	0					0	296	393	394	391	344	193
11	0					0	333	395	393	389	344	167
12	0					0	335	395	395	388	343	153
13	0					0	355	394	396	386	341	147
14	0					0	368	394	395	385	341	139
15	0					0	382	397	395	373	344	113
16	0					0	388	391	394	368	344	124
17	0					0	390	395	395	364	342	136
18	0					0	380	395	398	359	343	136
19	0					0	370	397	399	358	346	120
20	0					0	370	395	398	357	331	115
21	0					a6	385	395	400	357	311	89
22	0					a6	389	390	403	358	309	74
23	0					a6	392	390	403	358	306	83
24	0					28	390	395	401	364	305	88
25	0					116	391	397	401	368	305	88
26	0					181	392	343	398	374	301	86
27	0					287	389	305	391	374	293	78
28	0					301	392	353	390	373	292	113
29	0					287	392	367	395	376	289	122
30	0					140	391	368	398	367	283	123
31	0					86	-	385	-	358	283	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,397	243	0	45.1	2,770
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1945	66,311.6	400	0	182	131,500
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	1,444	301	0	46.6	2,860
April.....	8,964	392	85	299	17,780
May.....	11,961	397	305	386	23,720
June.....	11,863	403	389	395	23,550
July.....	11,696	397	357	377	23,200
August.....	10,227	363	283	330	20,280
September.....	4,474	281	74	149	8,870
Water year 1945-46.....	62,026	403	0	170	123,000

a No gage-height record; discharge computed on basis of 1 discharge measurement.

Calaveras River at Jenny Lind, Calif.

Location.- Water-stage recorder, lat. 38°05', long. 120°52', in SW $\frac{1}{4}$ sec. 22, T. 3 N., R. 10 E., at bridge on Milton road, 0.2 mile south of Jenny Lind and 6.5 miles downstream from Cosgrove Creek. Altitude of gage, about 220 feet (from topographic map).

Drainage area.- 395 square miles.

Records available.- January 1907 to September 1946.

Average discharge.- 37 years (1908-23, 1924-46), 256 second-feet.

Extremes.- Maximum discharge during year, 5,950 second-feet Dec. 21 (gage height, 9.64 feet); no flow during parts of several months.

1907-46: Maximum gage height observed, 21.0 feet referred to present datum, Jan. 31, 1911 (discharge uncertain); no flow during late summer of most years.

Remarks.- Records good. Flow regulated by Hogan Reservoir at Stockton flood-control dam, by small reservoir on North Fork Calaveras River, by diversion from North Fork into Mokelumne River Basin, and by diversion from North Fork Stanislaus River into Calaveras River above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet) (Backwater corrections applied Nov. 1 to Dec. 4, July 10 to Aug. 29)

Oct. 1 to Mar. 31					Apr. 1 to Sept. 30				
2.2	25	2.9	142	4.5	805	1.6	0.0	2.0	8.0
2.3	34	3.1	204	5.0	1,100	1.8	2.0	2.1	14
2.4	45	3.4	310	6.0	1,790	1.9	4.0	2.3	31
2.5	72	5.7	425	7.0	2,670				
2.7	90	4.1	600	8.0	3,800				

Note.- Same as preceding table above 2.7 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		47	137	359	88	166	1,230	80	50	13	7.2	
2		79	92	306	90	151	866	79	49	13	3.6	
3		58	74	356	252	139	630	75	46	13	.5	
4		43	72	564	299	134	496	69	45	12	0	
5		55	337	1,420	221	126	425	68	41	11	0	
6		32	564	1,060	166	118	375	66	37	9.8	.7	
7		31	285	670	148	112	337	66	36	8.0	1.1	
8		31	160	488	163	108	310	64	35	7.2	.6	
9		30	115	394	178	102	288	59	33	6.4	0	
10		30	90	325	157	100	267	57	33	6.4	0	
11		31	77	285	148	98	245	56	33	6.4	0	
12		53	71	249	148	95	228	54	33	7.2	0	
13		68	68	218	139	105	214	53	31	8.0	0	
14		62	64	201	128	263	201	53	30	5.2	0	
15		58	61	188	120	231	188	54	28	3.2	0	
16		61	39	172	126	175	175	56	27	3.2	0	
17		118	58	165	142	151	166	56	25	4.8	0	
18		142	54	154	137	139	154	57	24	5.6	0	
19		115	52	145	128	145	148	56	23	6.0	0	
20		77	50	137	128	194	137	53	21	5.2	0	
21		64	761	131	148	398	131	51	19	4.8	0	
22		57	3,640	126	188	425	126	51	18	4.4	0	
23		52	3,500	120	194	337	123	53	17	2.4	0	
24		49	2,690	115	169	278	112	56	16	4.0	0	
25		59	2,200	112	157	235	105	57	16	6.8	0	
26		163	2,640	110	148	204	98	66	16	8.0	3.8	
27		110	1,840	105	142	182	92	92	16	8.0	16	
28		77	1,120	102	142	172	88	102	16	8.0	16	
29		142	810	100	-	609	84	80	16	9.8	2.5	
30		169	582	92	-	1,810	82	66	14	8.6	0	
31		-	441	90	-	1,990	-	56	-	8.0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	2,143	169	30	71.4	4,250
December.....	22,764	3,640	50	734	45,150
Calendar year 1945.....	92,761.5	6,770	0	254	184,000
January.....	9,057	1,420	90	292	17,960
February.....	4,394	299	88	157	8,720
March.....	9,492	1,990	95	306	18,830
April.....	8,121	1,230	82	271	16,110
May.....	1,963	102	51	63.3	3,890
June.....	844	50	14	28.1	1,670
July.....	227.4	13	2.4	7.34	451
August.....	52.0	16	0	1.68	103
September.....	0	0	0	0	0
Water year 1945-46.....	59,057.4	3,640	0	162	117,100

Peak discharge.- Dec. 6 (5:30 a.m.) 675 sec.-ft.; Dec. 21 (11 p.m.) 5,950 sec.-ft.; Dec. 26 (9 a.m.) 2,750 sec.-ft.; Jan. 5 (12 m.) 1,560 sec.-ft.; Mar. 31 (12:30 a.m.) 2,320 sec.-ft.

Cosgrove Creek near Valley Springs, Calif.

Location.- Water-stage recorder, lat. 38°09', long. 120°50', in SE $\frac{1}{4}$ sec. 35, T. 4 N., R. 10 E., 0.4 mile upstream from mouth and 2.5 miles south of Valley Springs. Altitude of gage, about 580 feet (from topographic map).

Drainage area.- 20.6 square miles.

Records available.- October 1929 to September 1946.

Average discharge.- 17 years, 8.01 second-feet.

Extremes.- Maximum discharge during year, 3,180 second-feet Dec. 21 (gage height, 8.38 feet), from rating curve extended above 1,400 second-feet on basis of velocity-area studies and logarithmic plotting; no flow for several months.

1929-46: Maximum discharge, that of Dec. 21, 1945; no flow for several months during each year.

Remarks.- Records good except those for periods of no gage-height record, which are poor. No storage or diversion above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.0	0.05	2.5	10.4	3.4	118
2.1	.4	2.6	16	3.7	186
2.2	1.5	2.8	30	4.0	266
2.3	3.4	3.0	52	4.4	412
2.4	6.3	3.2	82		

Discharge, in second-foot, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	a5.5	a7	a1.7	1.7	15	0.1					
2	0	a2.8	a8	a50	1.3	7.9	.1					
3	0	a2.5	38	a40	1.2	5.0	.1					
4	0	a30	129	a20	1.1	4.2	.1					
5	0	a40	57	a10	1.0	3.2	.1					
6	0	10	21	7.4	1.0	2.7	0					
7	0	4.7	14	a6	.9	2.3	0					
8	0	3.4	a11	a5	.8	2.2	0					
9	0	2.3	a9	a4.5	.8	1.8	0					
10	0	1.8	a8	a3.8	.7	1.5	0					
11	0	1.7	a7	a3.3	.6	1.5	0					
12	0	1.5	a6	a3.0	.6	1.3	0					
13	0	1.2	a5	a2.7	2.3	1.2	0					
14	0	1.0	a4.8	a2.5	2.3	1.1	0					
15	a1.0	1.0	a4.4	a2.4	1.2	1.0	0					
16	a2.0	.9	a4.0	a2.3	1.0	.9	0					
17	a1.0	.9	a3.7	a2.2	.8	.7	0					
18	a.6	.8	a3.4	2.2	.7	.7	0					
19	a.5	.7	a3.2	2.2	a1.5	.6	0					
20	a.4	.7	a3.0	2.5	a5.0	.4	0					
21		a.3	400	a2.8	2.9	a9.0	.4	0				
22		a.2	227	a2.7	2.7	4.7	.3	0				
23		a.1	125	a2.6	2.3	2.7	.3	0				
24	a10	52	a2.4	2.2	2.0	.2	0					
25	a5.0	141	a2.3	2.0	1.5	.2	0					
26	a2.0	76	a2.2	2.0	1.2	.1	0					
27	a1.0	58	a2.1	1.8	1.1	.1	0					
28	a15	41	a2.0	1.8	1.6	.1	0					
29	a10	24	a1.9	-	21	.1	0					
30	a5	16	a1.8	-	72	.1	0					
31	-	a10	a1.7	-	17	-	0					

Month	Second-foot-feet	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	52.1	15	0	1.74	103
December	1,279.4	400	.7	41.3	2,540
Calendar year 1945	3,296.8	400	0	9.03	6,540
January	571	129	1.7	12.0	736
February	191.4	50	1.7	6.84	380
March	160.3	72	.6	5.17	318
April	57.1	15	.1	1.90	113
May	.5	.1	0	.02	1.0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1945-46	2,111.8	400	0	5.79	4,190

Peak discharge.- Dec. 21 (10:30 p.m.) 3,180 sec.-ft.; Dec. 22 (8 p.m.) 288 sec.-ft.; Dec. 23 (8:30 a.m.) 372 sec.-ft.; Jan. 4 (3:30 p.m.) 416 sec.-ft.; Mar. 30 (7:30 a.m.) 209 sec.-ft.
a No gage-height record; discharge computed on basis of 3 discharge measurements, recorded range in stage, and records for stations on nearby streams.

Stockton diverting canal at Stockton, Calif.

Location.- Water-stage recorder, lat. 37°59', long. 121°17', in Campo de Los Franceses Grant, 200 feet downstream from bridge on Sanguinetti Lane, at north edge of Stockton, San Joaquin County. Altitude of gage, about 21 feet (from topographic map). Prior to Dec. 11, 1945, staff gage at bridge at same datum.

Records available.- January 1944 to September 1946.

Extremes.- Maximum discharge during year, 4,370 second-feet Dec. 22 (gage height, 7.30 feet); no flow for several months.

1944-46: Maximum discharge, 7,820 second-feet Feb. 3, 1945 (gage height, 9.9 feet, from floodmarks); no flow for several months each year.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Canal carries practically entire flow of Calaveras River, diverting from Mormon Slough at lat. 37°57'36", long. 121°12'06" and discharging into Calaveras River 0.2 mile below station. Mormon Slough diverts from Calaveras River at Bellota. Gage read twice daily prior to Dec. 11.

Cooperation.- Sixteen discharge measurements furnished by Bureau of Reclamation.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 2-27)

Oct. 1 to Dec. 10				Dec. 11 to Sept. 30			
0.1	19	0.9	134	-0.5	0	0.2	29
.2	27	1.1	188	-.4	1	.3	38
.3	37	1.3	255	-.3	3	.4	49
.4	0	1.6	370	-.2	7	.5	62
.5	60	1.8	520	-.1	11	.6	78
.6	91	1.9		0	16	.7	98
				.1	22	.8	149
						.9	215
						1.0	276
						1.1	340
						1.2	405
						1.3	470
						1.4	535
						1.5	600
						1.6	665
						1.7	730
						1.8	795
						1.9	860
						2.0	925
						2.1	990
						2.2	1055
						2.3	1120
						2.4	1185
						2.5	1250
						2.6	1315
						2.7	1380
						2.8	1445
						2.9	1510
						3.0	1575
						3.1	1640
						3.2	1705
						3.3	1770
						3.4	1835
						3.5	1900
						3.6	1965
						3.7	2030
						3.8	2095
						3.9	2160
						4.0	2225
						4.1	2290
						4.2	2355
						4.3	2420
						4.4	2485
						4.5	2550
						4.6	2615
						4.7	2680
						4.8	2745
						4.9	2810
						5.0	2875
						5.1	2940
						5.2	3005
						5.3	3070
						5.4	3135
						5.5	3200
						5.6	3265
						5.7	3330
						5.8	3395
						5.9	3460
						6.0	3525
						6.1	3590
						6.2	3655
						6.3	3720
						6.4	3785
						6.5	3850
						6.6	3915
						6.7	3980
						6.8	4045
						6.9	4110
						7.0	4175
						7.1	4240
						7.2	4305
						7.3	4370
						7.4	4435
						7.5	4500
						7.6	4565
						7.7	4630
						7.8	4695
						7.9	4760
						8.0	4825
						8.1	4890
						8.2	4955
						8.3	5020
						8.4	5085
						8.5	5150
						8.6	5215
						8.7	5280
						8.8	5345
						8.9	5410
						9.0	5475
						9.1	5540
						9.2	5605
						9.3	5670
						9.4	5735
						9.5	5800
						9.6	5865
						9.7	5930
						9.8	5995
						9.9	6060
						10.0	6125

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	125	442	76	130	1,350	53	24			
2		0	88	389	75	141	910	50	20			
3		0	87	380	166	127	705	48	18			
4		0	58	366	455	117	543	45	9.4			
5		0	107	1,560	305	110	450	40	5.8			
6		0	520	1,370	208	103	389	39	0			
7		0	379	915	158	94	354	34	0			
8		0	171	655	158	90	297	30	0			
9		0	122	519	168	86	273	27	0			
10		0	77	410	155	80	245	26	0			
11		0	62	358	158	76	223	21	0			
12		0	57	277	136	72	204	19	0			
13		0	49	226	133	80	184	22	0			
14		0	45	204	122	108	171	16	0			
15		0	40	190	112	234	155	17	0			
16		0	36	171	110	171	144	16	0			
17		a1	35	152	127	158	138	17	0			
18		a20	32	141	133	125	125	20	0			
19		a90	30	133	125	117	112	18	0			
20		68	28	130	117	130	105	18	0			
21		a50	30	122	125	250	105	14	0			
22		a40	3,170	117	148	406	100	14	0			
23		a30	3,960	108	174	347	94	16	0			
24		a25	a3,000	100	161	277	90	15	0			
25		a22	a2,300	96	144	226	82	16	0			
26		24	2,730	92	136	184	75	21	0			
27		111	2,560	90	127	158	72	30	0			
28		71	1,540	86	122	144	70	55	0			
29		60	1,000	84	-	216	65	56	0			
30		111	740	80	-	1,140	58	42	0			
31		-	534	75	-	1,930	-	31	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	723	111	0	24.1	1,430
December.....	23,512	3,960	28	758	46,640
Calendar year 1945	93,237	7,430	0	255	184,900
January.....	10,038	1,560	75	324	19,910
February.....	4,292	455	75	153	8,510
March.....	7,587	1,930	72	245	15,050
April.....	7,866	1,350	58	262	15,600
May.....	884	56	14	28.5	1,750
June.....	772	24	0	2.57	153
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	54,979.2	3,960	0	151	109,000

a No gage-height record; discharge computed on basis of 1 discharge measurement, observer's notes, weather records, and records for Calaveras River at Jenny Lind.

BEAR CREEK BASIN

Bear Creek near Lockeford, Calif.

Location. - Water-stage recorder and concrete control, lat. 38°09'15", long. 121°08'15", in NW 1/4 sec. 31, T. 4 N., R. 8 E., at county road bridge 0.8 mile southeast of Lockeford. Altitude of gage, about 90 feet (from topographic map).

Drainage area. - 48.4 square miles.

Records available. - November 1930 to September 1933, October 1943 to September 1946. October 1925 to November 1930 at site 3 miles downstream.

Extremes. - Maximum discharge during year, 336 second-feet Dec. 23 (gage height, 6.20 feet); no flow for several months. 1930-33, 1943-46: Maximum discharge, 2,260 second-feet Feb. 2, 1945 (gage height, 14.45 feet), from rating curve extended above 1,900 second-feet; no flow for several months each year.

Remarks. - Records good. No storage or diversion above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	7.7	0.6	0.8	14					
2			0	6.3	.8	.6	9.4					
3			0	12	29	.5	5.3					
4			0	29	43	.4	4.4					
5			17	86	13	.3	2.8					
6			11	26	7.7	.3	2.0					
7			1.8	13	6.3	.2	1.6					
8			.5	14	5.3	.3	1.3					
9			0	7.7	3.9	.3	1.2					
10			0	5.6	3.2	.2	.9					
11			0	4.7	3.0	.2	.7					
12			0	3.4	2.8	.2	.6					
13			0	3.2	2.0	.2	.5					
14			0	2.8	1.8	.3	.5					
15			0	2.6	1.8	.5	.4					
16			0	2.2	1.6	.4	.4					
17			0	2.0	1.8	.4	.3					
18			0	1.8	1.6	.3	.3					
19			0	1.5	1.5	.3	.4					
20			0	1.3	1.8	.4	.4					
21			0	1.3	2.8	.9	.2					
22			148	1.2	2.8	1.5	.1					
23			164	1.2	2.4	1.2	.1					
24			59	1.0	2.0	.7	.1					
25			137	1.0	1.6	.5	0					
26			89	1.0	1.5	.4	0					
27			61	.9	1.2	.4	0					
28			55	.9	1.0	.3	0					
29			24	.8	-	14	0					
30			16	.7	-	22	0					
31			11	.8	0	16						
Month				Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet			
October.....				0		0	0	0	0			
November.....				0		0	0	0	0			
December.....				794.4		164	0	25.6	1,580			
Calendar year 1945.....				4,490.0		1,250	0	12.3	8,900			
January.....				243.6		86	.7	7.86	483			
February.....				147.8		43	.6	5.28	293			
March.....				65.0		22	.2	2.10	129			
April.....				47.9		14	0	1.60	95			
May.....				0		0	0	0	0			
June.....				0		0	0	0	0			
July.....				0		0	0	0	0			
August.....				0		0	0	0	0			
September.....				0		0	0	0	0			
Water year 1945-46.....				1,298.6		164	0	3.56	2,580			

Salt Springs Reservoir near West Point, Calif.

Location.- Staff gage, lat. 38°30', long. 120°12', in SE $\frac{1}{4}$ sec. 33, T. 8 N., R. 16 E., at Salt Springs Dam on North Fork Mokelumne River, 2 miles upstream from Cold Creek and 18 miles northeast of West Point. Datum of gage is 3,700 feet above mean sea level; gage readings have been reduced to elevations above mean sea level.

Drainage area.- 160 square miles.

Records available.- March 1931 to September 1946.

Extremes.- Maximum contents during year, not observed, probably occurred on June 3; minimum observed, 208 acre-feet Feb. 9 (elevation, 3,709.2 feet).

1931-46: Maximum contents observed, 131,000 acre-feet June 1, 1943 (elevation, 3,948.6 feet); no contents Jan. 30 to Feb. 5, Feb. 18-26, 1932, Mar. 1-25, 1933, Jan. 29-31, 1945.

Remarks.- Reservoir is formed by concrete-faced rock-fill dam, completed in 1931; storage began in March 1931. Capacity, 129,500 acre-feet between elevations 3,707.25 feet (powerhouse intake) and 3,947.0 feet (crest of spillway) above mean sea level. Additional storage of 1,860 acre-feet is available for release to river through outlet drain at elevation 3,667.75 feet. Water is released through powerhouse just below dam and discharged into Tiger Creek powerhouse conduit (see p. 279). Records show contents available at 5 p.m. for use through powerhouse.

Cooperation.- Record of contents, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66,900	45,400	39,200	12,700	332	1,890	13,700	82,200	130,300	128,000	-	89,000
2	66,100	45,100	39,000	7,320	309	2,520	-	83,900	-	-	-	88,200
3	64,900	45,400	39,700	2,770	367	3,150	-	-	-	-	-	-
4	63,800	45,700	-	654	332	3,630	14,900	91,900	-	125,300	-	-
5	62,800	45,700	-	617	332	3,420	15,400	95,900	-	125,000	-	85,000
6	61,800	45,600	37,700	617	344	3,270	16,100	100,100	-	124,400	112,600	84,000
7	60,800	45,400	37,100	593	355	3,250	16,900	102,900	-	123,600	-	82,900
8	59,600	44,400	36,700	532	231	3,320	17,400	105,000	-	122,900	-	82,000
9	58,600	44,000	36,200	508	208	3,620	-	104,800	-	-	110,200	81,100
10	57,500	43,900	35,800	532	378	4,020	-	104,600	-	-	109,300	-
11	56,700	43,700	-	520	496	4,450	18,400	104,000	-	120,500	-	-
12	55,800	43,600	34,900	460	332	-	19,400	103,500	-	119,800	-	78,100
13	54,700	43,400	34,000	460	556	5,310	20,800	103,900	-	119,600	106,700	-
14	54,100	43,200	32,600	460	449	5,350	22,200	-	-	119,200	-	76,200
15	53,300	42,800	30,900	460	568	5,650	24,100	-	-	118,900	104,800	75,200
16	52,300	42,700	29,300	460	568	6,120	26,500	108,000	-	118,400	103,700	74,200
17	51,200	42,500	27,800	425	508	6,730	-	111,000	-	-	102,800	-
18	50,300	42,600	26,100	437	484	7,260	32,800	114,600	-	117,900	101,900	-
19	49,600	42,200	22,300	413	484	-	37,000	118,500	129,100	-	101,000	71,300
20	48,400	41,600	20,700	413	484	-	40,100	121,900	128,900	117,100	-	70,300
21	47,700	41,200	20,300	401	508	8,110	43,000	-	128,800	117,100	-	69,400
22	46,800	41,200	19,800	401	520	8,580	45,600	-	128,600	-	98,300	68,500
23	45,800	40,800	19,800	390	532	8,680	49,000	127,900	128,400	-	97,400	67,600
24	44,800	40,500	19,800	413	556	9,000	53,000	128,900	128,200	-	96,500	-
25	43,900	40,600	20,000	425	593	9,460	57,800	129,900	128,100	115,900	95,600	-
26	42,800	40,400	19,700	401	605	-	62,600	130,300	128,500	115,700	94,800	64,800
27	41,800	40,100	19,700	390	629	-	65,900	130,000	128,300	115,600	-	-
28	40,800	39,800	20,500	413	956	11,000	69,900	-	128,300	115,600	-	63,100
29	39,900	39,800	19,800	413	-	12,000	74,400	-	128,300	115,600	91,900	62,200
30	39,300	39,500	17,900	367	-	13,200	78,400	130,000	128,200	-	90,900	61,300
31	39,300	-	16,600	355	-	14,000	-	130,100	-	115,500	89,600	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	3,871.9	67,700	-
Oct. 31.....	3,826.6	39,300	-28,400
Nov. 30.....	3,827.0	39,500	+200
Dec. 31.....	3,777.1	16,600	-22,900
Calendar year 1945....	-	-	+5,800
Jan. 31.....	3,710.5	355	-16,200
Feb. 29.....	3,715.2	936	+581
Mar. 31.....	3,759.8	14,000	+13,100
Apr. 30.....	3,886.5	78,400	+64,400
May 31.....	3,947.6	130,100	+51,700
June 30.....	3,945.6	128,200	-1,900
July 31.....	3,931.5	115,500	-12,700
Aug. 31.....	3,901.2	89,800	-25,700
Sept. 30.....	3,862.8	61,300	-28,500
Water year 1945-46....	-	-	-6,400

North Fork Mokelumne River below Salt Springs Dam, Calif.

Location.- Water-stage recorder, lat. 38°29', long. 120°13', in SW¹/₄ sec. 33, T. 8 N., R. 16 E., 0.3 mile downstream from Salt Springs Dam and 1.7 miles upstream from Cold Creek. Altitude of gage, about 3,600 feet (from topographic map).

Drainage area.- 160 square miles.

Records available.- September 1926 to September 1946.

Average discharge.- 19 years (1927-46), 443 second-feet (combined flow of North Fork Mokelumne River and Tiger Creek powerhouse conduit).

Extremes.- Maximum discharge during year, 3,300 second-feet (regulated) Dec. 31 (gage height, 9.25 feet); minimum, 1.3 second-feet (regulated) Feb. 19, Mar. 9-12. 1926-46: Maximum discharge, 8,740 second-feet Mar. 25, 1928 (gage height, 15.62 feet, present datum), from rating curve extended above 4,000 second-feet; minimum, 0.2 second-foot (regulated) Mar. 31, 1931.

Remarks.- Records good. Flow regulated by Salt Springs Reservoir (see preceding page) and diversion in Tiger Creek powerhouse conduit (see p. 279).

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 12

Dec. 13 to Sept. 30

1.3	1.0	1.2	1.0	1.8	11.5	3.3	170	6.0	1,170
1.4	2.0	1.3	1.6	2.0	19	3.7	260	7.0	1,740
1.5	3.4	1.4	2.5	2.3	36	4.1	374	8.0	2,400
1.6	5.6	1.5	3.8	2.6	61	4.5	506	9.0	3,110
		1.6	5.8	2.9	98	5.0	695		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	2.7	2.8	2,620	186	1.5	3.2	290	1,810	479	11	7.1
2	4.1	2.4	2.7	2,900	147	1.5	2.9	615	1,940	422	11	7.1
3	3.8	2.4	2.7	2,510	197	1.5	2.9	615	2,070	152	11	7.1
4	3.8	2.3	3.6	868	192	1.7	2.9	607	2,010	13	11	6.8
5	4.1	2.3	4.7	486	144	1.7	2.9	635	1,880	113	11	6.6
6	4.1	2.0	4.1	412	197	1.5	2.9	837	1,530	113	10	6.3
7	3.8	1.8	3.8	400	192	1.4	2.9	1,510	1,290	113	10	6.3
8	3.3	1.7	3.8	338	192	1.4	2.8	2,030	1,240	13	10	6.1
9	3.0	1.7	3.4	314	124	1.3	2.6	2,360	1,250	13	9.6	6.1
10	2.8	1.8	3.4	311	152	1.3	2.5	2,360	1,210	13	9.6	6.1
11	3.0	2.3	3.3	281	98	1.3	2.5	2,200	1,050	13	9.6	5.8
12	2.7	3.1	3.1	265	239	1.4	2.4	2,050	995	13	9.6	5.8
13	2.6	3.4	343	265	48	223	2.5	1,800	990	12	9.3	5.6
14	2.6	3.5	575	263	169	125	2.5	1,520	910	12	9.3	5.4
15	2.6	4.1	639	254	1.9	2.3	2.9	936	843	12	9.3	5.2
16	2.4	4.7	587	263	1.5	2.0	2.9	651	789	12	9.3	4.8
17	2.3	4.3	595	253	1.5	1.9	3.0	659	719	12	8.7	4.4
18	2.3	4.3	860	258	1.7	1.9	3.2	671	723	12	8.7	4.2
19	2.3	4.1	1,600	246	1.4	1.8	6.2	679	699	12	8.7	4.0
20	2.3	3.6	125	234	1.4	2.1	3.4	687	605	12	8.4	3.8
21	2.3	3.6	1,100	224	1.4	2.2	3.4	695	620	12	8.4	3.7
22	2.3	3.3	1,470	214	1.4	2.1	9.2	1,010	582	12	8.1	3.5
23	2.3	2.8	687	210	1.4	2.1	6.3	695	409	12	8.1	3.5
24	2.1	3.1	416	224	1.4	2.0	6.3	695	616	11	7.9	3.4
25	2.0	4.3	694	238	1.5	1.9	19	870	224	11	7.9	3.4
26	2.1	3.3	530	229	1.5	1.9	68	1,640	161	11	7.9	3.4
27	2.1	3.0	370	217	1.5	2.0	66	1,360	282	11	7.6	3.3
28	2.0	3.0	697	214	1.6	2.2	66	1,240	252	11	7.6	3.2
29	3.0	3.0	2,140	205	-	4.0	70	1,290	249	11	7.4	3.2
30	5.2	3.0	1,920	192	-	3.8	69	1,430	583	11	7.4	3.2
31	3.8	-	1,870	186	-	3.4	-	1,670	-	11	7.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	91.2	5.2	2.0	2.84	181
November.....	90.7	4.7	1.7	3.02	180
December.....	17,259.4	2,140	2.7	557	34,230
Calendar year 1945.....	99,131.3	2,630	.4	272	196,800
January.....	16,094	2,900	186	519	31,920
February.....	2,298.1	239	1.4	82.1	4,560
March.....	405.1	223	1.3	13.1	804
April.....	443.2	70	2.4	14.8	879
May.....	36,307	2,360	290	1,171	72,010
June.....	28,531	2,070	161	951	56,590
July.....	1,390	479	11	44.8	2,760
August.....	280.5	11	7.1	9.05	556
September.....	148.4	7.1	3.2	4.95	294
Water year 1945-46.....	103,338.6	2,900	1.3	283	205,000

a No gage-height record; discharge interpolated.

Mokelumne River near Mokelumne Hill, Calif.

Location.- Water-stage recorder, lat. 38°18'40", long. 120°43'10", in sec. 1, T. 5 N., R. 11 E., at highway bridge, 1.2 miles northwest of Mokelumne Hill and 8 miles downstream from confluence of North and South Forks. Altitude of gage, about 650 feet (from topographic map).

Drainage area.- 538 square miles.

Records available.- November 1927 to September 1946.

Average discharge.- 18 years (1928-46), 899 second-feet.

Extremes.- Maximum discharge during year, 6,740 second-feet Dec. 21 (gage height, 8.66 feet); minimum, 101 second-feet (regulated) July 22.
1927-46: Maximum discharge, 23,300 second-feet Mar. 25, 1928 (gage height, 16.10 feet), from rating curve extended above 11,000 second-feet on basis of velocity-area studies; minimum, 14 second-feet Oct. 27, 1929.

Remarks.- Records excellent. Flow regulated by Salt Springs Reservoir (see p. 273), several smaller reservoirs, three power plants, and several diversions above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.4	252	3.4	705	5.4	2,300
2.6	328	3.8	945	6.0	2,970
2.8	408	4.2	1,220	7.0	4,220
3.1	550	4.8	1,720	8.3	6,160

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	342	545	575	3,860	666	766	1,090	1,680	2,620	838	495	443
2	515	495	426	4,180	678	610	1,070	2,330	2,550	832	520	476
3	550	462	426	3,960	590	466	1,040	2,280	2,910	790	500	550
4	560	426	565	2,720	661	565	1,010	2,440	2,850	439	476	515
5	535	525	820	2,000	590	844	1,030	2,380	2,710	259	490	530
6	500	550	814	1,540	590	772	997	2,530	2,230	530	505	540
7	457	600	766	1,380	615	862	790	3,090	1,860	610	490	540
8	520	620	705	1,320	605	880	850	3,340	1,670	605	490	495
9	515	500	575	1,110	570	886	1,020	3,860	1,630	630	457	462
10	585	490	570	1,070	540	796	952	3,800	1,710	590	452	495
11	570	540	615	1,070	590	868	945	3,500	1,570	595	412	595
12	575	515	661	1,010	486	868	945	3,250	1,410	595	421	490
13	570	560	620	868	545	1,340	1,090	3,080	1,350	585	486	457
14	408	610	971	855	535	1,360	1,090	2,850	1,270	490	515	490
15	317	678	1,140	893	630	1,070	1,140	2,370	1,160	530	550	366
16	580	744	990	862	672	766	1,460	1,770	1,040	575	540	540
17	560	808	1,020	832	490	722	1,600	1,960	1,000	379	540	605
18	580	630	1,140	802	457	784	1,760	2,020	990	635	395	520
19	550	550	1,980	838	625	945	1,760	2,080	925	466	412	525
20	560	705	1,300	727	656	912	1,700	2,020	814	520	510	545
21	383	722	2,430	760	656	912	1,400	2,000	802	300	495	486
22	457	615	6,020	700	705	893	1,340	1,870	790	318	490	426
23	505	625	3,990	716	694	874	1,690	1,500	700	525	495	448
24	530	645	2,330	705	635	727	1,810	1,460	550	505	466	495
25	520	620	3,110	722	656	683	2,070	1,570	640	550	338	505
26	505	565	3,200	716	738	826	2,080	2,700	443	530	426	500
27	540	590	2,120	625	710	932	1,830	2,420	316	520	500	476
28	462	672	2,540	672	880	919	1,820	2,030	363	430	490	452
29	476	716	4,160	568	-	1,300	1,860	1,980	395	481	461	374
30	1,090	656	3,880	672	-	1,450	1,750	2,070	551	476	515	356
31	839	-	2,970	656	-	1,150	-	2,370	-	520	520	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	16,656	1,090	317	537	33,040
November	17,979	808	426	599	35,660
December	53,429	6,020	426	1,724	106,000
Calendar year 1945	410,567	11,300	292	1,125	814,400
January	39,530	4,180	625	1,275	78,410
February	17,465	880	457	624	34,640
March	27,748	1,450	466	895	55,040
April	40,989	2,080	790	1,366	81,300
May	74,600	3,860	1,460	2,406	148,000
June	39,840	2,910	316	1,328	79,020
July	16,648	838	259	537	35,020
August	14,872	550	338	480	29,500
September	14,677	605	356	489	29,110
Water year 1945-46	374,433	6,020	259	1,026	742,700

MOKELUMNE RIVER BASIN

Mokelumne River at Lancha Plana, Calif.

Location.- Water-stage recorder, lat. 38°13'25", long. 120°53'20", in SW¼ sec. 4, T. 4 N., R. 10 E., 1 mile east of Lancha Plana, 3 miles downstream from Pardee Dam, and 5 miles upstream from Camanche Creek. Datum of gage is 158.95 feet above mean sea level (levels by East Bay Municipal Utility District).

Drainage area.- 584 square miles.

Records available.- June 1926 to September 1946.

Average discharge.- 17 years (1929-46), since start of East Bay aqueduct diversion, 851 second-feet.

Extremes.- Maximum discharge during year, 4,030 second-feet (regulated) Dec. 23 (gage height, 7.43 feet); minimum, 44 second-feet (regulated) July 19.
1926-46: Maximum discharge, 27,300 second-feet Mar. 25, 1928 (gage height, 19.65 feet), from rating curve extended above 15,500 second-feet on basis of velocity-area studies; minimum, 5.5 second-feet Nov. 21, 1929.

Remarks.- Records excellent. Flow regulated by Pardee Reservoir (capacity, 209,600 acre-feet), Salt Springs Reservoir (see p. 273), several smaller reservoirs, four power plants, and several diversions above station. East Bay Municipal Utility District aqueduct is largest diversion not returned to river above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

				1.8	149	2.7	412	4.7	1,580				
				1.9	170	3.0	542	5.2	1,970				
				2.1	218	3.4	742	5.7	2,390				
				2.3	274	3.8	970	6.2	2,840				
				2.5	338	4.2	1,220	7.4	4,000				

Discharge, in second-feet, water year October 1945 to September 1946												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	483	268	524	3,690	675	610	542	1,860	1,410	453	566	312
2	505	265	542	3,870	685	695	576	1,850	2,190	492	449	218
3	547	248	524	3,890	675	349	680	1,850	2,390	462	470	470
4	576	198	566	3,900	680	605	675	1,860	2,390	416	229	474
5	670	268	566	3,890	680	685	675	1,870	2,390	453	487	451
6	670	382	655	3,870	690	690	675	1,870	2,070	449	474	650
7	290	322	524	2,500	690	680	283	1,870	1,140	240	470	655
8	462	349	519	1,340	690	690	501	1,870	640	449	404	270
9	556	356	457	1,340	690	537	675	1,860	610	453	437	483
10	655	349	537	1,090	528	268	675	1,870	1,040	479	424	484
11	635	404	542	946	528	537	571	1,870	1,320	462	184	459
12	675	556	561	958	685	680	675	1,880	1,120	487	445	501
13	630	505	561	958	685	595	571	1,870	928	404	479	445
14	665	660	1,120	813	685	695	922	1,870	958	268	514	473
15	528	660	1,460	685	695	690	940	1,870	1,030	492	479	240
16	547	665	1,750	680	695	600	982	1,870	958	457	479	477
17	571	670	1,750	685	389	302	1,830	1,880	922	441	453	468
18	496	342	1,730	695	576	537	1,820	1,890	764	401	162	447
19	487	496	1,710	685	690	690	1,870	1,880	732	401	441	452
20	585	660	2,070	670	690	605	1,870	1,890	742	404	496	464
21	191	650	2,150	680	690	576	1,830	1,890	645	149	496	440
22	271	510	2,440	690	690	600	1,830	1,870	645	474	445	284
23	331	580	3,530	685	528	576	1,840	1,840	561	457	453	510
24	331	670	3,910	670	496	293	1,840	1,880	561	432	424	552
25	331	466	3,880	685	537	547	1,860	1,880	552	437	198	441
26	274	514	3,840	650	695	685	1,860	1,890	605	416	445	461
27	232	566	3,840	645	640	595	1,840	1,910	640	449	470	406
28	166	561	3,640	675	645	605	1,870	1,890	528	245	453	426
29	268	556	3,820	675	-	537	1,860	1,880	640	457	432	322
30	315	528	3,770	680	-	561	1,850	1,880	338	432	428	446
31	229	-	3,830	665	-	397	-	1,390	-	370	312	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	14,172	675	166	457	28,110
November	14,224	670	198	474	28,210
December	57,318	3,910	457	1,849	113,700
Calendar year 1945	568,263	5,000	158	1,009	730,500
January	44,555	3,900	645	1,437	88,370
February	17,922	695	389	640	35,550
March	17,712	695	268	571	35,130
April	36,488	1,870	283	1,216	72,370
May	57,600	1,910	1,390	1,858	114,200
June	31,459	2,390	338	1,049	62,400
July	12,681	492	149	416	25,550
August	13,098	566	162	423	25,980
September	13,201	655	218	440	26,180
Water year 1945-46	330,630	3,910	149	906	655,800

Mokelumne River near Clements, Calif.

Location.- Water-stage recorder, lat. 38°12'25", long. 121°05'20", in NW 1/4 sec. 15, T. 4 N., R. 8 E., 700 feet upstream from highway bridge, 1 mile north of Clements, and 3 miles downstream from Murphy Creek. Datum of gage is 67.16 feet above mean sea level (levels by East Bay Municipal Utility District).

Drainage area.- 630 square miles.

Records available.- October 1904 to September 1946.

Average discharge.- 24 years (1904-28), 1,110 second-feet; 17 years (1929-46), 857 second-feet. (Storage and diversion by East Bay Municipal Utility District began March 1929.)

Extremes.- Maximum discharge during year, 4,220 second-feet (regulated) Dec. 24 (gage height, 10.10 feet); minimum, 64 second-feet (regulated) Aug. 11.
1904-46: Maximum discharge, 25,600 second-feet Mar. 25, 1928 (gage height, 22.45 feet, site and datum then in use), from rating curve extended above 4,600 second-feet and verified by comparison with records for Mokelumne River at Lancha Plana; no flow July 9, Aug. 15, 20-23, 1924.

Remarks.- Records good. Flow regulated by storage, power plants, and many diversions; see "Remarks" for Mokelumne River at Lancha Plana.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	452	234	525	3,660	553	580	517	1,800	1,160	407	534	260
2	478	269	556	3,830	675	682	592	1,800	1,980	472	432	278
3	526	262	546	3,870	712	420	679	1,800	2,230	480	420	360
4	583	220	586	3,950	547	719	679	1,800	2,290	424	312	450
5	638	254	621	3,940	679	614	675	1,800	2,290	450	368	506
6	638	260	664	3,840	682	682	675	1,800	2,070	424	496	620
7	412	332	539	2,980	682	675	392	1,800	1,300	328	450	627
8	344	341	538	1,300	682	679	423	1,800	642	356	406	352
9	535	356	478	1,270	682	547	668	1,790	609	446	414	379
10	631	356	542	1,110	581	354	668	1,800	889	470	418	502
11	598	350	548	912	496	473	582	1,810	1,240	456	259	438
12	642	532	566	920	679	679	668	1,820	1,120	476	304	469
13	609	510	538	920	682	596	526	1,810	920	472	431	457
14	642	642	1,030	854	682	686	896	1,810	904	270	487	452
15	524	653	1,280	675	690	686	912	1,810	1,000	426	466	335
16	530	653	1,670	664	690	602	912	1,820	948	488	458	360
17	557	653	1,680	671	453	374	1,600	1,820	896	424	436	467
18	496	397	1,660	668	543	496	1,740	1,830	797	402	365	445
19	500	468	1,660	660	682	679	1,770	1,830	723	394	289	428
20	575	645	1,860	642	690	601	1,760	1,830	749	403	478	438
21	312	645	2,170	653	690	583	1,760	1,830	649	252	479	454
22	264	513	2,556	668	686	599	1,760	1,830	658	334	450	341
23	329	579	3,300	668	564	586	1,760	1,810	583	447	428	409
24	329	664	3,960	653	502	364	1,760	1,820	601	453	419	546
25	332	492	4,030	664	517	500	1,780	1,830	556	404	292	466
26	308	526	3,890	638	682	676	1,780	1,860	609	418	334	451
27	251	565	3,870	631	636	598	1,760	1,860	642	431	460	428
28	202	569	3,660	684	656	610	1,780	1,840	537	250	448	427
29	240	593	3,790	653	-	647	1,800	1,820	631	406	426	299
30	320	555	3,790	671	-	634	1,790	1,830	406	440	426	428
31	263	-	3,760	653	-	497	-	1,530	-	358	356	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	14,080	642	202	454	27,930
November.....	14,108	664	220	470	27,980
December.....	56,857	4,030	478	1,834	112,800
Calendar year 1945.....	375,620	5,330	192	1,029	745,000
January.....	44,552	3,950	631	1,437	88,370
February.....	17,949	712	453	641	35,600
March.....	17,945	686	354	579	35,590
April.....	35,074	1,800	392	1,169	69,570
May.....	56,040	1,860	1,530	1,808	111,200
June.....	30,689	2,290	406	1,025	60,870
July.....	12,641	488	250	406	25,070
August.....	12,705	534	259	410	25,200
September.....	12,872	627	260	429	25,530
Water year 1945-46.....	325,512	4,030	202	892	645,700

d Doubtful gage-height record; discharge computed on basis of 1 discharge measurement, trend of recorded gage heights, and records for station at Lancha Plana.

Mokelumne River at Woodbridge, Calif.

Location.- Water-stage recorder, lat. 38°09'30", long. 121°18'10", in NE¹/₄ sec. 34, T. 4 N., R. 6 E., at Woodbridge, 0.4 mile downstream from dam and canal intake of Woodbridge Irrigation District. Datum of gage is 14.9 feet above mean sea level (levels by East Bay Municipal Utility District).

Drainage area.- 644 square miles.

Records available.- May 1924 to September 1946 (for 1924 and 1925, low-water records only).

Average discharge.- 17 years (1929-46), since start of diversion through East Bay Municipal Utility District aqueduct, 698 second-feet.

Extremes.- Maximum discharge during year, 3,920 second-feet (regulated) Jan. 5 (gage height, 15.93 feet); minimum, 23 second-feet (regulated) July 29.

1924-46: Maximum gage height, 26.58 feet, datum then in use (about 30.6 feet, present datum), Mar. 26, 1928 (discharge not determined); minimum discharge, 0.9 second-foot (regulated) Sept. 3, 1924.

Remarks.- Records good. Flow regulated by storage, power plants, and many diversions including Woodbridge Canal (see p. 284); see "Remarks" for Mokelumne River at Lancha Plana.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	571	a550	3,660	667	623	431	1,420	889	60	24	62
2	196	275	a520	3,610	675	653	467	1,430	1,210	35	29	32
3	208	261	517	3,710	703	663	567	1,430	1,600	32	30	29
4	242	244	535	3,780	707	414	495	1,430	1,830	31	30	29
5	300	309	583	3,880	691	599	521	1,470	1,870	30	28	36
6	351	258	621	3,870	683	635	553	1,460	1,900	29	27	214
7	337	269	591	3,820	687	665	513	1,440	1,660	29	28	247
8	146	320	535	2,760	681	661	184	1,420	651	28	28	230
9	257	324	522	1,610	679	629	349	1,410	426	26	28	47
10	378	340	467	1,420	647	537	455	1,410	373	26	29	40
11	526	327	529	1,110	541	310	418	1,410	760	26	29	150
12	515	384	535	1,030	607	563	374	1,440	860	26	27	127
13	521	565	533	1,000	663	623	405	1,450	659	27	26	151
14	513	535	675	980	667	607	440	1,420	545	27	26	120
15	461	615	1,020	805	669	649	687	1,360	571	26	27	157
16	397	615	1,410	727	673	623	593	1,390	595	26	26	49
17	403	655	1,580	711	617	561	818	1,410	555	26	29	57
18	386	587	1,610	701	443	189	1,290	1,420	429	26	29	169
19	355	349	1,620	691	645	92	1,380	1,430	283	25	26	137
20	365	527	1,620	683	689	630	1,440	1,460	286	26	25	126
21	368	603	1,950	669	693	527	1,320	1,380	259	26	25	151
22	149	561	2,150	673	681	517	1,450	1,430	226	25	28	141
23	127	517	2,400	673	661	517	1,490	1,460	247	24	29	42
24	90	579	2,980	671	569	513	1,440	1,380	168	24	43	237
25	120	585	3,630	665	501	291	1,430	1,450	135	24	87	241
26	117	455	3,810	667	627	401	1,430	1,500	99	24	28	131
27	90	521	3,770	645	659	625	1,440	1,500	106	25	28	170
28	74	543	3,690	661	655	519	1,450	1,460	112	26	28	147
29	60	565	3,570	665	-	591	1,460	1,460	87	24	29	153
30	80	a580	3,620	671	-	605	1,440	1,470	147	24	30	62
31	211	-	3,650	673	-	581	-	1,480	-	24	68	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,445	526	60	272	16,750
November.....	13,849	655	244	462	27,470
December.....	51,792	3,810	467	1,671	102,700
Calendar year 1945.....	299,924	5,110	49	822	594,900
January.....	47,891	3,880	645	1,545	94,990
February.....	18,080	707	443	646	35,860
March.....	16,613	661	92	536	32,950
April.....	27,030	1,620	184	901	53,610
May.....	44,500	1,500	1,380	1,435	88,260
June.....	19,518	1,900	87	651	38,710
July.....	855	60	24	27.6	1,700
August.....	976	87	24	31.5	1,940
September.....	3,684	247	29	123	7,310
Water year 1945-46.....	253,233	3,880	24	694	502,200

a No gage-height record; discharge computed on basis of recorded range in stage and records for station near Clements.

Tiger Creek powerhouse conduit below Salt Springs Dam, Calif.

Location.- Water-stage recorder and concrete control, lat. 38°30', long. 120°13', in SW $\frac{1}{4}$ Sec. 33, T. 8 N., R. 16 E., 1,000 feet downstream from Salt Springs Dam and powerhouse. Altitude of gage, about 3,700 feet (from topographic map).

Records available.- June 1931 to September 1946.

Average discharge.- 15 years, 249 second-feet.

Extremes.- Maximum daily discharge during year, 553 second-feet Oct. 3; no flow at times. 1931-46: Maximum daily discharge, 577 second-feet June 22, 1945; no flow at times in each year.

Remarks.- Records excellent. Conduit conveys water of North Fork Mokelumne River from tailface of Salt Springs powerhouse to forebay of Tiger Creek powerhouse, picking up water en route from Bear River and several small creeks.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	468	309	299	0.7	0	0.2	167		0	218	487	466
2	552	375	233	172	1.2	.5	178		0	259	496	486
3	553	250	397	146	1.2	.1	174		0	253	476	528
4	547	264	343	.5	0	202	185		0	233	451	529
5	552	352	369	.5	1.3	298	170		0	384	487	529
6	540	421	469	.1	0	322	0		0	506	480	529
7	480	448	468	0	0	332	0		0	516	480	526
8	511	365	456	0	0	295	210		0	514	458	522
9	512	325	398	0	.2	282	199		0	517	464	459
10	526	344	426	0	.2	277	2188		0	517	400	528
11	552	276	439	0	0	291	2117		0	517	400	522
12	552	356	395	0	.6	316	2144		0	518	493	498
13	508	365	398	0	0	190	2140		0	517	493	504
14	249	388	388	0	32	224	2140		0	458	496	496
15	506	386	388	0	163	219	2140		0	495	516	476
16	541	396	246	0	193	148	0		0	354	514	500
17	535	389	384	0	188	.1	0		0	440	500	502
18	532	280	386	0	179	197	0		0	508	396	504
19	528	433	400	0	175	172	0		0	488	498	506
20	498	436	418	0	175	183	0		0	382	493	481
21	415	424	249	0	180	190	0		0	210	494	481
22	480	432	187	0	185	197	0		0	454	487	395
23	510	420	50	0	183	190	0		0	474	488	476
24	506	408	14	0	186	.4	0		0	468	458	482
25	502	452	2.3	0	192	188	0		0	468	398	480
26	496	368	2.8	0	188	212	0		.1	470	486	482
27	492	410	5.2	0	193	158	0		115	468	486	458
28	470	339	1.9	0	83	129	0		48	392	486	442
29	466	336	2.5	0	-	88	0		80	487	496	347
30	362	372	1.3	0	-	36	0		107	462	512	472
31	220	-	2.1	0	-	32	-		-	433	504	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	15,161	553	220	489	30,070
November.....	10,839	448	152	361	21,500
December.....	8,186.1	469	1.3	264	16,240
Calendar year 1945.....	108,032.2	577	0	296	214,300
January.....	319.8	172	0	10.3	634
February.....	2,498.7	193	0	89.2	4,960
March.....	5,349.1	332	.1	173	10,610
April.....	1,632	210	0	54.4	3,240
May.....	0	0	0	0	0
June.....	330.1	115	0	11.0	655
July.....	13,376	518	210	431	26,530
August.....	14,773	516	396	477	29,300
September.....	14,606	529	347	487	28,970
Water year 1945-46.....	87,070.8	553	0	239	172,700

a No gage-height record; discharge computed on basis of powerhouse records.

g Computed from graph based on recorded range in stage and powerhouse records.

MOKELUMNE RIVER BASIN

Cold Creek near Mokelumne Peak, Calif.

Location.- Water-stage recorder, lat. 38°31', long. 120°13', in sec. 28, T. 8 N., R. 16 E., 2.4 miles upstream from mouth and 6 miles southwest of Mokelumne Peak. Altitude of gage, about 6,000 feet (from topographic map).

Drainage area.- 23 square miles.

Records available.- July 1927 to November 1942, October 1943 to September 1946.

Average discharge.- 18 years (1927-42, 1943-46), 59.0 second-feet.

Extremes.- Maximum discharge during year, 1,010 second-feet Oct. 30 (gage height, 5.12 feet), possibly exceeded on Dec. 21; minimum, 0.1 second-foot at times in October, August, September.

1927-46: Maximum discharge, 4,100 second-feet Dec. 11, 1937 (gage height, 8.98 feet), from rating curve extended above 1,000 second-feet on basis of velocity-area and AVD studies; practically no flow Aug. 17 to Oct. 7, 1931.

Remarks.- Records good except those for periods of ice effect, which are fair, and those for period of no gage-height record, which are poor. No storage or diversion above station.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.3	0.1	1.4	18	2.9	177
.4	.3	1.6	28	3.2	242
.6	1.2	1.8	41	3.6	344
.8	2.9	2.0	55	4.0	476
1.0	5.8	2.3	82	4.5	690
1.2	11	2.6	122		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	34	19	60	23	65	42	381	228	11	0.9	0.1
2	.1	68	18	50	23	60	41	399	254	9.6	.8	.1
3	.1	67	18	44	22	55	38	435	241	8.3	.8	.1
4	.1	39	16	38	22	45	41	486	225	7.1	.8	.2
5	.1	25	29	34	22	40	49	508	181	6.5	.7	.2
6	.1	26	35	32	22	53	49	486	137	5.8	.7	.2
7	.2	22	32	30	22	70	41	408	122	5.3	.6	.2
8	.5	21	26	28	22	92	37	378	114	4.7	.5	.2
9	.3	17	25	27	22	109	36	357	112	4.2	.5	.2
10	.2	22	24	26	21	112	43	351	96	3.7	.5	.2
11	.4	23	22	25	20	81	77	300	82	3.3	.4	.1
12	.5	25	22	24	19	71	129	318	80	2.9	.4	.1
13	.3	28	20	23	18	129	143	305	73	2.7	.3	.1
14	.3	36	21	24	18	72	144	303	66	2.4	.3	.1
15	.5	30	20	24	19	58	222	283	61	2.2	.3	.1
16	.5	27	20	24	18	54	283	312	56	1.9	.3	.4
17	.3	26	20	24	18	58	335	358	50	1.8	.3	.3
18	.3	28	20	26	18	54	323	396	49	1.5	.3	.2
19	.3	27	19	25	18	49	351	360	47	1.3	.3	.2
20	.3	34	20	23	18	44	267	369	44	1.2	.2	.2
21	.3	30	22	22	18	40	244	252	41	1.1	.1	.1
22	.3	25	21	18	36	282	179	36	1.1	.1	.1	.1
23	.2	23	21	19	40	368	157	32	1.0	.1	.1	.1
24	.2	22	24	24	40	432	171	26	1.0	.1	.1	.1
25	.2	26	25	22	44	472	183	22	1.1	.1	.1	.1
26	.2	24	120	25	*21	80	389	308	19	1.2	.1	.1
27	.2	25	25	35	100	390	188	18	1.1	.1	.1	.1
28	.2	24	24	130	84	408	171	16	1.0	.1	.1	.1
29	1.2	20	24	-	62	382	181	14	1.0	.1	.1	.1
30	310	19	23	-	52	347	214	12	.9	.1	.1	.1
31	46	-	23	-	47	-	242	-	.9	.1	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	364.5	310	0.1	11.8	.723
November.....	863	68	17	28.8	1,710
December.....	1,766	-	16	57.0	3,500
Calendar year 1945.....	26,598.8	778	.1	72.9	52,760
January.....	868	60	21	28.0	1,720
February.....	692	130	18	24.7	1,370
March.....	1,996	129	36	64.4	3,960
April.....	6,385	472	36	213	12,660
May.....	9,699	508	157	313	19,240
June.....	2,554	254	12	85.1	5,070
July.....	98.8	11	.9	3.19	196
August.....	11.0	.9	.1	.35	22
September.....	4.5	.4	.1	.15	8.9
Water year 1945-46.....	25,301.8	508	1	69.3	50,180

* Winter discharge measurement made on this day.

Note.- No gage-height record Dec. 12 to Jan. 7; discharge computed on basis of records for stations on nearby streams. Stage-discharge relation affected by ice Nov. 30 to Dec. 2, Jan. 8 to Feb. 13, Feb. 16, Feb. 27 to Mar. 5.

Bear River at Pardoe Camp, Calif.

Location.- Water-stage recorder, lat. 38°32', long. 120°15', in sec. 1R, T. 8 N., R. 16 E., at Pardoe Camp, 2 miles downstream from Bear River Reservoir of Pacific Gas & Electric Co. Altitude of gage, about 5,850 feet (from topographic map).

Drainage area.- 33.0 square miles.

Records available.- July 1927 to September 1946.

Average discharge.- 19 years, 101 second-feet.

Extremes.- Maximum discharge during year, 1,200 second-feet May 5 (gage height, 5.49 feet); minimum, 5.7 second-feet Sept. 28-30.

1927-46: Maximum discharge, 5,850 second-feet Dec. 11, 1937 (gage height, 12.0 feet, from floodmarks), from rating curve extended above 1,500 second-feet; no flow Sept. 8-30, Oct. 1-4, 7-29, 1928, result of regulation.

Remarks.- Records good except those for periods of no gage-height record, which are fair.

ABOUT 6,000 acre-feet is stored each year at reservoir above station and usually released during late summer and early winter; no diversion above station.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 5-9, July 6-18, July 22
to Aug. 18, Aug. 30 to Sept. 11)

0.8	4.1	1.9	62	3.8	438
1.0	9.1	2.2	95	4.2	568
1.2	17	2.6	154	4.6	725
1.4	28	3.0	234		
1.6	38	3.4	328		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.7	25	37	150	93	30	b65	542	354	19	10	7.5
2	8.7	21	35	130	91	29	b59	601	371	17	9.7	7.5
3	8.7	99	33	120	b90	27	58	650	362	17	9.4	7.5
4	8.7	88	40	110	90	23	64	691	358	17	9.4	7.5
5	8.7	56	44	100	b88	22	81	731	304	17	9.1	7.2
6	9.1	58	37	90	87	25	80	728	234	16	9.1	7.0
7	9.7	51	36	70	85	29	68	647	198	16	8.7	7.0
8	7.8	44	34	60	b85	33	60	576	188	15	8.4	7.0
9	7.2	39	32	80	b84	37	59	546	182	15	8.4	8.7
10	7.0	60	32	112	b83	39	67	522	168	15	8.4	6.7
11	7.5	57	32	112	b82	38	107	459	138	15	8.4	6.7
12	7.0	58	32	111	b80	40	184	487	130	15	7.8	6.7
13	6.7	61	30	111	b79	86	247	484	122	15	8.1	6.7
14	6.7	72	31	109	b78	47	225	468	108	14	8.1	6.7
15	7.5	80	28	109	76	42	302	465	100	14	8.4	6.7
16	7.0	60	30	108	b75	39	402	494	93	13	8.1	7.8
17	6.7	60	30	107	b74	39	481	584	81	13	8.1	6.7
18	6.7	48	29	107	73	38	519	629	74	13	8.1	6.5
19	6.7	54	29	105	72	39	522	588	69	12	8.1	6.5
20	6.7	60	30	104	70	37	435	590	66	12	8.1	6.2
21	6.7	55	280	103	71	36	351	438	60	12	7.8	6.2
22	6.5	51	350	102	71	37	385	302	51	12	7.8	6.2
23	6.5	47	170	100	71	37	517	252	46	12	7.8	6.2
24	6.7	55	120	100	72	38	618	282	40	12	7.8	6.2
25	6.7	65	140	100	72	41	681	311	35	12	7.5	6.0
26	6.5	51	110	100	60	50	624	602	33	12	7.5	6.0
27	6.5	51	130	99	25	52	564	318	29	12	7.5	6.0
28	6.5	51	300	99	*45	97	602	294	26	11	7.5	6.0
29	10	50	400	96	-	136	589	299	23	11	7.5	6.0
30	51	42	320	94	-	100	523	328	20	10	7.5	6.2
31	36	-	250	93	-	75	-	365	-	10	7.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	303.1	51	6.5	9.78	601
November.....	1,669	99	21	55.6	3,310
December.....	3,231	400	28	104	6,410
Calendar year 1945	46,250.5	1,510	6.5	127	91,740
January.....	3,191	150	60	103	6,330
February.....	2,122	93	25	75.8	4,210
March.....	1,438	136	22	46.4	4,850
April.....	9,539	681	58	318	18,920
May.....	15,273	731	252	493	30,290
June.....	4,043	371	20	135	8,020
July.....	426	19	10	13.7	845
August.....	255.6	10	7.5	8.25	507
September.....	199.8	7.8	6.0	6.66	396
Water year 1945-46	41,690.5	731	6.0	114	82,690

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Dec. 8 to Jan. 8, Feb. 23-25, 27; discharge computed on basis of records for stations on nearby streams.

Middle Fork Mokelumne River at West Point, Calif.

Location.- Water-stage recorder, lat. 38°23'15", long. 120°31'40", in sec. 10, T. 6 N., R. 13 E., 200 feet downstream from highway bridge, 1 mile south of West Point, and 3.5 miles upstream from South Fork. Altitude of gage, about 2,500 feet (from topographic map).

Drainage area.- 67.2 square miles.

Records available.- October 1926 to September 1946. October 1911 to October 1926 at site about 1,200 feet upstream.

Average discharge.- 34 years (1912-46), 55.9 second-feet.

Extremes.- Maximum discharge during year, 975 second-feet Dec. 22 (gage height, 4.80 feet); minimum, 3.2 second-feet (regulated) Sept. 11, 12.

1911-46: Maximum discharge observed, 2,550 second-feet Jan. 23, 1914 (gage height, 10.0 feet, site and datum then in use), from rating curve extended above 490 second-feet; practically no flow Aug. 23 to Sept. 14, 1931, and no flow during part of day Sept. 9, 10, 1934.

Remarks.- Records excellent except those for July to September, which are fair. Several small diversions above station. Storage in Calaveras Reservoir (capacity, 1,740 acre-feet), 6 miles above station, began in January 1940.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)
(Backwater correction applied Oct. 1, 2,
June 17 to Sept. 15)

0.8	3.2	1.3	25	2.5	198
.9	5.4	1.4	33	3.0	322
1.0	8.5	1.6	51	3.5	464
1.1	13	1.9	89	4.0	620
1.2	18	2.2	136	4.4	780

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	20	30	180	53	92	183	116	48	21	7.6	4.5
2	4.5	13	26	183	55	88	166	114	46	18	5.7	5.0
3	4.3	11	23	187	59	88	157	113	44	18	4.5	5.0
4	4.1	9.8	45	239	58	85	151	111	42	19	5.7	5.2
5	3.9	9.0	99	301	51	82	147	109	41	18	5.7	6.3
6	5.0	11	59	225	53	79	142	105	40	18	9.0	6.0
7	5.7	10	42	187	62	79	136	102	39	19	7.0	6.0
8	9.4	9.4	36	161	58	78	136	97	36	18	8.2	6.0
9	9.4	9.4	31	142	57	81	133	95	37	17	9.0	5.4
10	8.5	19	28	129	57	82	128	89	36	16	9.0	5.0
11	9.0	31	27	117	62	85	124	85	36	15	7.9	4.1
12	9.4	22	26	108	53	85	126	81	34	13	7.3	3.9
13	8.5	20	23	102	57	160	131	76	33	13	7.9	3.9
14	6.3	16	20	97	55	131	129	73	33	17	7.9	4.3
15	6.3	33	22	92	56	119	131	71	31	17	7.6	4.7
16	7.0	31	23	86	58	113	134	69	31	17	7.9	7.6
17	9.3	74	22	81	55	109	140	69	27	17	7.9	6.3
18	7.0	47	20	81	55	106	149	85	20	17	7.0	5.7
19	6.3	33	19	78	56	111	153	63	19	14	6.0	5.7
20	6.3	27	19	76	65	126	151	62	19	9.8	6.0	5.4
21	6.3	24	358	71	85	128	144	61	18	9.8	6.0	5.2
22	6.3	21	762	69	81	128	136	63	18	9.4	6.6	5.4
23	8.0	20	599	65	76	122	134	63	19	7.3	6.6	5.4
24	6.0	28	344	64	74	116	138	59	20	7.9	6.0	5.2
25	6.0	69	546	63	76	111	142	56	19	9.0	6.3	5.2
26	6.0	41	455	62	74	108	142	94	18	9.4	6.0	5.2
27	6.0	32	330	59	79	106	134	74	18	7.9	5.4	5.2
28	5.7	29	350	58	99	119	135	65	18	8.5	5.0	7.3
29	7.9	44	309	58	-	209	128	59	18	7.6	4.7	7.9
30	55	37	254	53	-	232	122	53	21	7.9	4.7	7.6
31	31	-	211	55	-	198	-	50	-	9.4	4.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	276.9	55	3.9	8.93	549
November.....	800.6	74	9.0	26.7	1,590
December.....	5,138	762	19	166	10,190
Calendar year 1945.....	24,967.3	973	3.2	68.4	49,530
January.....	3,511	301	53	113	6,960
February.....	1,784	99	51	63.7	3,540
March.....	3,556	232	78	115	7,050
April.....	4,198	183	122	140	8,330
May.....	2,460	116	50	79.4	4,880
June.....	881	48	18	29.4	1,750
July.....	425.9	21	7.3	13.7	845
August.....	206.6	9.0	4.5	6.66	410
September.....	165.6	7.9	3.9	5.52	328
Water year 1945-46.....	23,403.6	762	3.9	64.1	46,420

Peak discharge.- Dec. 21 (10:30 p.m.) 950 sec.-ft.; Dec. 22 (9 p.m.) 975 sec.-ft.; Dec. 25 (7 to 8 p.m.) 684 sec.-ft.; Jan. 4 (7 p.m.) 386 sec.-ft.; Mar. 13 (12 m.) 211 sec.-ft.; Mar. 29 (10:30 p.m.) 252 sec.-ft.

South Fork Mokelumne River near West Point, Calif.

Location.- Water-stage recorder, lat. 38°22', long. 120°33', in SW $\frac{1}{4}$ sec. 16, T. 6 N., R. 13 E., 600 feet downstream from Sawyer Bridge, 2 miles upstream from Middle Fork, and 2.5 miles southwest of West Point. Altitude of gage, about 2,000 feet (from topographic map).

Drainage area.- 73.8 square miles.

Records available.- October 1933 to September 1946.

Average discharge.- 13 years, 85.9 second-feet.

Extremes.- Maximum discharge during year, 1,320 second-feet Dec. 22 (gage height, 7.19 feet); minimum, 7.5 second-feet Aug. 22.

1933-46: Maximum discharge, 3,760 second-feet Feb. 2, 1945 (gage height, 9.55 feet), from rating curve extended above 2,600 second-feet; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

Remarks.- Records good except those for August and September, which are fair. Small diversions above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Backwater corrections applied Oct. 1, July 29 to Sept. 30)

Oct. 1 to Dec. 21					Dec. 22 to Sept. 30				
3.5	8.5	4.1	35	5.7	310	3.5	9.5	4.0	32
3.6	11	4.3	49	6.0	415	3.6	12.5	4.1	39
3.7	14	4.5	68	6.3	570	3.7	16	4.3	58
3.8	18	4.8	107	6.6	790	3.8	20	4.5	79
3.9	23	5.1	158	7.0	1,140	3.9	26	4.8	117
4.0	29	5.4	228						

Note.- Same as preceding table above 5.7 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	49	43	212	71	109	239	113	56	26	15	9.3
2	11	33	39	189	72	105	204	110	54	24	15	9.3
3	11	28	36	202	80	104	182	109	51	24	14	9.8
4	10	25	72	239	75	100	172	107	47	23	14	11
5	10	24	114	280	69	98	167	104	45	23	14	11
6	10	25	70	239	69	94	159	98	45	22	14	11
7	10	24	54	202	79	94	155	94	43	22	14	9.5
8	13	22	46	176	74	94	153	90	41	21	14	9.1
9	14	22	42	153	70	94	148	87	38	21	13	9.3
10	13	35	42	142	70	95	145	85	40	21	13	9.1
11	13	50	38	134	77	98	145	81	40	21	13	8.9
12	13	38	36	124	70	96	150	77	38	21	15	8.7
13	14	36	34	117	69	167	155	75	38	21	14	9.5
14	16	32	33	113	68	135	156	72	37	21	15	10
15	17	50	33	107	70	127	159	70	36	21	15	9.5
16	18	51	34	103	72	124	165	70	35	21	15	12
17	15	67	33	99	70	121	172	70	33	21	14	14
18	15	52	32	95	70	120	178	67	33	21	12	12
19	14	42	31	91	74	128	176	66	32	21	9.8	12
20	14	38	32	89	85	145	167	64	32	20	9.5	11
21	14	35		86	104	145	156	61	31	20	8.9	11
22	14	33	1,090	85	101	139	150	66	31	20	9.1	11
23	14	31	758	84	94	135	150	67	31	19	8.3	11
24	14	37	415	81	92	130	150	65	30	18	9.1	11
25	13	79	695	81	94	125	150	61	30	19	9.8	11
26	13	51	564	79	90	124	144	99	29	20	9.3	11
27	13	43	407	78	98	124	135	78	27	18	9.8	11
28	14	41	399	77	117	147	131	70	27	18	10	9.5
29	14	60	354	76	-	252	127	65	27	18	10	9.1
30	116	48	295	74	-	337	121	61	26	17	9.5	9.1
31	69	-	247	72	-	274	-	58	-	16	9.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	572	116	10	18.5	1,130
November	1,201	79	22	40.0	2,380
December	6,578	1,090	31	212	13,050
Calendar year 1945	33,473.5	2,140	8.8	91.7	66,390
January	3,979	280	72	128	7,890
February	2,244	117	68	80.1	4,450
March	4,178	337	94	135	8,290
April	4,761	239	121	159	9,440
May	2,458	113	58	79.3	4,880
June	1,103	56	26	36.8	2,190
July	639	26	16	20.6	1,270
August	375.4	15	8.3	12.1	745
September	310.7	14	8.7	10.4	616
Water year 1945-46	28,399.1	1,090	8.3	77.8	56,330

Peak discharge.- Oct. 30 (10 a.m.) 226 sec.-ft.; Dec. 22 (6 a.m.) 1,320 sec.-ft.; Dec. 25 (7 p.m.) 906 sec.-ft.; Jan. 4 (6 to 7 p.m.) 328 sec.-ft.; Mar. 13 (9:30 a.m.) 244 sec.-ft.; Mar. 30 (4:30 p.m.) 368 sec.-ft.

MOKELUMNE RIVER BASIN

Woodbridge Canal at Woodbridge, Calif.

Location.- Differential water-stage recorder and gate-opening recorder, lat. 38°09'10", long. 121°18'00", in SE¼ sec. 34, T. 4 N., R. 6 E., at Woodbridge at point of diversion. Datum of gage is 32.18 feet above mean sea level (levels by East Bay Municipal Utility District).

Records available.- April 1926 to September 1946.

Average discharge.- 20 years, 116 second-feet.

Extremes.- Maximum daily discharge during year, 425 second-feet June 28, 29; no flow Oct. 31 to Mar. 18.

1926-46: Maximum daily discharge; that of June 28, 29, 1946; no flow during part of each year.

Remarks.- Records good. Discharge computed from records of gate openings and effective head as shown by recorders. Canal diverts from Woodbridge Reservoir on Mokelumne River in sec. 34, T. 4 N., R. 6 E., for irrigation of lands south and west of Woodbridge.

Discharge, in second-feet, water year October, 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	247					0	16	342	312	362	337	235
2	251					0	40	327	328	375	371	264
3	241					0	34	333	347	403	371	226
4	251					0	85	333	345	405	352	274
5	251					0	79	301	358	388	299	305
6	251					0	68	311	366	383	321	293
7	239					0	85	328	349	364	345	302
8	206					0	108	350	306	312	349	289
9	184					0	148	354	289	310	335	258
10	168					0	157	351	317	358	335	286
11	136					0	180	351	355	376	327	280
12	92					0	210	327	349	373	265	253
13	91					0	207	337	352	377	268	272
14	91					0	190	340	353	343	316	259
15	94					0	220	359	372	302	343	243
16	117					0	247	370	369	345	351	241
17	126					0	308	356	371	366	353	269
18	123					0	326	354	382	359	346	253
19	125					15	310	329	394	336	289	253
20	128					15	284	347	399	325	263	239
21	127					15	218	367	387	323	325	230
22	111					34	254	366	375	253	336	229
23	115					41	286	348	352	275	325	222
24	153					28	317	358	360	322	314	230
25	166					49	341	361	375	348	288	229
26	178					44	336	307	394	346	271	243
27	178					38	319	340	415	347	287	249
28	170					51	315	344	425	348	320	233
29	148					20	319	347	425	301	321	217
30	71					9.8	332	337	395	330	324	210
31	0					11	-	322	-	352	293	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,631	251	0	156	9,580
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1945	56,545	393	0	155	112,200
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	370.8	51	0	12.0	735
April.....	6,339	341	16	211	12,570
May.....	10,597	370	301	342	21,020
June.....	10,916	425	289	364	21,650
July.....	10,707	405	253	345	21,240
August.....	9,961	371	265	321	19,760
September.....	7,586	305	210	253	15,050
Water year 1945-46	61,307.8	425	0	168	121,600

Dry Creek near Galt, Calif.

Location.- Water-stage recorder, lat. $38^{\circ}15'$, long. $121^{\circ}13'$, in NE $\frac{1}{4}$ sec. 32, T. 5 N., R. 7 E., 2 miles downstream from Coyote Creek and 4 miles east of Galt. Prior to Nov. 25, 1945, at datum 3.00 feet higher.

Drainage area.- 325 square miles.

Records available.- October 1944 to September 1946. December 1926 to September 1933 at site 4 miles downstream.

Extremes.- Maximum discharge during year, 8,620 second-feet Dec. 23 (gage height, 13.49 feet); no flow for several months.
1926-33, 1944-46: Maximum discharge, 13,200 second-feet Feb. 2, 1945 (gage height, 13.84 feet, present datum); no flow for several months each year.

Remarks.- Records fair. Many small diversions above station for irrigation.

Cooperation.- Twenty-one discharge measurements, furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	57	307	56	92	565	32	9.7			
2		0	29	254	56	84	468	32	7.5			
3		0	18	285	139	80	556	31	5.9			
4		0	12	345	300	78	269	30	4.3			
5		0	254	879	178	74	226	27	3.0			
6		0	387	536	144	70	196	25	2.5			
7		0	160	409	137	65	177	22	1.3			
8		0	99	322	153	56	160	19	.3			
9		0	74	256	138	49	152	18	0			
10		0	59	213	124	46	142	14	0			
11		0	52	194	134	45	131	17	0			
12		0	48	174	133	46	124	16	0			
13		0	36	162	115	70	113	14	0			
14		0	26	156	105	164	102	13	0			
15		0	21	150	99	108	94	12	0			
16		0	24	143	104	88	82	11	0			
17		0	27	131	104	77	76	all	0			
18		0	21	122	96	70	70	all	0			
19		0	16	114	92	77	67	all	0			
20		0	16	105	103	111	68	all	0			
21		0	48	104	111	250	68	all	0			
22		0	2,690	93	132	205	66	all	0			
23		0	6,970	86	122	162	66	all	0			
24		0	3,210	83	110	138	61	10	0			
25		12	2,490	80	106	122	55	9.2	0			
26		50	2,220	74	98	109	49	18	0			
27		19	1,210	69	90	98	46	83	0			
28		6	931	66	95	91	44	50	0			
29		172	580	62	-	515	41	26	0			
30		147	464	57	-	1,070	34	18	0			
31		-	373	54	-	974	-	12	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	406	172	0	13.5	805
December.....	22,592	6,970	12	729	44,810
Calendar year 1945.....	74,815.3	9,240	0	205	148,400
January.....	6,085	879	54	196	12,070
February.....	3,374	300	56	120	6,690
March.....	5,284	1,070	45	170	10,480
April.....	4,148	565	34	138	8,230
May.....	632.2	83	9.2	20.4	1,250
June.....	34.5	9.7	0	1.15	68
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	42,555.7	6,970	0	117	84,400

a No gage-height record; discharge interpolated.

Cosumnes River at Michigan Bar, Calif.

Location.- Water-stage recorder, lat. 38°30'00", long. 121°02'45", in SE $\frac{1}{4}$ sec. 38, T. 8 N., R. 8 E., at highway bridge at Michigan Bar, 5.5 miles southwest of Latrobe and 12 miles downstream from confluence of North and Middle Forks. Altitude of gage, about 190 feet (from topographic map).

Drainage area.- 537 square miles.

Records available.- October 1907 to September 1946.

Average discharge.- 39 years, 479 second-feet.

Extremes.- Maximum discharge during year, 12,600 second-feet Dec. 23 (gage height, 8.50 feet), from rating curve extended above 9,000 second-feet; minimum, 1.9 second-feet Sept. 15, 16.

1907-46: Maximum discharge, 26,200 second-feet Mar. 31, 1940 (gage height, 11.66 feet), from rating curve extended above 9,000 second-feet; no flow during parts of many years.

Flood in March 1907 reached a stage of 16.3 feet.

Remarks.- Records good. Diversions above station for irrigation.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 23						Dec. 24 to Sept. 30					
1.6	2.0	2.7	112	5.0	1,940	1.5	1.5	2.0	22	3.0	197
1.7	4.0	2.9	158	5.5	2,740	1.6	3.2	2.2	41	3.2	261
1.8	7.5	3.2	256	6.0	5,790	1.7	5.8	2.4	67	3.4	340
2.0	19	3.5	390	6.5	5,100	1.8	9.9	2.6	103		
2.2	35	3.8	600	7.0	6,720	1.9	15.2	2.8	145		
2.3	46	4.1	860	7.5	8,600	Note.- Same as preceding table above 3.4 Feet:					
2.4	60	4.5	1,280								

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	422	331	1,800	365	815	1,610	900	340	81	19	3.4
2	2.8	191	272	1,530	370	770	1,380	880	328	77	17	3.4
3	2.8	123	238	1,610	608	752	1,210	870	315	70	16	8.1
4	2.8	103	264	1,760	584	725	1,150	870	299	67	14	5.2
5	2.8	87	910	2,340	457	672	1,100	860	284	63	12	3.8
6	2.8	74	672	1,830	432	640	1,080	851	269	60	11	3.6
7	d3	80	402	1,560	536	624	1,040	824	247	57	11	3.8
8	d13	85	331	1,410	544	616	1,000	761	234	54	9.4	3.8
9	d20	74	280	1,220	457	624	990	725	218	53	8.9	3.8
10	d15	76	242	1,100	432	640	960	680	212	52	8.5	3.6
11	23	184	227	1,010	506	664	950	640	209	48	8.1	3.4
12	21	194	224	910	457	648	970	600	197	45	7.7	3.4
13	22	161	204	835	420	1,340	1,010	576	184	41	7.7	3.2
14	25	153	182	779	396	1,260	1,020	544	173	38	7.7	3.0
15	23	159	173	725	396	1,050	1,040	520	165	36	14	2.2
16	21	256	191	680	450	980	1,090	513	180	35	12	2.6
17	29	388	182	632	434	950	1,150	499	152	35	6.5	3.4
18	33	450	170	600	402	910	1,200	499	143	34	5.2	4.4
19	29	268	161	568	402	960	1,200	508	134	31	6.5	4.4
20	25	231	153	552	471	1,150	1,170	508	121	28	6.2	4.1
21	23	207	916	520	588	1,220	1,090	492	117	26	5.8	5.2
22	22	179	7,780	499	716	1,060	1,030	471	113	26	5.2	5.8
23	20	161	8,510	471	608	970	1,010	444	109	25	4.9	6.2
24	20	151	3,980	457	578	890	1,040	408	107	24	4.4	5.8
25	19	641	5,850	444	616	842	1,090	380	103	23	4.1	4.6
26	19	432	5,300	432	578	806	1,120	555	97	24	4.1	4.4
27	19	305	3,720	420	568	797	1,070	648	92	24	3.8	4.1
28	19	284	5,770	408	860	860	1,020	464	88	24	3.8	3.8
29	20	753	3,740	402	-	2,900	990	408	86	25	4.1	3.2
30	199	478	2,950	380	-	3,840	960	375	82	22	3.8	3.2
31	576	-	2,260	370	-	2,010	-	355	-	20	3.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,274.8	576	2.8	41.1	2,530
November.....	7,310	753	74	244	14,500
December.....	54,585	8,510	153	1,781	108,300
Calendar year 1945.....	221,900.2	13,100	1.6	608	440,100
January.....	28,252	2,340	370	911	56,040
February.....	14,187	860	365	507	28,140
March.....	32,765	3,640	618	1,057	64,990
April.....	32,740	1,610	950	1,091	64,940
May.....	18,624	900	355	601	36,940
June.....	5,378	340	82	179	10,670
July.....	1,286	81	20	40.8	2,510
August.....	258.0	19	3.6	8.26	508
September.....	123.1	8.1	2.2	4.10	244
Water year 1945-46.....	196,760.9	8,510	2.2	539	390,300

Peak discharge.- Dec. 23 (10 a.m.) 12,600 sec.-ft.; Dec. 26 (1 a.m.) 6,940 sec.-ft.; Jan. 4 (12 p.m.) 2,970 sec.-ft.; Mar. 13 (5 p.m.) 2,120 sec.-ft.; Mar. 30 (3 a.m.) 5,190 sec.-ft.

d Doubtful gage-height record; discharge computed on basis of rainfall records and records for stations on nearby streams.

Cosumnes River at McConnell, Calif.

Location.- Water-stage recorder, lat. 38°22', long. 121°21', in Omochumnes Grant at bridge on U. S. Highway 99, 0.2 mile south of McConnell, 1 mile downstream from Deer Creek and 7 miles north of Galt, Sacramento County. Altitude of gage, about 32 feet (from topographic map).

Drainage area.- 730 square miles.

Records available.- October 1943 to September 1946 in reports of Geological Survey.

1942-46 in Reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 13,900 second-feet Dec. 24 (gage height, 42.73 feet); no flow Oct. 1-16, Aug. 10 to Sept. 30.

1943-46: Maximum discharge, 15,800 second-feet Feb. 3, 1945 (gage height, 43.20 feet); no flow during parts of each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation.

Cooperation.- Twenty-five discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	483	406	2,360	420	849	a2,200	912	351	54	a8	
2	0	305	310	1,910	417	773	1,590	874	339	57	a8	
3	0	170	262	1,810	474	749	1,350	866	322	54	a8	
4	0	121	242	1,780	757	733	1,240	862	302	58	a7	
5	0	94	523	3,000	685	697	1,160	854	297	50	a7	
6	0	75	924	2,570	546	658	1,120	842	281	41	a5	
7	0	62	550	1,940	513	637	1,080	810	260	41	a3	
8	0	71	388	a1,690	606	625	1,040	758	243	40	a2	
9	0	68	319	a1,470	516	620	1,020	a730	231	40	a1	
10	0	61	271	1,280	483	626	a1,000	a690	221	37	0	
11	0	76	246	1,140	483	644	a1,000	a640	204	28	0	
12	0	194	233	1,030	501	662	a990	a600	195	24	0	
13	0	168	233	928	450	773	a990	a570	182	24	0	
14	0	161	210	857	447	1,500	a1,000	a550	168	25	0	
15	0	145	192	809	435	1,100	a1,000	a520	154	28	0	
16	0	156	187	753	450	1,020	a1,040	511	150	24	0	
17	5.4	279	197	697	456	955	1,080	495	152	21	0	
18	12	469	187	658	432	908	1,140	485	144	21	0	
19	17	356	175	623	426	964	1,180	469	129	20	0	
20	19	249	168	592	438	1,040	1,160	463	112	20	0	
21	14	228	187	574	495	1,320	1,100	460	100	16	0	
22	13	200	2,790	556	616	1,160	1,030	456	100	15	0	
23	10	175	9,610	528	654	1,070	994	453	98	13	0	
24	8.8	156	10,500	513	598	991	1,000	435	88	13	0	
25	7.6	252	5,450	501	581	928	1,040	408	74	11	0	
26	6.4	640	7,940	489	592	874	1,060	396	70	a10	0	
27	4.5	359	5,650	477	594	849	1,060	634	74	a9	0	
28	5.7	285	4,840	468	654	857	1,020	540	87	a9	0	
29	7.6	389	4,390	456	-	1,910	989	447	62	a9	0	
30	14	714	3,920	447	-	a3,000	953	402	57	a8	0	
31	342	-	2,990	429	-	a3,800	-	375	-	a8	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	487.0	342	0	15.7	966
November.....	7,161	714	61	239	14,200
December.....	64,490	10,500	168	2,080	127,900
Calendar year 1945	244,725.9	14,500	0	670	485,400
January.....	33,335	3,000	429	1,075	66,120
February.....	14,719	757	417	526	29,190
March.....	33,288	3,800	620	1,074	66,030
April.....	33,626	2,200	953	1,121	66,700
May.....	18,497	912	375	597	36,690
June.....	5,227	351	57	174	10,370
July.....	829	58	8	26.7	1,640
August.....	49	8	0	1.58	97
September.....	0	0	0	0	0
Water year 1945-46	211,708	10,500	0	580	419,900

a No gage-height record; discharge computed on basis of 1 discharge measurement, field observations, and record for station at Michigan Bar.

Drew Creek near Lakeview, Oreg.

Location.- Water-stage recorder, lat. 42°07', long. 120°35', in NW $\frac{1}{4}$ sec. 10 or SW $\frac{1}{4}$ sec. 3, T. 40 S., R. 18 E., at highway bridge, 1 $\frac{1}{2}$ miles downstream from Willow Creek, 2 miles downstream from Drew Creek Dam, and 13 miles southwest of Lakeview.

Drainage area.- 211 square miles.

Records available.- January 1909 to September 1921 and October 1925 to September 1946 in reports of Geological Survey. January 1909 to September 1936 in reports of State engineer.

Average discharge.- 24 years (1909-30, 1937-38, 1939-41), 65.5 second-feet, including diversion by North Drew Canal.

Extremes.- Maximum discharge during year, 770 second-feet Mar. 19 (gauge height, 5.40 feet); minimum, 1.6 second-feet Sept. 28-30 (gauge height, 0.65 foot).

1909-46: Maximum discharge, 3,000 second-feet Mar. 1, 2, 1910, from rating curve extended above 1,200 second-feet; no flow at times.

Remarks.- Records good, October, March to September; fair November to February, except those for periods of ice effect or no gauge-height record, which are poor. Considerable regulation caused by Drew Creek Reservoir, 2 miles above station. Since March 1914 North Drew Canal of Lakeview Water Users has diverted water around station (see following page).

Rating tables, water year 1945-46, except periods of ice effect
(gauge height, in feet, and discharge, in second-feet)
(Shifting-control method used Jan. 24, Feb. 23 to Mar. 19,
Mar. 30 to Apr. 8)

Oct. 1 to Apr. 8

Apr. 9 to Sept. 30

1.4	29	2.5	119	4.1	405	0.7	2.5	1.4	32	2.9	194
1.6	41	2.9	165	4.5	505	.8	5.0	1.6	45	3.3	265
1.9	63	3.3	226	5.0	650	.9	8.0	1.9	70	3.7	350
2.2	89	3.7	305			1.0	12	2.2	101	4.1	450
						1.2	21	2.5	156		

Note.- Same as following table below
1.4 feet.

Discharges, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	12	a4.0	9.6		54	560	91	78	73	84	57
2	32	12	a4.0	15		53	560	88	78	72	84	57
3	20	12	a4.0	14		49	560	80	78	72	83	57
4	6.5	12	a4.0	12		49	569	78	78	76	85	56
5	6.2	12	a4.0			54	575	75	78	76	82	56
6	5.9	12	a3.8			67	578	74	78	72	82	56
7	9.0	12	a3.8			60	563	78	77	73	81	55
8	16	11	a3.8		b7.0	61	490	86	77	74	80	50
9	15	4.5	a3.8			61	490	86	80	74	78	50
10	14	3.8	a3.8			60	488	86	84	75	77	50
11	13	3.5	a3.8			56	485	73	84	75	77	50
12	13	3.8	a3.8			61	482	75	85	76	76	50
13	13	3.5	h3.8			60	445	75	85	76	76	50
14	13	3.8	a3.8	b7.7		57	345	79	85	77	76	41
15	13	3.8	a3.8			57	328	81	84	77	77	3.5
16	12	3.8	a4.0		8.0	158	279	81	84	78	78	3.5
17	12	a3.8	4.0		8.0	247	277	78	84	78	78	3.5
18	12	a3.8	b4.0		8.0	241	249	78	93	79	77	3.2
19	13	a3.8	b3.8		8.0	464	130	76	84	79	77	3.2
20	13	a3.8	b5.8		8.0	674	53	75	84	78	76	3.2
21	12	a3.8	b4.0		8.0	599	90	76	83	80	76	3.0
22	12	a4.0	b4.0		7.7	593	89	77	83	83	77	2.8
23	12	a4.0	b4.2			587	90	76	82	83	77	2.3
24	12	a4.0	4.2	30	49	584	91	77	82	83	77	2.1
25	12	a4.0	4.2	b25	47	575	92	77	81	84	77	1.9
26	12	a4.0	4.8	b17	47	569	91	78	79	85	72	1.9
27	12	4.0	10	b12	63	566	91	79	78	85	58	1.7
28	12	a4.0	62	b10	54	563	91	78	78	84	58	1.6
29	12	a4.0	30	b9.0	-	560	92	79	76	83	58	1.6
30	13	a4.0	14	b7.5	-	560	89	79	75	84	58	1.6
31	12	-	11	b8.0	-	560	-	78	-	84	57	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	416.6	32	5.9	13.4	826
November	180.5	12	3.5	6.02	358
December	230.0	62	3.8	7.42	456
Calendar year 1945	14,935.8	236	2.3	40.9	29,620
January	315.4	30	-	10.2	826
February	447.7	63	-	16.0	888
March	8,959	674	49	289	17,770
April	9,412	578	53	314	18,670
May	2,445	91	73	78.9	4,850
June	2,435	93	75	81.2	4,830
July	2,428	85	72	78.3	4,820
August	2,327	84	57	75.1	4,620
September	775.6	57	1.6	25.9	1,540
Water year 1945-46	30,371.8	674	1.6	83.2	60,250

a No gauge-height record; discharge computed on basis of weather records and recorded range in stage.

b Stage-discharge relation affected by ice.

c Computed from staff-gage reading.

Monthly discharge of North Drew Canal near Lakeview, Oreg., 1946

Month	Maximum	Minimum	Mean	Runoff in acre-feet
May 19-31, 1946	-	-	56.1	1,450
June	-	-	55.0	3,270
July	-	-	52.2	3,210
August	-	-	54.9	3,380
September	47	0	17.9	1,070
The period	-	-	-	12,380

Gage height and contents of Drew Creek Reservoir near Lakeview, Oreg., 1946

Date	Gage height (feet)	Contents (acre-feet)
Feb. 23, 1946	51.0	46,270
Mar. 6	51.2	47,000
Apr. 1	-	a46,270
May 1	-	a57,500
May 5	53.6	56,390
June 19	51.6	48,470
July 27	48.0	36,200
Aug. 8	46.5	31,650
Aug. 22	44.8	26,880
Sept. 15	43	22,300

a No gage-height record; contents of about the first day of the month from Federal State Cooperative Snow Survey and Irrigation Water Forecast Bulletins.

GOOSE LAKE BASIN

Cottonwood Creek near Lakeview, Oreg.

Location.- Water-stage recorder, lat. 42°14', long. 120°30', in SW $\frac{1}{4}$ sec. 29, T. 38 S., R. 19 E., 200 yards downstream from Cottonwood Reservoir and 10 miles northwest of Lakeview.

Drainage area.- 30 square miles.

Records available.- November 1908 to September 1919 and October 1925 to September 1946 in reports of Geological Survey. November 1908 to September 1919 and October 1924 to September 1936 in reports of State engineer.

Average discharge.- 25 years (1909-19, 1924-35, 1938-42), 19.8 second-feet.

Extremes.- Maximum discharge during year, 307 second-feet Mar. 18 (gage height, 4.38 feet); minimum recorded, 0.7 second-foot Oct. 24 (gage height, 1.27 feet).

1908-19, 1924-46: Maximum discharge, between 500 and 1,000 second-feet during period Apr. 26 to May 1, 1927, when natural flow, estimated as 170 second-feet, was augmented by water escaping from reservoir through break in outlet conduit above control gate; no flow at times.

Remarks.- Records good except those below 5 second-feet, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Since 1923 considerable regulation caused by Cottonwood Reservoir, 200 yards above station.

Rating tables, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 18

Mar. 19 to Sept. 30

1.4	1.9	1.9	10.2	2.5	34	1.4	1.5	2.0	11.9	2.9	65
1.5	3.1	2.0	12.5	2.7	49	1.5	2.6	2.1	14.4	3.1	86
1.6	4.5	2.1	15.3	2.9	66	1.6	4.0	2.2	17.3	3.3	111
1.7	6.2	2.2	18.7	3.1	86	1.7	5.6	2.3	21.0	3.5	140
1.8	8.1	2.3	22.8			1.8	7.5	2.5	31		
						1.9	9.6	2.7	46		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a1.9	3.9				-	4.2	107	28	20	19	1.3
2	a1.9	3.1				-	3.9	98	28	17	19	1.3
3	a1.9	2.7				-	3.9	83	30	17	18	1.3
4	a1.9	2.5				*b5.9	3.9	74	37	17	18	1.5
5	a1.9	2.7				b4.0	3.9	74	41	17	18	1.5
6	1.9	b2.7				4.5	3.9	74	38	17	17	1.3
7	2.0	b2.5				4.8	4.0	75	40	17	17	2.3
8	2.0	b2.7				5.2	4.2	79	44	17	17	1.5
9	1.9	2.9				5.5	4.2	85	45	17	17	1.3
10	2.0	3.5				6.2	4.3	85	a46	17	16	1.3
11	2.0	2.7				6.8	4.8	72	a46	18	16	1.2
12	2.0	3.1				6.8	6.4	64	a47	21	15	1.3
13	2.0	b3.2				6.8	6.6	64	a48	21	15	1.3
14	1.9	b3.3				7.0	6.4	62	a48	22	14	1.3
15	1.9	3.5				7.0	6.7	58	a49	23	13	1.3
16	1.9	2.6				7.2	15	57	a49	23	13	1.4
17	1.9	3.8				7.3	40	55	a50	26	12	1.5
18	1.9	3.5				95	a100	55	50	28	11	1.5
19	1.9	5.9				138	159	56	49	28	11	1.5
20	2.0	-				130	158	59	49	28	9.6	1.4
21	2.0	-				118	158	62	43	27	8.8	1.4
22	2.0	-				104	119	65	32	27	6.4	1.4
23	1.6	-				87	41	63	32	27	5.4	1.4
24	1.5	-				44	42	59	32	27	2.6	1.4
25	1.6	-				37	43	51	30	26	2.4	1.4
26	1.9	-				35	44	47	28	26	1.9	1.4
27	1.9	-				22	85	47	24	26	1.6	1.5
28	1.9	-				23	126	35	24	25	1.5	1.6
29	2.3	-				24	121	28	21	25	1.4	1.8
30	8.7	-				24	119	28	21	24	1.4	1.7
31	6.0	-				14	-	28	-	22	1.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	70.1	8.7	1.5	2.26	139
November 1-19.....	60.8	5.9	2.5	3.20	121
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March 4-31.....	978.0	138	3.9	34.9	1,940
April.....	1,441.3	159	3.9	48.0	2,860
May.....	1,949	107	28	62.9	3,870
June.....	1,149	50	21	38.3	2,280
July.....	695	28	17	22.4	1,370
August.....	337.9	19	1.3	10.9	670
September.....	42.7	2.3	1.2	1.42	65
Water year.....	-	-	-	-	-

* Winter discharge measurement made on this day.

a No gage-height record; discharge interpolated.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER MAIN STEM

Sacramento River at Delta, Calif.

Location.- Water-stage recorder, lat. 40°56'14", long. 122°25'05", in NW¼ sec. 35, T. 36 N., R. 5 W., 0.2 mile downstream from Dog Creek and 0.6 mile southeast of Delta. Datum of gage is 1,075.00 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 427 square miles.

Records available.- December 1944 to September 1946.

Extremes.- Maximum discharge during year, 14,200 second-feet Dec. 27 (gage height, 12.45 feet); minimum, 156 second-feet Oct. 5.

1944-46: Maximum discharge, that of Dec. 27, 1945; minimum, 148 second-feet Sept. 13, 1945.

Remarks.- Records excellent. Small diversions above station for irrigation.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27					Dec. 28 to Sept. 30						
3.7	146	5.5	935	8.0	3,500	3.8	171	5.6	1,020	9.0	5,340
3.9	188	6.0	1,290	9.0	5,200	4.0	225	6.0	1,310	10.0	7,470
4.1	245	6.5	1,720	10.0	7,370	4.2	290	6.5	1,750	11.0	9,950
4.5	390	7.0	2,240	11.0	9,940	4.5	401	7.0	2,300	11.7	11,900
5.0	630	7.5	2,820	12.0	12,800	4.8	535	7.5	2,920		
						5.2	755	8.0	3,620		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	1,520	1,450	3,290	852	1,330	1,650	1,820	898	340	235	184
2	161	968	1,200	3,590	872	1,280	1,570	1,940	892	332	225	184
3	159	818	1,230	3,880	826	1,210	1,520	2,110	868	322	219	184
4	159	680	3,950	4,160	794	1,130	1,450	2,220	814	314	216	205
5	159	592	3,430	4,190	788	1,100	1,440	2,140	762	304	213	196
6	159	530	2,910	3,340	820	1,120	1,450	2,080	701	300	210	188
7	159	485	3,050	2,660	768	1,160	1,500	2,050	656	294	208	186
8	161	444	2,240	2,420	743	1,230	1,480	1,920	629	297	205	184
9	165	434	1,730	2,140	737	1,290	1,390	1,860	602	290	202	181
10	193	457	1,430	1,930	743	1,410	1,310	1,890	580	283	199	176
11	227	434	1,240	1,730	731	1,370	1,320	1,770	550	274	196	178
12	207	565	1,100	1,580	707	1,350	1,430	1,650	530	270	194	176
13	193	530	987	1,480	701	1,670	1,580	1,630	512	267	188	176
14	183	505	909	1,410	701	1,430	1,800	1,470	502	267	188	176
15	183	1,020	864	1,340	713	1,330	2,070	1,410	497	270	188	178
16	186	1,370	812	1,280	719	1,230	2,440	1,400	535	267	186	181
17	188	1,440	769	1,220	719	1,250	2,780	1,460	497	264	186	184
18	191	1,230	727	1,170	731	1,250	2,820	1,530	470	254	186	186
19	186	2,390	697	1,150	807	1,220	2,660	1,430	448	247	188	181
20	186	1,680	703	1,100	872	1,180	2,360	1,350	435	247	184	178
21	186	1,200	1,770	1,060	1,350	1,140	2,120	1,240	426	241	178	181
22	186	980	6,380	1,030	1,350	1,160	2,020	1,120	422	238	181	176
23	183	916	5,920	1,010	1,210	1,150	2,200	1,040	422	247	181	176
24	183	1,380	5,070	1,060	1,280	1,110	2,560	924	414	241	181	176
25	183	2,340	4,570	1,100	1,360	1,080	2,920	904	393	241	181	176
26	186	2,650	4,620	1,030	1,230	1,170	2,880	1,500	374	294	181	176
27	188	2,400	12,600	1,010	1,410	1,380	2,410	1,220	366	283	181	176
28	296	2,650	11,700	978	1,440	1,830	2,350	1,070	366	251	178	176
29	1,660	2,600	9,850	944	-	2,040	2,310	985	366	238	178	176
30	2,520	1,850	5,940	898	-	1,860	1,960	924	355	241	184	176
31	2,600	-	4,190	866	-	1,750	-	904	-	247	186	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	15,619	5,200	159	504	30,980
November.....	37,058	2,650	434	1,235	73,500
December.....	104,038	12,600	697	3,556	206,400
Calendar year 1945.....	413,415	12,600	154	1,133	820,100
January.....	56,246	4,190	866	1,814	111,600
February.....	25,974	1,440	701	928	51,520
March.....	41,210	2,040	1,080	1,329	81,740
April.....	59,750	2,920	1,310	1,992	118,500
May.....	46,941	2,220	904	1,514	93,110
June.....	16,280	898	355	545	32,280
July.....	8,465	340	238	273	16,790
August.....	6,006	235	178	194	11,910
September.....	5,429	205	176	181	10,770
Water year 1945-46.....	423,016	12,600	159	1,159	839,100

No gage-height record; discharge computed on basis of peak stages recorded and records for stations on nearby streams.

Shasta Reservoir near Redding, Calif.

Location.- Water-stage recorder, lat. 40°43', long. 122°25', in S½ sec. 15, T. 33 N., R. 5 W., at Shasta Dam on Sacramento River, 2 miles downstream from Squaw Creek and 9.5 miles north of Redding. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Drainage area.- 6,665 square miles (excluding Goose Lake Basin).

Records available.- November 1942 to September 1946.

Extremes.- Maximum contents during year, 3,469,000 acre-feet May 13, 14 (elevation, 1,027.44 feet); minimum, 2,116,000 acre-feet Oct. 28 (elevation, 963.93 feet).
1942-46: Maximum contents, that of May 13, 14, 1946.

Remarks.- Reservoir is formed by concrete gravity-type dam not yet completed; regulation of discharge from reservoir began Dec. 30, 1943. Temporary usable capacity, 3,583,000 acre-feet between elevations 737.75 feet (bottom of lowest set of river outlets) and 1,036.42 feet (top of temporary wooden crest) above mean sea level. 115,700 acre-feet is not available for release. All water passes down Sacramento River, some first passing through power plant at dam. Records show total contents at 12 p.m.

Cooperation.- Record of contents furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,252	2,176	2,306	3,252	2,918	2,958	3,225	3,426	3,450	3,263	2,950	2,623
2	2,246	2,177	2,309	3,255	2,916	2,968	3,235	3,429	3,446	3,255	2,939	2,615
3	2,241	2,176	2,315	3,259	2,913	2,976	3,244	3,434	3,444	3,247	2,928	2,606
4	2,235	2,172	2,352	3,273	2,910	2,985	3,252	3,440	3,440	3,236	2,916	2,599
5	2,231	2,167	2,390	3,279	2,960	2,992	3,261	3,445	3,437	3,227	2,905	2,592
6	2,225	2,165	2,419	3,273	2,905	2,999	3,269	3,451	3,434	3,217	2,895	2,586
7	2,219	2,161	2,447	3,262	2,902	3,006	3,276	3,455	3,429	3,207	2,884	2,578
8	2,213	2,158	2,465	3,242	2,898	3,012	3,286	3,458	3,423	3,198	2,875	2,570
9	2,209	2,157	2,475	3,217	2,895	3,019	3,293	3,462	3,416	3,189	2,862	2,563
10	2,205	2,155	2,484	3,190	2,891	3,026	3,300	3,465	3,411	3,179	2,851	2,557
11	2,202	2,150	2,490	3,172	2,888	3,033	3,307	3,467	3,405	3,170	2,839	2,551
12	2,198	2,149	2,495	3,161	2,884	3,043	3,314	3,468	3,401	3,161	2,828	2,545
13	2,193	2,147	2,498	3,150	2,880	3,054	3,322	3,469	3,395	3,150	2,817	2,539
14	2,186	2,144	2,502	3,139	2,875	3,063	3,329	3,469	3,390	3,138	2,808	2,532
15	2,181	2,148	2,504	3,127	2,875	3,077	3,337	3,468	3,383	3,129	2,795	2,525
16	2,177	2,156	2,504	3,114	2,874	3,080	3,347	3,467	3,375	3,118	2,784	2,519
17	2,171	2,163	2,505	3,099	2,874	3,088	3,355	3,466	3,368	3,108	2,772	2,515
18	2,167	2,167	2,505	3,084	2,875	3,096	3,364	3,466	3,363	3,098	2,759	2,511
19	2,163	2,162	2,505	3,069	2,878	3,103	3,371	3,465	3,357	3,087	2,748	2,506
20	2,157	2,190	2,507	3,052	2,880	3,110	3,378	3,464	3,351	3,077	2,738	2,501
21	2,150	2,194	2,521	3,037	2,888	3,117	3,382	3,463	3,344	3,066	2,726	2,496
22	2,145	2,197	2,580	3,020	2,894	3,126	3,387	3,463	3,335	3,055	2,716	2,490
23	2,139	2,198	2,633	3,003	2,900	3,135	3,392	3,462	3,326	3,045	2,706	2,485
24	2,135	2,206	2,687	2,987	2,908	3,143	3,397	3,460	3,319	3,034	2,697	2,481
25	2,130	2,221	2,735	2,970	2,916	3,151	3,404	3,459	3,311	3,024	2,686	2,476
26	2,124	2,238	2,803	2,953	2,925	3,158	3,410	3,459	3,304	3,015	2,677	2,471
27	2,119	2,253	2,948	2,935	2,936	3,166	3,414	3,459	3,296	3,004	2,668	2,466
28	2,116	2,271	3,076	2,928	2,947	3,178	3,417	3,458	3,288	2,992	2,659	2,461
29	2,126	2,287	3,173	2,925	-	3,191	3,422	3,457	3,280	2,981	2,650	2,455
30	2,150	2,298	3,221	2,923	-	3,203	3,424	3,454	3,271	2,970	2,641	2,450
31	2,172	-	3,250	2,920	-	3,214	-	3,452	-	2,960	2,633	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	971.67	2,256,000	-
Oct. 31.....	967.07	2,172,000	-84,000
Nov. 30.....	975.83	2,298,000	+126,000
Dec. 31.....	1,018.47	3,250,000	+952,000
Calendar year 1945.....	-	-	+1,748,000
Jan. 31.....	1,004.21	2,920,000	-330,000
Feb. 28.....	1,005.38	2,947,000	+27,000
Mar. 31.....	1,016.97	3,214,000	+267,000
Apr. 30.....	1,025.62	3,424,000	+210,000
May 31.....	1,026.75	3,452,000	+28,000
June 30.....	1,019.32	3,271,000	-181,000
July 31.....	1,005.96	2,960,000	-311,000
Aug. 31.....	990.78	2,633,000	-327,000
Sept. 30.....	981.74	2,450,000	-183,000
Water year 1945-46.....	-	-	+194,000

Sacramento River at Keswick, Calif.

Location.- Water-stage recorder, lat. 40°36', long. 122°27', in W $\frac{1}{2}$ sec. 28, T. 32 N., R. 5 W., 0.8 mile downstream from Keswick Dam, 0.8 mile upstream from Middle Creek, 1.6 miles downstream from Keswick, and 11 miles downstream from Shasta Dam. Datum of gage is 479.81 feet above mean sea level, datum of 1929.

Drainage area.- 6,710 square miles, including Goose Lake Basin.

Records available.- October 1942 to September 1946. October 1938 to April, 1942 at site 1.5 miles upstream.

Extremes.- Maximum discharge during year, 29,400 second-feet (regulated) Jan. 4 (gage height, 21.70 feet); minimum, 5,020 second-feet (regulated) Apr. 16 (gage height, 9.35 feet).

1938-46: Maximum discharge, 186,000 second-feet Feb. 28, 1940 (gage height, 47.2 feet), site and datum then in use), from rating curve extended above 75,000 second-feet on basis of peak discharge at Kennett plus 4,000 second-feet estimated inflow; minimum, 580 second-feet (regulated) Mar. 17, 18, 1944 (gage height, 3.4 feet).

Remarks.- Records excellent except those for periods of backwater effect or no gage-height record, which are good. Storage and many diversions above station; flow regulated by Shasta Reservoir (see preceding page).

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,840	8,080	5,980	21,000	8,020	5,500	5,340	7,730	6,910	7,940	8,900	7,400
2	5,790	5,980	5,940	22,000	8,020	5,370	5,330	7,350	6,910	8,120	8,690	7,380
3	5,760	5,970	6,140	25,300	8,020	5,360	5,320	6,030	6,930	8,410	8,890	7,390
4	5,790	5,960	7,770	28,300	8,020	5,360	5,300	5,910	6,900	8,450	8,900	7,190
5	5,670	5,980	6,780	27,700	8,030	5,370	5,280	5,910	6,910	8,450	8,900	6,820
6	5,740	5,970	6,260	27,000	8,120	5,360	5,280	5,870	6,910	8,430	8,900	6,820
7	5,720	5,960	6,100	27,200	8,060	5,330	5,280	5,840	7,100	8,410	8,890	6,820
8	5,790	6,030	5,980	26,900	8,050	5,320	5,280	5,850	7,430	8,430	8,870	6,790
9	5,850	5,990	5,800	26,900	8,030	5,320	5,260	5,920	7,400	8,450	8,860	6,680
10	5,790	6,000	5,800	26,800	8,030	5,320	5,240	6,680	7,420	8,450	8,860	6,290
11	5,670	5,980	5,750	22,000	8,030	5,320	5,230	6,600	7,390	8,450	8,850	6,270
12	5,790	6,030	5,700	16,200	8,030	5,330	5,210	6,590	7,390	8,380	8,830	6,270
13	5,800	6,000	5,700	16,200	8,020	5,390	5,210	6,600	7,390	8,680	8,830	6,260
14	5,780	5,990	5,700	16,100	8,020	5,320	5,210	7,020	7,400	8,900	8,850	6,270
15	5,810	6,110	5,700	16,100	6,260	5,300	5,230	7,620	7,380	8,920	8,860	6,270
16	5,810	6,280	5,700	16,100	5,960	5,300	5,520	7,580	7,480	8,930	8,860	6,150
17	5,790	6,140	5,650	16,100	5,940	5,300	6,210	7,470	7,430	8,940	8,860	5,530
18	5,840	6,060	5,600	16,000	5,970	5,300	6,520	6,830	7,420	8,940	8,830	5,540
19	5,810	6,180	5,600	16,000	5,980	5,300	7,230	6,860	7,420	8,940	8,870	5,550
20	5,820	6,080	5,700	15,900	5,970	5,310	7,130	6,840	7,610	8,970	8,890	5,540
21	5,840	6,030	6,300	16,100	6,060	5,290	7,810	6,840	7,920	8,970	8,900	5,540
22	5,820	6,020	7,000	16,000	6,000	5,280	7,280	6,830	7,940	9,000	8,900	5,550
23	5,840	5,980	6,600	16,100	5,970	5,280	7,710	6,840	7,960	9,000	8,900	5,560
24	5,850	6,280	6,500	16,100	5,960	5,280	7,700	6,840	7,960	9,000	7,920	5,580
25	5,860	6,300	6,700	16,000	5,930	5,290	7,700	6,860	7,980	9,000	7,920	5,610
26	5,880	6,170	7,800	16,100	5,940	5,280	7,700	6,930	7,920	8,970	7,920	5,600
27	5,900	6,050	11,000	16,100	5,920	5,280	7,700	6,830	7,940	8,900	7,920	5,600
28	5,940	6,520	8,000	12,600	5,930	5,280	7,730	6,830	7,950	8,900	7,910	5,600
29	6,450	6,240	7,500	8,220	-	5,280	7,730	6,840	7,960	8,900	7,940	5,600
30	6,970	6,080	12,000	8,020	-	5,330	7,710	6,860	7,960	8,900	7,740	5,590
31	6,600	-	9,500	8,020	-	5,360	-	6,900	-	8,920	7,390	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	182,610	6,970	5,670	5,891	362,200
November	185,390	5,960	5,090	5,390	361,800
December	206,270	12,000	5,600	6,718	415,100
Calendar year 1945	2,067,050	12,000	2,480	5,663	4,100,000
January	575,260	28,300	8,020	18,560	1,141,000
February	196,290	8,120	5,920	7,010	389,300
March	185,010	6,500	5,280	5,325	327,300
April	188,560	7,610	5,210	6,279	475,600
May	208,500	7,730	5,840	6,726	415,600
June	224,640	7,980	6,900	7,488	445,600
July	270,050	9,000	7,940	8,711	535,600
August	266,150	8,900	7,390	8,585	527,900
September	185,080	7,400	5,530	6,169	367,100
Water year 1945-46	2,852,630	28,300	5,210	7,815	5,656,000

Note.- No gage-height record Dec. 9 to Jan. 2; discharge computed on basis of unpublished records for station at Redding and release at Shasta Dam. Stage-discharge relation affected by backwater from diversion dam 3.5 miles below station Oct. 1 to Nov. 19, Apr. 25 to Sept. 30.

SACRAMENTO RIVER MAIN STEM

Sacramento River near Red Bluff, Calif.

Location.- Water-stage recorder, lat. 40°13'55", long. 122°10'50", in SE¼ sec. 34, T. 28 N., R. 3 W., at lower end of Iron Canyon, 0.5 mile downstream from Severn Creek and 4 miles northeast of Red Bluff. Datum of gage is 252.6 feet above mean sea level (from river-profile survey).

Drainage area.- 9,300 square miles, excluding Goose Lake Basin.

Records available.- January 1902 to September 1946. April 1895 to June 1902 at site at Jellies Ferry, 12 miles upstream from Red Bluff.

Average discharge.- 51 years, 11,270 second-feet.

Extremes.- Maximum discharge during year, 79,200 second-feet Dec. 27 (gage height, 17.53 feet); minimum, 5,520 second-feet (regulated) Sept. 23 (gage height, 1.60 feet).

1895-1946: Maximum discharge, 291,000 second-feet Feb. 28, 1940 (gage height, 38.9 feet), from rating curve extended above 200,000 second-feet by logarithmic plotting and on basis of velocity-area studies; minimum, 2,000 second-feet (regulated) Mar. 29, 1944 (gage height, -0.45 foot).

Remarks.- Records excellent. Storage and many diversions above station; flow regulated by Shasta Reservoir (see p. 292).

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.6	5,520	5.0	15,300	12.0	45,800
2.0	6,470	6.0	18,700	14.0	56,800
2.5	7,780	7.0	22,400	15.3	64,700
3.0	9,150	8.5	28,700		
4.0	12,100	10.0	35,800		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,930	8,480	9,040	29,300	10,000	9,040	9,320	9,210	7,640	8,020	8,930	7,350
2	5,820	7,270	8,240	33,500	10,100	8,320	9,150	7,580	7,940	8,900	7,350	
3	5,840	6,880	8,020	50,100	10,600	8,080	8,510	7,940	7,560	8,350	8,900	7,350
4	5,820	6,700	28,700	53,900	10,400	7,860	8,210	7,480	7,510	8,400	8,900	7,380
5	5,820	6,620	26,100	51,500	10,100	7,730	8,050	7,460	7,880	8,430	8,900	6,930
6	5,730	6,570	15,600	40,900	10,100	7,590	7,940	7,510	7,510	8,430	8,870	6,850
7	5,840	6,540	12,400	38,600	10,900	7,480	7,890	7,400	7,510	8,460	8,870	6,820
8	5,770	6,520	10,900	37,000	10,300	7,400	7,940	7,350	7,890	8,460	8,870	6,820
9	5,930	6,540	9,800	34,800	10,100	7,380	7,950	7,350	7,830	8,370	8,870	6,800
10	5,960	6,720	8,930	33,600	10,000	7,400	7,640	7,920	7,830	8,350	8,870	6,420
11	5,890	6,980	8,510	32,300	9,950	7,640	7,380	8,050	7,830	8,320	8,900	6,240
12	6,050	6,880	8,180	21,600	9,840	7,400	7,320	8,000	7,830	8,270	8,870	6,220
13	6,050	7,080	7,860	20,400	9,780	8,400	7,380	7,940	7,810	8,350	8,870	6,240
14	6,000	6,850	7,560	20,100	9,720	8,080	7,480	7,890	7,780	8,810	8,870	6,270
15	6,050	7,160	7,480	19,800	9,950	7,640	7,400	8,650	7,780	8,840	8,870	6,300
16	6,050	8,100	7,480	19,500	7,830	7,510	7,400	8,700	7,860	8,840	8,870	6,540
17	6,050	9,400	7,320	19,200	7,730	7,430	8,240	8,650	7,920	8,840	8,840	5,840
18	6,050	7,940	7,140	19,000	7,700	7,480	8,510	8,180	7,750	8,840	8,840	5,610
19	6,030	8,590	7,030	18,900	7,750	7,460	9,400	8,020	7,640	8,810	8,900	5,570
20	6,030	9,150	7,080	18,800	8,000	7,460	9,150	8,000	7,620	8,790	8,840	5,570
21	6,030	8,000	18,600	18,500	9,330	7,480	9,350	7,940	8,050	8,810	8,840	5,570
22	6,030	7,430	36,600	18,600	9,550	7,380	9,290	8,000	8,130	8,810	8,840	5,540
23	6,000	7,190	35,100	18,500	8,670	7,460	9,120	8,100	8,210	8,870	8,850	5,540
24	6,000	7,140	25,700	18,400	8,480	7,290	9,430	8,050	8,210	8,870	7,890	5,570
25	6,000	9,230	34,100	18,300	9,320	7,240	9,520	7,920	8,210	8,900	7,830	5,610
26	6,050	10,600	28,300	18,200	8,670	7,160	9,600	8,270	8,130	9,070	7,830	5,610
27	6,050	9,040	55,900	18,200	8,760	7,140	9,550	8,350	8,080	9,090	7,860	5,590
28	6,220	10,200	64,000	18,000	10,000	7,210	9,460	8,000	8,100	9,070	7,860	5,590
29	6,980	20,400	43,000	11,400	-	7,920	9,430	7,830	8,100	9,040	7,890	5,640
30	9,070	11,000	32,500	10,200	-	8,270	9,350	7,730	8,080	8,880	7,890	5,610
31	10,700	-	21,200	10,000	-	8,870	-	7,640	-	8,950	7,460	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	193,790	10,700	5,730	6,251	384,400
November.....	247,200	20,400	6,520	8,240	490,300
December.....	808,150	64,000	7,030	19,620	1,206,000
Calendar year 1945	3,116,620	64,000	3,990	8,539	6,181,000
January.....	791,100	53,900	10,000	25,520	1,569,000
February.....	262,630	10,900	7,700	9,380	520,900
March.....	258,200	9,040	7,140	7,684	472,500
April.....	255,910	9,600	7,320	8,550	507,600
May.....	248,680	9,210	7,350	8,022	493,200
June.....	235,470	8,210	7,480	7,849	467,000
July.....	268,380	9,090	7,940	8,657	532,300
August.....	266,390	8,930	7,460	8,593	528,400
September.....	186,140	7,580	5,540	6,205	369,200
Water year 1945-46	3,802,040	64,000	5,540	10,420	7,541,000

Peak discharge.- Dec. 4 (8 p.m.) 51,100 sec.-ft.; Dec. 22 (8 a.m.) 47,400 sec.-ft.; Dec. 27 (12 p.m.) 79,200 sec.-ft.; Jan. 3 (5:30 a.m.) 60,800 sec.-ft.; Jan. 4 (8 p.m.) 75,500 sec.-ft.
a No gage-height record; discharge interpolated.

Sacramento River at Butte City, Calif.

Location.- Water-stage recorder, lat. 39°27'35", long. 121°59'35", in NE¼ sec. 32, T. 19 N., R. 1 W., 0.5 mile south of Butte City. Zero of gage is set to datum of Corps of Engineers, War Department.

Records available.- April 1921 to October 1939 (low-water periods only) and June 1940 to September 1946 in reports of Geological Survey. 1939-46 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 114,000 second-feet Dec. 29 (gage height, 91.69 feet); minimum, 5,170 second-feet Sept. 28 (gage height, 70.62 feet).

1940-46: Maximum discharge, 170,000 second-feet Feb. 7, 1942 (gage height, 96.87 feet), from rating curve extended above 100,000 second-feet.

1921-46: Minimum discharge recorded, 1,050 second-feet July 15, 25, 26, 1931 (gage height, 67.49 feet).

Remarks.- Records good. Flow regulated by reservoirs, many diversions for irrigation, and bypassing for flood control.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29						Dec. 30 to Sept. 30					
71.0	5,420	80.0	31,300	88.0	77,000	70.6	5,130	78.0	18,400	84.0	47,000
72.0	7,640	82.0	39,300	90.0	97,000	71.0	5,850	78.0	22,800	86.0	59,200
74.0	12,600	84.0	48,100	91.5	112,000	72.0	7,720	80.0	30,000	88.0	77,000
76.0	18,000	85.0	53,000			74.0	11,700	82.0	38,000	89.5	92,000
78.0	24,200	86.0	59,400								

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,480	12,600	13,800	35,800	13,000	12,400	11,000	8,860	6,770	6,390	6,920	6,050
2	5,480	9,700	11,500	37,700	12,700	11,600	11,300	8,730	6,580	6,370	6,880	5,960
3	5,440	8,100	10,300	44,200	12,700	10,900	10,600	8,630	6,620	6,280	6,880	5,940
4	5,440	7,500	12,400	59,800	12,900	10,800	10,200	7,850	6,810	6,620	6,810	5,900
5	5,420	7,180	45,000	73,800	12,600	10,300	9,940	7,490	6,810	6,710	6,830	6,080
6	5,420	7,020	34,400	76,300	12,400	10,100	9,720	7,400	6,730	6,690	6,810	5,630
7	5,380	7,000	19,800	54,400	12,400	9,900	9,580	7,400	6,690	6,680	6,810	5,580
8	5,520	6,950	16,500	47,900	12,800	9,780	9,490	7,260	6,560	6,660	6,770	5,600
9	5,500	6,950	14,100	44,100	12,400	9,720	9,410	7,150	6,480	6,560	6,810	5,630
10	5,610	7,000	12,600	40,700	12,200	9,680	9,110	7,040	6,450	6,560	6,810	5,600
11	5,710	7,130	11,600	38,600	12,100	9,700	8,880	7,260	6,410	6,480	6,810	5,360
12	5,710	7,410	10,900	35,600	12,000	9,780	8,500	7,340	6,350	6,450	6,850	5,310
13	5,780	7,360	10,400	27,200	11,800	9,620	8,480	7,230	6,300	6,390	6,830	5,350
14	5,820	7,520	9,820	25,100	11,700	10,400	8,520	7,190	6,250	6,450	6,860	5,450
15	5,910	7,390	9,490	24,100	11,600	10,200	8,480	7,170	6,140	6,850	6,860	5,530
16	5,930	7,640	9,270	23,400	11,000	9,820	8,290	7,640	6,120	7,260	6,900	5,540
17	5,930	8,960	9,180	22,400	10,300	9,620	8,350	7,720	6,100	6,980	6,920	5,560
18	5,950	10,400	8,910	21,800	10,100	9,490	8,730	7,700	6,170	6,960	6,940	5,400
19	5,950	9,100	8,670	21,300	10,000	9,510	8,970	7,420	6,080	6,940	6,860	5,270
20	5,930	9,880	8,600	21,000	9,960	9,470	9,470	7,360	5,960	6,860	6,940	5,260
21	5,910	10,500	12,300	20,600	10,300	9,430	9,300	7,210	5,890	6,810	6,920	5,270
22	5,910	9,270	45,600	20,200	11,600	9,390	9,280	7,190	6,100	6,830	6,960	5,200
23	5,950	8,600	68,200	20,100	11,600	9,280	9,050	7,190	6,230	7,300	6,960	5,180
24	5,970	8,290	58,200	19,900	10,900	9,240	8,960	7,230	6,210	6,960	6,770	5,240
25	5,950	8,290	57,500	19,700	10,800	9,070	9,180	7,150	6,260	6,900	6,230	5,220
26	5,910	10,200	63,700	19,600	11,300	8,940	9,300	7,150	6,320	7,000	6,210	5,240
27	5,910	11,600	51,000	19,400	12,900	8,670	9,370	7,420	6,280	7,110	6,210	5,220
28	5,970	10,700	93,700	19,200	11,300	8,630	9,240	7,570	6,160	7,170	6,210	5,170
29	6,370	16,300	112,000	18,400	-	8,800	9,140	7,210	6,070	7,130	6,210	5,180
30	7,740	21,000	91,200	14,500	-	9,520	9,010	7,070	5,990	7,090	6,230	5,260
31	12,000	-	54,400	13,400	-	10,400	-	6,960	-	7,000	6,260	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	186,880	12,000	5,380	6,028	370,700
November	277,540	21,000	6,950	9,251	550,500
December	992,840	112,000	8,600	32,030	1,969,000
Calendar year 1945	3,739,940	112,000	4,860	10,250	7,417,000
January	980,200	76,300	13,400	31,620	1,944,000
February	325,360	13,000	9,960	11,620	645,300
March	303,960	12,400	8,630	9,805	602,900
April	278,850	11,300	8,290	9,295	554,100
May	-	-	-	-	-

SACRAMENTO RIVER MAIN STEM

Sacramento River at Colusa, Calif.

Location.- Water-stage recorder, lat. 39°12'50", long. 121°59'55", at north end of Jimeno Grant, just downstream from highway bridge at Colusa, Colusa County. Zero of gage is set to datum of Corps of Engineers, War Department.

Records available.- April 1921 to October 1939 (low-water periods only) and June 1940 to September 1946 in reports of Geological Survey. 1939-46 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 38,100 second-feet Dec. 29 (gage height, 65.33 feet); minimum, 5,150 second-feet Sept. 25 (gage height, 40.29 feet).

1940-46: Maximum discharge, 49,000 second-feet Feb. 8, 1942 (gage height, 69.20 feet).

1921-46: Minimum discharge recorded, 820 second-feet July 25, 26, 1931 (gage height, 34.79 feet).

Remarks.- Records good. Flow regulated by reservoirs, many diversions for irrigation, and bypassing for flood control.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,460	12,200	17,300	31,200	13,200	12,000	11,200	8,880	6,580	5,850	6,550	5,930
2	5,540	11,000	13,000	30,400	12,800	12,100	11,600	8,500	6,540	5,860	6,520	5,770
3	5,470	8,980	10,800	31,100	12,500	11,200	11,100	8,390	6,520	5,780	6,560	5,810
4	5,490	7,970	10,200	33,400	12,700	10,700	10,500	7,980	6,470	5,880	6,530	5,870
5	5,460	7,580	21,500	34,000	12,600	10,300	10,000	7,200	6,320	6,130	6,560	5,900
6	5,470	7,510	31,000	38,300	12,400	10,100	9,750	7,010	6,200	6,180	6,510	5,890
7	5,460	7,200	25,100	33,800	12,200	9,850	9,820	6,950	6,080	6,170	6,520	5,540
8	5,530	7,120	19,000	32,600	12,300	9,770	9,520	6,910	6,070	6,180	6,480	5,520
9	5,540	7,040	15,800	32,100	12,400	9,620	9,400	6,710	6,140	6,170	6,440	5,510
10	5,590	7,010	13,400	31,400	12,200	9,560	9,220	6,610	6,280	6,160	6,410	5,520
11	5,660	7,040	11,900	31,000	11,900	9,520	8,990	6,600	6,220	6,120	6,390	5,490
12	5,710	7,260	10,800	30,500	11,800	9,580	8,580	6,910	6,200	6,130	6,410	5,300
13	5,750	7,230	10,200	28,400	11,600	9,530	8,290	6,830	6,120	6,120	6,380	5,300
14	5,830	7,330	9,560	26,000	11,500	9,850	8,390	6,810	6,060	6,080	6,400	5,370
15	5,880	7,290	9,040	24,700	11,400	10,400	8,400	6,660	6,030	6,530	6,420	5,510
16	5,920	7,300	8,640	23,900	11,300	9,850	8,220	6,950	6,010	6,620	6,440	5,580
17	5,940	8,140	8,460	23,300	10,600	9,800	8,060	7,330	6,000	7,020	6,470	5,590
18	5,940	9,510	8,240	22,800	10,100	9,420	8,110	7,350	5,990	6,660	6,480	5,580
19	5,920	9,540	7,990	22,400	9,810	9,380	8,590	7,340	5,860	6,740	6,450	5,320
20	5,920	8,940	7,790	22,100	9,880	9,370	8,980	7,070	5,850	6,720	6,460	5,270
21	5,890	10,200	8,140	21,800	9,910	9,260	9,310	6,970	5,600	6,730	6,470	5,260
22	5,870	9,520	21,800	21,400	10,600	9,240	9,030	6,880	5,580	6,760	6,480	5,250
23	5,850	8,730	33,400	21,300	11,800	9,120	9,110	6,820	5,830	7,080	6,480	5,190
24	5,880	8,320	34,000	21,200	11,100	9,060	8,610	6,930	5,900	6,980	6,480	5,200
25	5,900	8,150	35,000	21,100	10,700	8,950	8,890	6,920	5,930	6,700	6,020	5,160
26	5,890	9,090	34,300	20,900	11,100	8,840	9,050	6,870	5,890	6,540	5,780	5,210
27	5,860	10,700	35,000	20,800	11,000	8,630	9,220	6,970	5,840	6,710	5,700	5,240
28	5,900	10,800	34,700	20,600	10,900	8,430	9,200	7,360	5,800	6,790	5,700	5,210
29	6,040	12,000	37,700	20,400	-	8,410	9,050	7,170	5,810	6,780	5,800	5,210
30	6,630	20,000	36,800	17,500	-	9,100	8,870	6,900	5,630	6,730	5,890	5,300
31	9,260	-	34,000	14,300	-	10,100	-	6,740	-	6,640	5,960	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	182,430	9,260	5,460	5,885	361,800
November	270,280	20,000	7,010	9,009	536,100
December	610,760	37,700	7,790	19,700	1,211,000
Calendar year 1945	3,240,560	37,700	4,810	8,878	6,427,000
January	801,700	35,300	14,300	25,860	1,590,000
February	322,300	13,200	9,810	11,510	639,300
March	300,840	12,100	8,410	9,705	596,700
April	276,870	11,600	8,060	9,229	549,200
May	221,320	8,680	6,600	7,139	439,000
June	181,550	6,580	5,580	6,052	360,100
July	199,280	7,060	5,760	6,428	395,300
August	198,130	6,560	5,700	6,327	389,000
September	163,800	5,930	5,160	5,460	324,900
Water year 1945-46	3,727,260	37,700	5,160	10,210	7,392,000

Sacramento River below Wilkins Slough, Calif.

Location.— Water-stage recorder, lat. 39°00'35", long. 121°49'25", in Jimeno Grant, 1,500 Feet downstream from Wilkins Slough, Colusa County, and 6 miles southeast of Grimes. Zero of gage is set to datum of Corps of Engineers, War Department.

Records available.— August 1931 to October 1939 (low-water periods only) and June 1940 to September 1946 in reports of Geological Survey. 1939-46 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.— Maximum discharge during year, 22,400 second-feet Dec. 30 (gage height, 48.44 feet); minimum, 4,890 second-feet Aug. 28 (gage height, 25.98 feet).

1940-46: Maximum discharge, 26,600 second-feet Feb. 8, 1942 (gage height, 52.29 feet).

1931-46: Minimum discharge recorded, 100 second-feet Aug. 1, 1931 (gage height, 14.20 feet).

Remarks.— Records good except those for period of backwater effect, which are fair. Flow regulated by reservoirs, many diversions for irrigation, and bypassing for flood control.

Cooperation.— Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Rating table, water year 1945-46, except period of backwater effect
(gage height, in feet, and discharge, in second-feet)

26.0	4,900	36.0	12,300
28.0	6,350	38.0	14,600
30.0	7,800	42.0	17,000
32.0	9,300	45.0	19,400
34.0	10,800	48.5	22,400

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,880	10,600	17,100	21,500	h3,900	11,900	11,100	7,580	6,080	5,240	5,600	5,170
2	5,890	11,100	14,100	21,300	h3,200	12,500	11,700	7,390	5,980	5,180	5,540	5,080
3	5,820	9,500	11,900	21,300	12,900	12,000	11,800	7,190	5,930	5,100	5,520	5,060
4	5,740	8,200	10,800	21,600	12,800	11,500	11,300	7,000	5,800	5,050	5,540	5,120
5	5,720	7,650	15,000	21,600	13,000	11,100	10,900	6,380	5,700	5,270	5,530	5,190
6	5,780	7,300	20,900	21,800	h2,700	10,800	10,400	5,980	5,570	5,350	5,530	5,380
7	5,820	7,110	20,400	21,700	12,500	10,600	10,100	5,810	5,430	5,350	5,520	5,240
8	5,840	7,050	18,900	21,500	12,800	10,400	9,740	5,790	5,350	5,320	5,490	5,110
9	5,870	6,970	17,400	21,400	12,800	10,200	9,470	5,590	5,380	5,290	5,480	5,140
10	5,850	7,000	14,900	21,300	12,500	10,100	9,320	5,390	5,550	5,240	5,460	5,230
11	5,870	7,070	15,400	21,300	12,300	10,100	9,080	5,220	5,570	5,140	5,480	5,280
12	5,880	7,220	12,400	21,200	12,200	10,100	8,720	5,430	5,540	5,110	5,480	5,200
13	5,890	6,660	11,600	21,000	12,100	10,200	8,370	5,450	5,480	5,100	5,480	5,180
14	5,950	7,430	11,000	h0,700	11,900	10,200	8,170	5,390	5,460	4,990	5,460	5,260
15	5,980	7,510	10,400	h0,500	11,800	10,300	8,080	5,320	5,490	5,070	5,500	5,470
16	6,020	7,470	10,000	20,300	11,700	10,700	7,790	5,440	5,480	5,340	5,520	5,670
17	6,040	7,820	9,790	20,200	11,100	10,400	7,440	5,850	5,470	5,710	5,520	5,800
18	6,040	8,790	9,510	20,000	10,600	10,100	7,360	6,010	5,450	5,820	5,570	5,900
19	6,020	9,510	9,250	19,900	10,300	10,000	7,590	6,070	5,380	5,450	5,590	5,820
20	6,010	9,040	8,980	19,900	10,200	9,990	7,880	5,870	5,210	5,430	5,550	5,710
21	5,990	9,610	9,000	19,800	10,200	9,940	8,110	5,930	5,080	5,390	5,600	5,690
22	5,970	9,830	14,400	19,700	10,500	9,920	7,850	5,750	4,950	5,360	5,610	5,720
23	5,960	9,180	21,300	19,600	11,700	9,840	7,650	5,800	5,100	5,330	5,610	5,690
24	5,980	8,650	21,700	19,600	11,800	9,750	7,360	5,850	5,240	5,670	5,650	5,600
25	6,010	8,400	21,600	19,600	11,300	9,680	7,360	5,960	5,260	5,430	5,550	5,540
26	6,010	8,820	21,800	19,500	11,400	9,500	7,610	5,930	5,320	5,350	5,100	5,540
27	5,980	9,820	21,700	19,500	11,600	9,300	7,990	6,110	5,280	5,490	4,950	5,600
28	5,980	10,600	21,700	19,400	11,300	9,100	7,940	6,500	5,230	5,650	4,910	5,670
29	6,080	10,700	22,100	18,100	-	9,100	7,880	6,680	5,190	5,730	4,970	5,650
30	6,530	15,900	22,400	15,400	-	9,400	7,710	6,440	5,240	5,710	5,080	5,650
31	7,740	-	22,000	13,900	-	10,400	-	6,220	-	5,670	5,080	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	186,110	7,740	5,720	6,003	389,100
November.....	262,270	15,900	6,680	8,742	520,200
December.....	467,450	22,400	8,980	15,720	966,800
Calendar year 1945.....	2,961,080	22,400	3,610	8,113	5,873,000
January.....	624,100	21,800	13,900	20,130	1,238,000
February.....	332,900	13,900	10,200	11,890	680,300
March.....	319,720	12,800	9,100	10,310	634,200
April.....	265,770	11,800	7,360	8,792	523,200
May.....	187,330	7,590	5,220	6,043	371,600
June.....	163,220	6,090	4,950	5,441	323,700
July.....	166,030	5,730	4,990	5,356	329,300
August.....	168,410	5,650	4,910	5,433	334,000
September.....	163,360	5,900	5,060	5,445	324,000
Water year 1945-46.....	3,324,650	22,400	4,910	9,109	6,594,000

h Computed from staff-gage reading. Backwater from Feather River Apr. 5 to June 11; discharge computed on basis of 5 discharge measurements and a temporary slope rating.

Note.— No gage-height record Jan. 9-14, 16-31, Feb. 2-5, Mar. 26-31, Apr. 8-14; discharge computed on basis of unpublished record of Tisdale Weir, 1 mile upstream.

Sacramento River at Knights Landing, Calif.

Location.- Water-stage recorder, lat. 38°48'10", long. 121°42'55", in NE¹/₄ sec. 14, T. 11 N., R. 2 E., just upstream from Southern Pacific Railroad bridge at Knights Landing. Zero of gage is set to datum of Corps of Engineers, War Department. Auxiliary gage is water-stage recorder at upstream end of Fremont weir.

Records available.- April 1921 to October 1939 (low-water periods only) and June 1940 to September 1945 in reports of Geological Survey. 1939-45 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum daily discharge during year, 23,000 second-feet Dec. 6, 7; maximum gage height, 38.60 feet Dec. 30; minimum daily discharge, 5,310 second-feet June 22, July 14; minimum gage height, 15.63 feet July 14.
1940-46: Maximum discharge, 27,900 second-feet Feb. 9, 1942; maximum gage height, 41.83 feet Feb. 8, 1942.
1921-46: Minimum discharge recorded, 250 second-feet July 23, 1931 (gage height, 7.80 feet).

Remarks.- Records good. Flow regulated by reservoirs, many diversions for irrigation, and bypassing for flood control; considerable return water from irrigation. Discharge computed by using fall as a factor.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,680	10,700	18,800	22,000	14,700	11,800	11,000	8,270	7,190	5,560	6,040	5,980
2	6,720	12,400	15,700	22,100	14,000	12,700	11,800	8,280	6,980	5,570	5,960	5,980
3	6,720	11,500	13,500	22,000	13,500	12,800	12,300	8,020	6,860	5,470	5,810	6,000
4	6,660	9,610	12,000	22,300	13,200	12,000	12,300	7,800	6,890	5,460	5,810	6,030
5	6,610	8,510	13,800	22,500	13,200	11,600	12,000	7,160	6,510	5,580	5,930	6,070
6	6,540	7,990	23,000	22,600	13,300	11,300	11,500	6,620	6,220	5,690	5,930	6,290
7	6,560	7,730	23,000	22,700	12,900	11,100	11,000	6,350	5,730	5,730	5,870	6,230
8	6,540	7,620	20,900	22,300	12,800	10,800	10,700	6,380	5,890	5,630	5,890	6,100
9	6,590	7,580	18,300	22,000	13,100	10,600	10,500	6,320	5,940	5,600	5,860	6,130
10	6,500	7,630	15,900	22,100	13,200	10,600	10,200	6,270	5,980	5,580	5,930	6,220
11	6,560	7,670	14,400	22,200	12,800	10,400	10,100	6,100	6,170	5,520	5,940	6,240
12	6,560	7,800	13,800	22,100	12,700	10,400	9,770	6,400	6,000	5,500	5,970	6,270
13	6,530	8,040	13,000	22,100	12,800	10,400	9,290	6,420	6,030	5,460	6,000	6,420
14	6,510	8,080	12,200	21,600	12,500	9,780	8,850	6,450	5,920	5,310	5,880	6,530
15	6,600	8,140	11,600	21,600	12,500	10,800	8,640	6,540	6,040	5,400	6,020	6,710
16	6,570	8,100	11,100	21,100	12,400	10,900	8,400	6,690	6,020	5,580	6,030	6,970
17	6,490	8,210	10,800	21,200	12,100	10,700	7,900	7,310	6,030	6,020	6,040	7,090
18	6,520	8,920	10,400	21,300	11,400	10,500	7,410	7,560	5,920	6,020	6,030	7,110
19	6,440	9,980	10,100	21,400	10,900	10,500	7,520	7,520	5,870	5,790	6,110	6,930
20	6,480	9,860	9,830	21,200	10,800	10,300	7,940	7,300	5,510	5,770	6,110	6,780
21	6,420	9,820	9,810	21,200	10,700	10,100	8,430	7,450	5,450	5,740	6,190	6,710
22	6,460	10,400	11,600	21,500	10,700	10,200	8,620	7,200	5,310	5,680	6,230	6,650
23	6,420	10,000	19,900	21,500	11,700	10,300	8,380	7,380	5,330	5,700	6,230	6,550
24	6,400	9,320	21,700	21,600	12,400	10,200	7,930	7,370	5,680	5,970	6,290	6,340
25	6,410	9,070	22,000	21,500	12,000	10,200	7,730	7,600	5,560	5,860	6,320	6,160
26	6,470	8,920	22,400	21,500	11,700	10,100	7,990	7,560	5,680	5,670	5,820	6,100
27	6,350	9,830	22,700	21,500	12,100	9,800	8,350	7,480	5,690	5,800	5,840	6,210
28	6,250	10,900	22,100	21,300	11,900	9,540	8,330	7,950	5,710	6,060	5,630	6,370
29	6,430	11,000	22,400	21,600	-	9,100	8,460	8,300	5,530	6,290	5,670	6,260
30	6,840	15,200	22,600	20,400	-	8,720	8,270	7,970	5,560	6,230	5,760	6,620
31	7,440	-	22,600	17,000	-	9,800	-	7,580	-	6,220	5,810	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	203,290	7,440	6,250	6,558	403,200
November	280,540	15,200	7,590	9,351	556,400
December	511,940	23,000	9,810	16,510	1,015,000
Calendar year 1945	3,155,170	23,000	3,470	8,644	6,258,000
January	669,200	22,800	17,000	21,590	1,327,000
February	347,800	14,700	10,700	12,420	689,900
March	327,840	12,700	8,720	10,580	650,300
April	281,590	12,300	7,410	9,366	558,500
May	223,570	8,300	6,100	7,212	443,400
June	179,260	7,190	5,310	5,975	355,600
July	177,440	6,290	5,310	5,724	351,900
August	184,850	6,320	5,630	5,963	366,600
September	191,690	7,110	5,980	6,390	380,200
Water year 1945-46	3,579,010	23,000	5,310	9,806	7,098,000

Sacramento River at Verona, Calif.

Location.- Water-stage recorder, lat. 38°46'50", long. 121°36'15", in SE $\frac{1}{4}$ sec. 23, T. 11 N., R. 3 E., 0.8 mile southeast of Verona and 1 mile downstream from Feather River. Zero of gage is set 0.06 foot below datum of Corps of Engineers, War Department. Auxiliary gage is water-stage recorder at Sacramento weir 16 miles downstream; set to datum of Corps of Engineers, War Department.

Records available.- May 1926 to September 1946 (1926-29, low-water periods only).

Average discharge.- 17 years (1929-46), 16,930 second-feet.

Extremes.- Maximum daily discharge during year, 61,200 second-feet Dec. 31; maximum gage height, 36.83 feet Dec. 30; minimum discharge, 5,960 second-feet July 14 (gage height, 11.47 feet).

1926-46: Maximum discharge, 79,200 second-feet Mar. 1, 1940 (gage height, 41.20 feet); minimum, 281 second-feet July 24, 1931 (gage height, 6.93 feet).

1934-46: Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 315,000 second-feet Mar. 1, 1940.

Remarks.- Records good. Reservoirs, many diversions, and considerable return water affect flow. When discharge is larger than about 55,000 second-feet, flow begins over Fremont weir (just upstream) into Yolo bypass (see p. 373). Elevation of crest of Fremont weir is 33.5 feet (datum of Corps of Engineers, War Department).

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,120	16,600	26,100	60,900	25,400	23,100	28,900	24,600	14,200	6,940	7,170	7,620
2	9,070	18,100	24,700	59,700	23,500	24,100	28,100	23,500	13,200	6,950	7,000	7,430
3	9,170	15,700	21,500	58,700	23,000	23,600	27,200	22,700	12,600	6,830	6,860	7,330
4	9,120	13,300	19,000	58,300	23,100	22,700	26,100	22,300	12,600	6,660	6,770	7,400
5	9,040	12,000	20,500	58,300	22,900	21,700	25,300	21,900	12,600	6,740	6,740	7,540
6	8,950	11,200	30,900	58,700	22,400	21,000	24,900	21,200	12,100	6,800	6,720	7,780
7	8,920	10,800	34,800	59,200	22,300	20,300	24,300	21,100	11,400	6,680	6,700	7,690
8	8,950	10,400	35,100	58,700	23,600	19,800	23,600	21,300	10,800	6,620	6,680	7,680
9	8,650	10,300	33,300	57,600	23,200	19,600	22,900	21,000	10,200	6,520	6,700	7,590
10	8,860	10,300	30,200	56,900	22,300	19,600	22,400	19,400	9,960	6,660	6,760	7,660
11	8,610	10,600	27,300	56,100	21,600	19,800	21,600	18,800	9,870	6,520	6,780	7,600
12	8,440	11,000	24,800	55,200	21,500	20,200	20,500	19,200	9,530	6,380	6,680	7,910
13	8,410	11,000	22,300	54,500	20,900	20,800	20,100	17,900	9,150	6,300	6,900	8,070
14	8,610	11,200	20,000	53,500	20,400	24,100	20,100	17,500	8,680	6,110	6,680	8,340
15	8,640	11,300	18,200	51,900	19,900	24,900	20,200	17,200	8,700	6,110	6,900	8,560
16	8,560	11,300	16,900	49,600	19,800	23,600	20,500	16,600	8,640	6,300	6,940	8,710
17	8,520	12,300	16,100	47,100	19,500	22,300	21,000	16,800	8,560	6,710	7,080	8,900
18	8,660	14,500	15,500	44,400	18,600	21,400	21,900	16,800	8,220	6,900	7,200	9,170
19	8,540	15,200	15,000	42,200	18,200	20,600	23,300	17,500	8,020	6,720	7,240	9,290
20	8,490	14,700	14,600	40,400	18,000	20,600	24,300	18,700	7,720	6,700	7,320	9,100
21	8,390	15,200	14,600	38,800	18,100	21,700	24,900	19,200	7,510	6,600	7,440	9,140
22	8,300	15,600	27,300	37,400	19,200	21,800	24,300	18,800	7,200	6,600	7,590	9,100
23	8,050	15,000	44,600	36,300	21,400	21,300	23,400	17,300	6,890	6,620	7,650	8,660
24	8,100	14,400	55,700	35,400	21,600	20,600	23,200	16,700	6,940	6,840	7,670	8,680
25	8,170	14,100	57,000	34,600	21,200	20,100	23,700	14,800	6,920	6,830	7,680	8,490
26	8,320	14,800	55,100	34,200	21,400	19,500	24,700	14,400	6,900	6,660	7,400	8,360
27	8,290	15,600	56,000	33,800	21,400	19,300	26,100	16,000	6,920	6,760	7,120	8,370
28	8,100	16,500	56,800	33,200	21,300	19,400	26,100	17,300	6,920	7,140	7,000	8,410
29	8,120	17,500	56,400	32,600	-	21,000	25,500	16,400	6,830	7,350	6,940	8,300
30	8,700	21,800	56,900	31,500	-	25,600	24,900	16,700	6,800	7,360	7,060	8,160
31	11,800	-	61,200	28,600	-	29,000	-	14,600	-	7,350	7,090	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	270,090	11,800	6,050	8,713	535,700
November.....	412,300	21,800	10,300	13,740	817,800
December.....	1,014,600	61,200	14,600	32,730	2,012,000
Calendar year 1945.....	6,024,600	61,200	5,470	16,510	11,950,000
January.....	1,458,900	60,900	28,600	47,060	2,894,000
February.....	595,700	25,400	18,000	21,260	1,162,000
March.....	673,500	29,000	20,300	21,750	1,336,000
April.....	714,200	28,900	20,100	23,810	1,417,000
May.....	575,600	24,600	14,400	18,570	1,142,000
June.....	276,780	14,200	6,800	9,226	549,000
July.....	208,260	7,360	6,110	6,718	413,100
August.....	218,860	7,680	6,680	7,060	434,100
September.....	247,680	9,290	7,330	8,256	491,300
Water year 1945-46.....	6,666,470	61,200	6,110	18,260	13,220,000

Pit River near Canby, Calif.

Location.- Water-stage recorder, lat. 41°24', long. 120°55', in SW $\frac{1}{4}$ sec. 10, T. 41 N., R. 9 E., at lower end of Warm Spring Valley, 4 miles southwest of Canby. Altitude of gage, about 4,300 feet (from topographic map).

Drainage area.- 1,430 square miles, excluding Goose Lake Basin.

Records available.- January 1904 to December 1905, May 1929 to September 1946 (1929-31 incomplete).

Average discharge.- 15 years (1931-46), 207 second-feet.

Extremes.- Maximum discharge during year, 1,170 second-feet Dec. 30 (gage height, 4.76 feet); minimum, 2.6 second-feet (regulated) Aug. 6, 8.

1904-5, 1929-46: Maximum discharge recorded, 17,000 second-feet Mar. 8, 1904 (gage height, 14.0 feet, former datum); minimum, 0.1 second-foot Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by many small reservoirs. Diversions above station for irrigation.

Rating tables, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Dec. 31 to Jan. 4, May 13, 14)

Oct. 1 to Dec. 30

Dec. 31 to Sept. 30

2.1	4.8	2.6	64	3.4	565	2.0	2.0	2.5	47	3.2	300
2.2	9.5	2.7	88	3.8	880	2.1	4.6	2.8	69	3.4	400
2.3	17	2.8	117	4.2	820	2.2	9.5	2.7	95	3.8	820
2.4	29	3.0	187	4.6	1,085	2.3	17	2.8	125	4.2	860
2.6	45	3.2	270	4.8	1,195	2.4	30	3.0	205	4.6	1,110

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	127	134	968	b100	692	310	538	228	24	6.1	10
2	58	157	114	944	b100	674	305	516	144	54	4.3	24
3	56	143	105	818	b95	592	295	492	87	95	3.4	51
4	53	120	102	620	b85	488	285	406	69	87	3.1	90
5	47	108	108	582	b75	411	255	310	69	85	2.9	104
6	40	114	102	488	b70	400	241	305	129	77	2.9	110
7	39	124	108	385	b70	406	232	290	90	85	3.4	113
8	39	140	108	b210	b70	428	232	330	82	104	2.9	119
9	40	154	108	b190	b70	422	196	285	72	82	3.1	116
10	42	172	102	*b180	b70	385	196	154	56	82	5.1	95
11	42	157	b95	b170	b70	375	223	24	35	74	4.3	51
12	45	154	b85	b160	b70	380	236	9.0	25	58	4.6	38
13	64	147	b80	b150	b70	390	315	258	24	51	8.5	29
14	66	147	b75	b140	b80	400	335	275	27	51	17	25
15	64	150	b70	b130	98	416	350	72	26	47	32	30
16	83	161	69	b130	116	433	370	171	29	44	37	27
17	62	191	66	b130	132	477	411	236	25	42	40	29
18	37	180	b65	b130	132	504	444	223	38	40	49	33
19	13	207	b65	b130	158	587	488	223	47	37	72	32
20	9.0	236	74	b130	192	614	516	184	92	35	69	30
21	7.5	288	81	b140	285	770	554	188	119	32	56	27
22	6.6	261	137	147	365	878	565	188	101	30	47	26
23	5.6	195	199	147	*433	842	538	179	98	29	44	27
24	17	165	279	166	516	770	488	192	159	27	51	25
25	76	165	316	b170	620	650	472	196	166	24	101	18
26	117	165	370	b160	662	494	472	205	98	24	101	14
27	100	172	465	b140	662	395	498	196	77	24	60	12
28	97	165	586	b120	662	365	510	214	65	20	40	10
29	81	191	886	b110	-	380	516	228	56	15	22	9.0
30	100	157	1,140	b100	-	360	532	270	26	8.5	12	8.0
31	111	-	1,060	b100	-	325	-	270	-	7.0	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,679.7	117	5.6	54.2	3,330
November.....	5,013	288	108	167	9,940
December.....	7,354	1,140	65	237	14,590
Calendar year 1945.....	97,091.9	1,670	5.2	266	192,600
January.....	8,285	968	100	267	16,430
February.....	6,128	662	70	219	12,150
March.....	15,703	878	325	507	31,150
April.....	11,370	555	196	379	22,550
May.....	7,617.0	538	9.0	246	15,110
June.....	2,358	228	24	78.6	4,680
July.....	1,494.5	104	7.0	48.2	2,980
August.....	915.6	101	2.9	29.5	1,820
September.....	1,332.0	119	8.0	44.4	2,640
Water year 1945-46.....	69,249.8	1,140	2.9	190	137,400

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Pit River at Fall River Mills, Calif.

Location.- Water-stage recorder, lat. 41°00', long. 121°26', in NE $\frac{1}{4}$ sec. 6, T. 36 N., R. 5 E., 0.8 mile downstream from Fall River and town of Fall River Mills. Altitude of gage, about 3,235 feet (from topographic map).

Drainage area.- 4,150 square miles, excluding Goose Lake Basin.

Records available.- December 1922 to September 1946. March 1921 to December 1922 at site 0.7 mile upstream.

Average discharge.- 23 years (1923-46), second-feet (excluding flow of Fall River).

Extremes.- Maximum discharge during year, 3,310 second-feet Dec. 30, 31 (gage height, 4.29 feet); minimum, 68 second-feet Aug. 9.

1921-46: Maximum discharge, 28,600 second-feet Dec. 12, 1937 (gage height, 11.8 feet), from rating curve extended above 9,000 second-feet on basis of velocity-area and AV^2 studies; minimum, 12 second-feet Aug. 5, 1926, Oct. 23, 1936.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Fall River is diverted through Pit No. 1 powerhouse and returned to Pit River below station. Many small reservoirs and diversions above station for irrigation. River receives return flow from McArthur, Knoch, and other diversions above station.

Cooperation.- Water-stage recorder graph furnished by Pacific Gas & Electric Co.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.5	66	1.7	435	5.6	2,200
.7	98	2.0	604	4.0	2,320
.9	139	2.4	885	4.3	3,330
1.1	192	2.8	1,250		
1.4	298	5.2	1,670		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	205	224	533	2,480	h311	2,640	957	698	178	102	95	93
2	195	259	435	2,030	a300	2,240	941	698	267	104	95	76
3	164	248	386	2,160	a230	2,050	925	712	228	117	96	111
4	144	256	349	2,470	h294	1,790	855	677	198	132	106	106
5	142	263	340	2,320	511	1,510	810	637	178	111	100	100
6	149	252	315	1,790	298	1,540	796	285	218	100	95	104
7	152	224	306	1,560	278	1,310	733	472	192	117	93	98
8	146	218	311	1,100	263	1,420	705	440	154	117	90	113
9	162	211	315	855	271	1,410	677	340	159	104	69	104
10	164	218	306	712	282	1,580	670	276	142	98	102	90
11	159	231	294	568	286	1,310	650	271	115	133	100	96
12	149	256	267	488	271	1,230	604	178	117	208	100	117
13	154	259	218	a450	263	1,250	663	159	102	139	96	111
14	149	290	205	a430	263	1,410	733	142	98	159	86	113
15	144	294	211	a410	271	1,320	747	137	96	119	76	109
16	124	282	214	a400	271	1,320	747	115	98	104	76	115
17	126	290	208	a390	278	1,310	747	100	108	98	95	126
18	128	349	a200	386	327	1,220	747	93	96	96	88	119
19	130	377	a190	a380	372	1,210	761	174	84	167	86	117
20	212	415	a200	a380	435	1,330	775	205	95	137	81	115
21	162	574	h218	a390	604	1,780	803	214	130	117	70	117
22	132	527	a300	a400	719	1,980	832	435	104	104	106	135
23	119	467	a450	396	957	1,980	870	192	81	93	104	115
24	113	477	a600	440	1,440	1,830	870	192	109	76	93	128
25	111	435	a700	630	1,950	1,680	818	224	104	130	93	135
26	106	468	a900	a550	2,090	1,500	775	263	95	124	100	111
27	100	499	a1,200	a500	2,480	1,340	705	345	93	113	96	117
28	100	462	1,670	a420	2,790	1,160	663	323	93	115	102	137
29	132	544	2,790	a360	-	1,040	677	259	96	100	91	128
30	202	574	3,300	a330	-	1,020	705	278	93	88	98	130
31	208	-	3,140	a320	-	1,020	-	282	-	76	113	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,583	212	100	148	9,090
November	10,463	574	211	349	20,750
December	21,071	3,300	190	680	41,790
Calendar year 1945	187,107	3,300	74	513	371,100
January	26,295	2,480	320	848	52,180
February	18,965	2,790	263	577	37,620
March	46,330	2,640	1,020	1,495	91,890
April	22,961	957	604	765	45,540
May	9,818	712	93	317	19,470
June	3,921	267	81	131	7,780
July	3,598	208	76	116	7,140
August	2,883	113	69	93.0	5,720
September	3,586	137	76	115	6,720
Water year 1945-46	174,274	3,300	69	477	345,700

a No gage-height record; discharge computed on basis of records for station near Canby.
h Computed from staff-gage reading.

PIT RIVER BASIN

Pit River below Pit No. 4 Dam, Calif.

Location.- Water-stage recorder, lat. 40°59', long. 121°47'; in SW¹/₄ sec. 17, T. 36 N., R. 2 E., 1 mile downstream from Pit No. 4 Dam and 3 miles downstream from Screw-driver Creek and Pit No. 3 powerhouse. Altitude of gage, about 2,345 feet (from river-profile map).

Drainage area.- 4,860 square miles, excluding Goose Lake Basin.

Records available.- July 1927 to September 1946.

Average discharge.- 19 years, 2,480 second-feet.

Extremes.- Maximum discharge during year, 8,820 second-feet (regulated) Dec. 31 (gage height, 11.30 feet); minimum, 672 second-feet (regulated) Feb. 6.
1927-46: Maximum discharge, 30,200 second-feet Dec. 12, 1937 (gage height, 17.90 feet), from rating curve extended above 8,000 second-feet on basis of velocity-area studies; minimum, 144 second-feet (regulated) Apr. 15, 1946.

Remarks.- Records excellent except those periods of doubtful or no gage-height record, which are good. Flow regulated by reservoirs, power plants, and many diversions above station.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

6.8	1,190	8.5	3,180
7.0	1,380	9.0	4,020
7.3	1,680	9.5	4,970
7.6	2,000	10.0	5,950
8.0	2,490	10.5	7,000

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,990	2,450	3,260	5,840	2,180	5,000	3,300	3,010	2,590	2,140	2,060	1,510
2	2,000	2,340	1,680	5,650	2,440	4,780	3,330	3,130	1,720	2,280	2,110	1,700
3	1,990	2,290	2,310	5,530	1,980	4,280	3,230	3,050	2,310	2,290	a1,950	1,880
4	2,010	1,430	2,590	6,300	2,400	4,360	3,180	2,870	1,550	a1,540		1,990
5	2,020	2,330	2,680	5,740	2,230	3,950	2,990	3,090	2,330	2,020	a2,160	2,080
6	1,840	2,310	2,820	4,980	2,140	3,660	3,410	2,850	2,360	1,910	a2,040	d2,050
7	1,290	2,270	2,540	4,880	2,320	3,580	2,800	2,700	2,280	1,560	a2,140	d1,950
8	1,700	2,370	2,610	4,280	2,300	3,500	3,300	2,730	1,880	2,100	a2,010	d1,540
9	2,080	2,380	2,250	3,720	2,430	3,560	3,060	2,730	1,250	2,090	a2,010	d2,090
10	2,220	2,280	2,380	3,400	2,220	3,550	3,130	2,610	2,360	2,140	1,790	d2,110
11	2,280	1,320	2,370	3,110	2,520	3,950	2,950	2,630	2,310	1,960	1,230	d2,210
12	2,150	2,130	2,600	2,560	2,420	3,480	3,090	2,290	2,340	1,990	1,980	d2,090
13	1,850	2,270	2,600	2,360	2,410	3,650	3,280	2,760	2,310	1,730	2,090	d2,040
14	1,330	2,290	2,900	2,900	2,480	3,800	2,670	2,660	2,260	1,530	1,980	1,780
15	2,090	2,250	2,200	2,430	2,420	3,820	2,970	2,740	1,700	2,130	1,990	1,260
16	2,190	2,320	1,530	2,800	2,250	3,690	3,210	2,700	1,200	1,950	a1,990	2,100
17	2,200	2,320	1,950	2,350	2,260	3,620	3,090	2,550	2,130	1,930	a1,700	2,100
18	2,240	1,710	2,220	2,580	2,880	3,570	3,450	2,260	2,180	2,100	a1,510	2,130
19	2,180	2,290	2,240	2,420	2,380	3,550	3,170	2,100	2,270	2,090	a1,960	2,010
20	1,740	2,240	2,160	2,150	2,460	3,520	3,640	2,590	2,100	2,100	a2,030	1,890
21	1,300	2,650	2,470	3,190	2,750	3,760	3,100	2,550	2,110	1,520	a1,900	1,760
22	2,000	2,990	2,840	2,820	2,700	4,150	3,690	2,520	1,540	2,060	a1,690	1,310
23	2,140	2,570	2,640	2,600	3,290	4,300	3,560	2,530	1,190	2,010	a1,650	2,030
24	2,160	2,780	3,350	2,830	3,540	4,250	3,480	2,680	2,140	1,910	1,900	2,080
25	2,130	2,330	3,490	2,580	4,360	4,100	3,510	2,480	2,140	2,010	1,240	2,050
26	2,130	2,700	3,500	2,900	4,570	3,930	3,480	1,940	2,130	1,980	1,940	2,010
27	1,830	2,780	4,030	2,370	4,680	3,760	3,170	2,500	2,100	2,010	2,010	1,970
28	1,540	2,410	5,180	2,990	5,060	3,600	3,350	2,640	2,090	1,250	2,020	1,800
29	2,080	2,740	6,880	2,600	-	3,480	3,400	2,730	1,630	2,040	2,040	1,500
30	2,110	3,290	7,000	2,480	-	3,330	3,280	2,350	1,260	2,080	2,030	2,000
31	2,340	-	6,810	2,430	-	3,400	-	2,490	-	2,140	1,750	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	61,150	2,340	1,290	1,973	121,300
November	70,830	3,290	1,320	2,361	140,500
December	95,660	7,000	1,550	3,086	189,700
Calendar year 1945	935,500	7,000	780	2,563	1,856,000
January	105,750	6,300	2,150	3,411	209,800
February	78,030	5,060	1,960	2,787	154,800
March	118,900	5,000	3,330	3,835	235,400
April	97,230	3,690	2,670	3,241	192,900
May	81,670	3,130	1,940	2,635	162,000
June	60,440	2,590	1,190	2,015	119,900
July	60,000	2,290	1,250	1,935	119,000
August	58,430	2,160	1,230	1,885	115,900
September	56,420	2,210	1,260	1,881	111,900
Water year 1945-46	944,510	7,000	1,190	2,588	1,874,000

a No gage-height record; discharge computed on basis of unpublished record for station 1 mile upstream.

d Doubtful gage-height record; discharge computed on basis of unpublished record for station 1 mile upstream.

Pit River at Big Bend, Calif.

Location.- Water-stage recorder, lat. 41°01', long. 121°55', in sec. T. 37 N., R. 1 E., at settlement of Big Bend, 0.5 mile downstream from Nelson Creek and 1 mile upstream from Kosk Creek. Datum of gage is 1,674.47 feet above mean sea level, datum of 1929.

Drainage area.- 4,920 square miles, excluding Goose Lake Basin.

Records available.- September 1910 to September 1946.

Average discharge.- 32 years (1911-43), 2,878 second-feet (prior to diversion to Pit No. 5 powerhouse).

Extremes.- Maximum discharge during year, 7,980 second-feet (regulated) Dec. 31 (gage height, 10.93 feet); minimum, 52 second-feet (after diversion to Pit No. 5 powerhouse) Oct. 24 (gage height, 4.20 feet).

1910-46: Maximum discharge, 34,200 second-feet Dec. 12, 1937 (gage height, 16.26 feet), from rating curve extended above 11,000 second-feet on basis of velocity-area studies; minimum 51 second-feet (after diversion to Pit No. 5 powerhouse) Aug. 24, 27, 1944.

Remarks.- Records good except those for period of no gage-height record in December, which are poor. Flow regulated by reservoirs, power plants, and many diversions above station; diversion to Pit No. 5 powerhouse began May 1, 1944. For record closely comparable with prior record of total flow at Big Bend see Pit River below Pit No. 4 Dam on preceding page.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

4.2	52	5.3	228	6.8	900	8.6	2,840
4.4	74	5.6	303	7.1	1,140	9.0	3,480
4.6	101	5.9	400	7.4	1,380	9.5	4,370
4.8	131	6.2	535	7.8	1,770	10.0	5,420
5.0	166	6.5	700	8.2	2,260	10.5	6,680

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	90	1,480	5,330	574	2,850	1,360	606	117	88	77	81
2	65	79	586	4,510	444	2,990	1,280	708	114	80	77	68
3	31	77	289	4,510	757	2,350	1,010	682	112	82	74	69
4	60	73	735	4,980	746	2,230	899	1,050	112	79	75	69
5	60	73	815	5,050	478	1,810	810	1,560	109	84	74	70
6	61	77	1,030	4,240	318	1,420	924	714	108	83	74	68
7	61	74	842	3,800	652	1,110	1,360	330	108	84	74	67
8	62	72	748	3,050	483	1,210	1,020	351	104	87	74	67
9	62	79	851	2,460	942	1,580	610	326	104	80	73	70
10	66	94	600	2,150	706	1,620	654	566	101	83	73	68
11	64	84	550	1,950	524	1,680	500	182	101	83	72	69
12	63	90	650	1,720	252	1,100	917	162	100	79	74	68
13	62	91	700	1,720	248	1,360	554	250	102	75	73	67
14	62	93	300	1,860	290	1,510	972	164	101	77	72	66
15	61	121	250	1,160	157	1,370	737	153	100	80	70	68
16	64	134	150	1,650	775	1,310	728	145	100	75	70	70
17	66	126	200	1,180	1,090	1,220	525	141	98	75	70	67
18	63	136	350	1,300	1,120	1,170	812	138	95	77	73	66
19	61	235	250	1,040	288	1,060	536	133	94	77	72	66
20	61	138	400	1,250	350	978	1,300	136	94	78	70	66
21	60	112	900	1,890	860	1,170	1,300	133	93	74	70	66
22	59	104	1,500	1,460	1,740	1,530	1,510	134	90	79	69	67
23	59	102	1,700	1,140	2,060	1,750	826	133	93	79	69	66
24	60	164	2,500	1,330	2,290	2,050	748	125	91	75	69	62
25	64	196	3,200	1,170	2,490	1,670	734	126	90	78	68	66
26	60	204	2,600	1,830	2,560	1,390	883	140	88	83	68	66
27	60	161	3,450	1,520	2,340	1,080	678	119	87	78	68	66
28	60	166	4,580	1,520	2,690	960	1,210	126	88	78	69	64
29	100	374	6,220	874	-	1,080	1,220	123	87	78	68	64
30	150	1,060	6,480	876	-	1,300	854	120	90	75	69	64
31	120	-	6,400	422	-	1,680	-	120	-	77	67	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,115	150	59	68.2	4,200
November.....	4,678	1,060	72	156	9,280
December.....	51,295	6,480	150	1,655	101,700
Calendar year 1945.....	110,821	6,480	57	304	219,800
January.....	68,942	5,330	422	2,224	136,700
February.....	28,226	2,690	157	1,008	55,990
March.....	47,588	2,990	960	1,535	94,390
April.....	27,451	1,510	500	915	54,450
May.....	9,686	1,560	120	312	19,210
June.....	2,971	117	87	99.0	5,890
July.....	2,460	88	74	79.4	4,880
August.....	2,215	77	67	71.5	4,390
September.....	2,008	70	62	66.9	3,980
Water year 1945-46.....	249,635	6,480	59	684	495,100

Note.- No gage-height record Oct. 26 to Nov. 1, Dec. 10-26; discharge computed on basis of records for stations on nearby streams.

Pit River near Montgomery Creek, Calif.

Location.- Water-stage recorder, lat. 40°51', long. 121°59', in NE $\frac{1}{4}$ sec. 32, T. 35 N., R. 1 W., 1 mile upstream from Cow Canyon Creek and 3.5 miles west of town of Montgomery Creek. Datum of gage is 1,075.00 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 5,170 square miles, excluding Goose Lake Basin.

Records available.- December 1944 to September 1946.

Extremes.- Maximum discharge during year, 18,600 second-feet (regulated) Dec. 28 (gage height, 10.14); minimum, 570 second-feet (regulated) Oct. 21.
1944-46: Maximum discharge, that of Dec. 28, 1945; minimum, that of Oct. 21, 1945.

Remarks.- Records excellent. Flow regulated by reservoirs, power plants, and many diversions above station. When Shasta Reservoir is full, this station will be just above backwater.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.9	1,310	4.5	3,430	6.5	7,800
3.0	1,410	5.0	4,320	7.0	9,100
3.5	1,980	5.5	5,390	8.0	11,900
4.0	2,640	6.0	6,560	9.5	16,600

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,190	2,940	4,400	10,100	3,410	6,340	4,930	4,240	3,220	2,530	2,380	1,380
2	2,370	2,830	2,940	10,300	3,510	6,030	5,020	4,340	2,320	2,600	2,440	2,100
3	2,250	2,750	2,880	10,500	2,940	5,450	4,800	3,170	2,900	2,580	2,180	2,080
4	2,290	1,800	4,280	11,200	3,700	5,650	4,640	4,060	2,910	1,560	1,530	2,170
5	2,300	2,550	5,090	11,100	3,070	5,180	4,430	4,190	2,920	2,300	2,390	2,580
6	2,150	2,660	5,540	9,260	3,420	4,890	4,880	4,280	2,860	2,150	2,330	2,210
7	1,420	2,660	6,120	8,890	3,220	4,730	4,070	3,950	2,870	1,430	2,280	2,020
8	2,070	2,670	4,740	7,470	3,280	4,670	5,000	3,670	2,360	2,480	2,280	1,440
9	2,380	2,820	3,770	6,500	3,320	4,690	4,510	3,810	1,690	2,360	2,210	2,360
10	2,580	2,830	3,720	5,960	3,030	4,810	4,520	4,020	2,800	2,370	1,990	2,280
11	2,680	1,740	3,600	5,670	3,530	5,180	4,300	3,740	2,870	2,200	1,370	2,320
12	2,540	2,520	3,660	4,980	3,280	4,920	4,530	3,290	2,770	2,170	2,400	2,350
13	2,230	2,800	3,540	4,400	3,170	5,640	4,720	3,480	2,800	1,980	2,260	2,180
14	1,630	2,700	3,950	5,210	3,180	5,330	4,030	3,660	2,730	1,420	2,310	1,990
15	2,410	3,190	3,060	4,610	3,120	5,380	4,470	3,470	2,140	2,550	2,170	1,440
16	2,570	3,580	2,270	4,770	2,770	5,130	4,770	3,450	1,650	2,260	2,240	2,370
17	2,550	3,460	2,640	4,330	3,040	5,050	4,550	3,440	2,680	2,250	1,900	2,320
18	2,570	2,520	2,760	4,350	3,050	5,050	4,550	3,120	2,680	2,430	1,630	2,310
19	2,600	4,370	3,220	3,670	3,500	5,010	4,680	2,770	2,680	2,430	2,250	2,230
20	2,010	3,480	2,720	3,420	3,320	4,930	4,210	2,610	2,470	2,260	2,260	2,120
21	1,520	3,280	4,130	4,610	3,990	5,050	4,480	3,310	2,540	1,780	2,220	1,950
22	2,320	3,720	7,920	3,950	3,800	5,520	5,270	3,310	1,690	2,450	2,130	1,480
23	2,500	3,280	7,730	3,920	4,380	5,710	4,930	3,250	1,720	2,500	2,120	2,270
24	2,440	3,870	8,680	3,970	4,880	5,600	4,940	3,200	2,480	2,260	2,120	2,200
25	2,400	4,100	8,160	3,920	5,470	5,590	5,020	3,140	2,600	2,390	1,430	2,200
26	2,410	4,740	10,200	4,120	5,780	5,360	5,020	2,720	2,530	2,560	2,260	2,240
27	2,080	4,380	15,200	4,580	6,160	5,200	4,640	3,210	2,410	2,380	2,200	2,110
28	1,770	4,200	16,400	4,530	6,350	5,260	4,350	3,280	2,550	1,560	2,160	2,020
29	2,650	4,060	16,800	3,940	-	5,360	4,960	3,360	1,800	2,460	2,230	1,530
30	3,100	4,600	13,300	3,860	-	5,040	4,640	2,890	1,610	2,440	2,330	2,110
31	3,490	-	11,600	3,700	-	4,910	-	3,240	-	2,550	1,960	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	72,450	3,490	1,420	2,337	143,700
November	97,080	4,740	1,740	3,236	192,600
December	194,660	16,600	2,270	6,279	386,100
Calendar year 1945	1,296,470	16,600	1,420	3,552	2,571,000
January	180,690	11,200	3,420	5,829	358,400
February	106,380	6,350	2,770	3,799	211,000
March	162,660	6,340	4,670	5,247	322,600
April	141,210	5,270	4,030	4,707	280,100
May	109,250	4,340	2,720	3,524	216,700
June	74,370	3,220	1,610	2,479	147,500
July	69,650	2,600	1,420	2,253	138,500
August	65,960	2,440	1,370	2,128	130,800
September	62,160	2,380	1,380	2,072	123,300
Water year 1945-46	1,336,720	16,600	1,370	3,662	2,651,000

South Fork Pit River near Likely, Calif.

Location.- Water-stage recorder, lat. 41°14', long. 120°25', in NE¼ sec. 11, T. 39 N., R. 13 E., 1.3 miles downstream from West Valley Creek and 3.5 miles east of Likely. Altitude of gage, about 4,580 feet (from topographic map).

Drainage area.- 248 square miles.

Records available.- October 1928 to September 1946.

Extremes.- Maximum discharge during year, 422 second-feet Apr. 29 (gage height, 4.03 feet); minimum, 9.6 second-feet (regulated) Sept. 25 (possibly lower during periods of ice effect).

1928-46: Maximum discharge, 1,060 second-feet Apr. 27, 1932 (gage height, 5.55 feet), from rating curve extended above 600 second-feet; minimum, 0.2 second-foot (regulated) Feb. 3, 1941.

Remarks.- Records good except those for periods of backwater, which are fair, and periods of ice effect, which are poor. Flow regulated by West Valley Creek Reservoir. Diversions above station for irrigation.

Rating tables, water year 1945-46, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Apr. 26 to June 23)

Oct. 1 to Feb. 17

Feb. 18 to Sept. 30

1.7	10	2.0	27	2.4	63	1.7	10.5	2.4	66	3.3	226
1.8	15	2.1	35	2.6	88	1.8	16	2.6	91	3.6	304
1.9	21	2.2	45	2.8	122	2.0	28	2.8	122	3.9	398
						2.2	45	3.0	160		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	39	30	47	25	63	49	322	119	67	73	26
2	26	36	33	49	25	54	54	316	116	66	70	27
3	25	36	35	51	25	45	49	316	106	58	68	27
4	19	34	35	46	25	44	47	322	88	55	67	30
5	20	36	35	42	20	57	47	325	90	46	66	33
6	22	37	36	35	20	92	47	322	92	27	66	33
7	26	36	37	30	20	67	49	307	91	26	66	32
8	26	37	36	15	30	59	49	296	87	26	66	34
9	27	37	35	*11	20	60	49	276	83	26	82	35
10	31	39	30	11	20	53	48	260	106	24	104	36
11	33	38	25	10	20	52	50	238	122	22	102	38
12	31	39	15	10	20	52	60	226	117	21	122	40
13	29	37	10	10	20	53	67	216	156	21	148	37
14	28	37	10	10	20	54	77	207	172	21	154	35
15	27	41	10	10	20	65	92	207	170	22	166	34
16	29	40	10	10	25	77	114	184	172	21	164	30
17	27	40	10	10	25	64	142	170	172	28	172	22
18	27	39	10	10	30	54	174	162	166	39	187	25
19	26	38	10	11	31	96	216	156	144	39	189	23
20	29	35	10	11	34	103	204	158	119	38	187	21
21	27	*36	20	15	37	106	238	170	127	37	182	21
22	29	38	59	33	36	72	248	154	124	50	182	19
23	29	40	48	36	*47	62	279	172	116	64	180	17
24	29	45	43	50	57	67	316	160	68	64	178	16
25	29	51	43	43	62	52	344	154	54	67	180	13
26	29	48	44	35	56	50	372	202	55	60	148	12
27	29	41	55	30	82	46	382	231	76	53	78	25
28	29	38	88	25	74	54	388	168	73	64	77	37
29	30	40	115	25	-	41	398	140	71	62	77	38
30	45	30	67	25	-	42	350	129	68	66	47	36
31	41	-	53	25	-	41	-	122	-	76	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	880	45	19	28.4	1,750
November.....	1,158	51	30	38.6	2,300
December.....	1,097	115	10	35.4	2,180
Calendar year 1945.....	35,172	509	10	96.4	69,770
January.....	781	51	10	25.2	1,550
February.....	916	82	20	32.7	1,820
March.....	1,896	106	41	61.2	3,760
April.....	4,999	398	47	167	9,920
May.....	6,798	325	122	219	13,460
June.....	3,320	172	54	111	6,590
July.....	1,356	76	21	43.7	2,690
August.....	3,675	189	27	119	7,290
September.....	852	40	12	28.4	1,690
Water year 1945-46.....	27,718	398	10	75.9	55,000

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 19-21, 30, Dec. 1, 9-21, Jan. 5-21, Jan. 26 to Feb. 17. Backwater from debris on control Apr. 26 to June 23.

Hat Creek near Hat Creek, Calif.

Location.- Water-stage recorder, lat. 40°41', long. 121°25', in SE $\frac{1}{4}$ sec. 28, T. 33 N., R. 5 E., 1 mile northeast of Old Station post office and 8 miles southeast of Hat Creek post office. Altitude of gage, about 4,300 feet (from topographic map).

Drainage area.- 155 square miles.

Records available.- April 1928 to September 1946. July 1926 to April 1928 at site 0.5 mile upstream.

Average discharge.- 19 years (1926-29, 1930-46), 119 second-feet.

Extremes.- Maximum discharge during year, 310 second-feet Oct. 30 (gage height, 3.15 feet); minimum, 111 second-feet (regulated) July 25.

1926-46: Maximum discharge, 2,500 second-feet Dec. 11, 1937 (gage height, 7.75 feet, in gage well, affected by draw-down), by slope-area method; minimum, 67 second-feet Sept. 7, 1934.

Remarks.- Records excellent. Small diversions above station for irrigation.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.3	108	2.6	165
2.4	125	2.7	198
2.5	144	2.8	213

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	134	126	138	123	126	125	174	196	142	128	120
2	120	129	126	140	125	126	125	179	198	140	129	118
3	120	128	125	138	121	125	123	184	196	136	126	115
4	120	128	120	139	121	123	123	188	198	134	126	115
5	120	126	117	134	123	125	123	186	198	134	125	115
6	120	125	121	126	125	125	123	188	184	132	125	117
7	120	123	125	128	123	125	123	186	179	132	126	117
8	120	125	120	125	123	125	123	186	174	132	126	121
9	121	125	120	120	125	126	121	184	170	130	125	125
10	126	126	123	126	125	128	121	186	165	132	121	125
11	125	123	121	120	125	125	123	184	156	134	123	125
12	123	125	121	118	123	126	128	184	156	134	121	125
13	121	121	118	121	123	130	130	188	159	132	121	125
14	120	123	118	121	123	125	130	186	156	132	121	125
15	120	123	121	121	125	125	132	190	154	132	121	125
16	120	123	121	121	125	125	136	188	154	130	118	128
17	118	121	121	121	123	125	144	198	152	128	118	126
18	118	121	120	121	123	125	150	218	154	130	117	125
19	118	128	118	120	123	125	152	215	156	126	120	123
20	118	126	120	123	125	125	150	218	156	120	126	123
21	118	125	130	126	123	123	148	213	161	118	125	123
22	120	125	134	126	121	123	150	193	159	118	125	123
23	120	126	128	128	123	123	159	184	159	120	125	123
24	120	128	125	130	125	123	167	184	154	128	125	123
25	120	128	125	130	123	123	179	193	148	128	125	123
26	120	128	125	125	123	125	181	208	146	125	125	123
27	120	128	126	126	130	126	181	193	146	121	125	123
28	120	132	144	125	130	128	181	193	144	118	125	121
29	142	126	135	123	-	126	184	168	144	117	125	121
30	210	125	144	125	-	126	177	186	142	125	123	121
31	146	-	136	123	-	125	-	190	-	130	121	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,864	210	118	125	7,660
November.....	3,773	134	121	126	7,480
December.....	3,902	163	117	126	7,740
Calendar year 1945.....	50,255	257	111	138	99,660
January.....	3,907	140	118	126	7,750
February.....	3,470	130	121	124	6,880
March.....	3,881	130	123	125	7,700
April.....	4,312	184	121	144	8,550
May.....	5,935	218	174	191	11,770
June.....	4,894	198	142	163	9,710
July.....	3,990	142	117	129	7,810
August.....	3,831	128	117	124	7,800
September.....	3,662	128	115	122	7,260
Water year 1945-46.....	49,421	218	115	135	98,010

Squaw Creek above Shasta Reservoir, Calif.

Location.- Water-stage recorder, lat. 40°51', long. 122°07', in SW $\frac{1}{4}$ sec. 29, T. 35 N., R. 8 W., 0.5 mile upstream from Salt Creek and 10 miles west of town of Montgomery Creek. Altitude of gage, about 1,170 feet (from topographic map).

Drainage area.- 65.3 square miles.

Records available.- December 1944 to September 1946.

Extremes.- Maximum discharge during year, 6,150 second-feet Dec. 27 (gage height, 16.00 feet); minimum, 12 second-feet Sept. 22-30.

1944-46: Maximum discharge, that of Dec. 27, 1945; minimum, that of Sept. 22-30, 1946.

Remarks.- Records excellent. When Shasta Reservoir is filled, gaging station will be about 2 miles upstream from reservoir.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

5.9	13	7.2	100	9.5	720
6.0	16	7.5	138	10	950
6.1	20	7.9	206	11	1,510
6.3	30	8.3	290	12	2,220
6.6	48	8.7	396	14	3,960
6.9	70	9.1	545	15.5	5,550

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	172	327	930	138	307	399	119	58	31	20	14
2	15	89	259	970	141	290	369	114	56	30	19	14
3	15	65	238	1,440	134	270	345	111	55	28	18	14
4	15	54	743	1,560	128	250	317	107	53	28	17	14
5	15	47	1,860	2,050	123	236	300	102	52	27	17	14
6	14	44	1,400	1,270	132	222	279	100	52	26	16	14
7	14	41	1,500	1,000	131	208	266	97	51	26	16	13
8	15	38	896	814	122	197	281	94	50	26	16	13
9	15	40	608	680	119	190	263	91	49	26	16	13
10	20	64	451	585	118	190	253	88	48	24	16	13
11	21	58	363	501	114	181	244	85	47	24	15	13
12	19	84	309	440	111	190	236	84	46	24	15	13
13	18	82	268	393	107	353	226	81	45	23	15	13
14	17	69	258	361	106	290	220	79	43	22	15	13
15	16	102	216	330	106	268	214	77	43	22	15	13
16	17	317	197	304	106	250	208	76	45	22	15	13
17	17	380	179	281	105	242	202	73	42	22	15	13
18	18	245	165	264	105	234	199	71	41	22	14	13
19	17	688	154	253	120	222	192	68	38	20	14	13
20	17	362	149	236	143	214	179	68	37	20	14	13
21	17	230	407	220	416	204	168	68	36	20	14	13
22	17	170	2,950	206	444	232	162	72	36	20	14	12
23	16	143	2,580	199	340	244	157	80	37	20	14	12
24	16	204	2,580	193	324	244	151	68	37	20	14	12
25	16	551	1,900	186	314	236	148	68	36	20	14	12
26	16	868	2,310	174	297	230	143	95	35	29	14	12
27	16	639	5,470	168	319	224	138	71	34	26	13	12
28	33	549	4,410	162	317	253	132	64	33	22	13	12
29	135	666	3,290	157	-	406	128	62	33	21	14	12
30	366	444	1,790	151	-	434	123	61	32	22	14	12
31	460	-	1,200	144	-	427	-	59	-	22	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,438	460	14	46.4	2,850
November.....	7,505	868	38	250	14,890
December.....	39,387	5,470	149	1,271	78,120
Calendar year 1945	101,049	5,470	14	277	200,400
January.....	16,622	2,050	144	536	32,970
February.....	5,180	444	105	185	10,270
March.....	7,938	434	181	256	15,740
April.....	6,640	399	123	221	13,170
May.....	2,553	119	59	82.4	5,060
June.....	1,300	58	32	43.3	2,580
July.....	734	31	20	23.7	1,460
August.....	470	20	13	15.2	932
September.....	387	14	12	12.9	768
Water year 1945-46	90,154	5,470	12	247	178,800

Peak discharge.- Dec. 22 (7:30 a.m.) 3,520 sec.-ft.; Dec. 27 (12 m.) 6,150 sec.-ft.

McCloud River near McCloud, Calif.

Location.- Water-stage recorder, lat. 41°11', long. 122°04', in NE¼ sec. 34, T. 39 N., R. 2 W., 0.5 mile downstream from Angel Creek and 6 miles southeast of McCloud. Altitude of gage, about 2,750 feet (from topographic map).

Drainage area.- 388 square miles.

Records available.- April 1931 to September 1946.

Average discharge.- 15 years, 840 second-feet.

Extremes.- Maximum discharge during year, 2,560 second-feet Dec. 29 (gage height, 3.63 feet); minimum, 704 second-feet on many days in October.

1931-46: Maximum discharge, 8,820 second-feet Feb. 28, 1940 (gage height, 8.9 feet), from rating curve extended above 3,700 second-feet on basis of velocity-area and AVD studies; minimum, 524 second-feet Nov. 23, 24, 1932.

Remarks.- Records excellent. Two small diversions above station for irrigation.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.1	695	2.0	1,210
1.2	740	2.2	1,355
1.4	840	2.4	1,510
1.6	950	2.8	1,830
1.8	1,075	3.4	2,350

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	708	775	785	1,250	815	810	968	1,180	1,030	868	805	770
2	704	745	775	1,230	815	810	962	1,170	1,030	868	805	770
3	704	731	770	1,280	815	805	950	1,130	1,030	862	805	765
4	704	726	780	1,190	805	805	939	1,210	1,010	856	805	765
5	704	722	790	1,150	805	800	950	1,200	992	851	800	765
6	708	713	810	1,090	810	805	956	1,200	980	846	795	765
7	708	a713	820	1,050	805	810	968	1,200	966	846	795	765
8	708	a713	800	1,000	800	815	1,030	1,200	962	840	795	765
9	708	a708	780	974	800	825	1,020	1,180	944	840	790	765
10	713	a708	775	956	795	840	998	1,180	939	835	790	760
11	713	a708	770	954	790	840	1,000	1,170	928	835	790	760
12	708	a708	785	912	790	856	1,020	1,150	928	835	785	760
13	708	a713	780	906	790	895	1,040	1,160	922	830	785	760
14	708	713	755	900	785	895	1,070	1,140	922	825	785	760
15	708	731	760	895	790	884	1,090	1,130	912	820	780	760
16	708	731	760	884	785	878	1,130	1,130	917	820	780	760
17	708	726	755	873	780	890	1,130	1,140	906	820	780	755
18	708	740	750	868	780	906	1,240	1,150	906	820	780	750
19	708	800	750	862	790	906	1,260	1,150	900	820	780	755
20	708	805	755	851	790	906	1,240	1,150	900	820	775	755
21	708	770	780	851	795	900	1,200	1,160	895	820	775	755
22	708	755	992	846	785	917	1,180	1,100	895	820	775	755
23	708	750	1,170	840	785	928	1,180	1,090	890	820	775	755
24	704	790	1,120	851	800	922	1,210	1,070	884	815	775	755
25	704	846	1,080	862	805	912	1,260	1,050	878	815	775	755
26	704	856	1,120	840	800	922	1,300	1,150	873	830	775	755
27	708	890	1,770	835	810	944	1,260	1,170	873	825	775	755
28	718	862	2,220	830	810	998	1,250	1,090	868	815	770	755
29	780	830	2,330	820	-	1,040	1,240	1,060	868	810	770	755
30	906	805	1,720	815	-	1,010	1,200	1,040	868	810	770	755
31	868	-	1,420	810	-	980	-	1,030	-	805	770	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	22,370	806	704	722	44,370
November.....	22,783	850	708	759	45,190
December.....	31,187	2,330	750	1,006	61,860
Calendar year 1945.....	303,962	2,330	704	833	602,900
January.....	29,255	1,280	810	944	58,030
February.....	22,325	815	780	797	44,280
March.....	27,465	1,040	800	886	54,480
April.....	33,281	1,300	939	1,109	66,010
May.....	35,390	1,210	1,030	1,142	70,200
June.....	27,818	1,030	868	927	55,180
July.....	25,742	868	805	830	51,060
August.....	24,310	805	770	784	48,220
September.....	22,780	770	750	759	45,180
Water year 1945-46.....	324,706	2,330	704	890	644,100

a No gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Clear Creek near Igo, Calif.

Location.- Water-stage recorder, lat. 40°31', long. 122°31', in NE¼NE¼ sec. 27, T. 31 N., R. 6 W., at highway bridge on Redding-Igo road, 1.0 mile northeast of Igo, 8 miles southwest of Redding, and 9 miles upstream from mouth. Altitude of gage, about 700 feet (from topographic map).

Drainage area.- 231 square miles.

Records available.- October 1940 to September 1946.

Extremes.- Maximum discharge during year, 10,600 second-feet Dec. 27 (gage height, 9.53 feet); minimum, 14 second-feet Aug. 28.

1940-46: Maximum discharge, 19,200 second-feet Mar. 1, 1941 (gage height, 12.2 feet), from rating curve extended above 12,000 second-feet on basis of velocity-area studies; minimum, 10 second-feet Sept. 12-15, 1944 Sept. 19, 1945.

Maximum stage known, about 13 feet in February 1940, from information by local residents.

Remarks.- Records good. Small diversions above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.1	12	2.7	86	4.2	780	7.0	4,220
2.2	19	2.8	109	4.6	1,060	7.5	5,240
2.3	28	3.0	162	5.0	1,400	8.0	6,420
2.4	38	3.2	228	5.5	1,930	8.8	8,540
2.5	51	3.5	350	6.0	2,570		
2.6	67	3.8	515	6.5	3,340		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	375	497	1,470	332	455	668	258	126	56	33	18
2	17	221	395	1,310	341	433	634	247	122	51	32	19
3	17	154	434	1,270	328	411	801	239	119	48	31	19
4	17	126	3,140	2,130	315	390	569	236	114	47	30	22
5	17	116	2,040	1,920	302	375	551	228	109	46	27	24
6	17	107	1,260	1,570	355	365	533	218	107	43	25	26
7	17	100	1,020	1,400	341	355	521	211	102	42	26	24
8	17	91	822	1,200	310	355	503	204	100	41	25	22
9	18	98	654	1,050	302	360	461	201	100	41	24	22
10	22	116	551	962	298	360	428	194	98	41	23	21
11	28	119	473	871	294	360	411	188	95	39	22	20
12	30	151	416	794	278	355	400	181	91	38	21	19
13	31	156	360	738	274	433	400	178	91	36	22	19
14	26	137	328	696	266	380	390	172	91	37	21	19
15	24	230	315	647	274	355	385	165	88	38	21	19
16	24	381	294	601	274	337	365	159	93	38	20	20
17	25	375	274	569	266	328	390	154	86	38	20	21
18	26	282	258	539	262	324	390	151	82	34	20	22
19	26	521	247	521	290	324	380	145	78	33	20	22
20	26	438	258	497	328	324	360	140	75	31	19	21
21	25	315	586	473	444	306	341	142	73	30	18	20
22	25	255	1,650	455	467	306	319	156	71	28	18	19
23	25	221	2,090	438	433	302	310	156	71	28	18	19
24	24	558	2,160	428	422	298	310	151	69	27	17	18
25	24	850	2,440	428	428	286	310	151	67	28	28	18
26	25	675	2,620	411	411	286	302	268	64	48	18	17
27	26	575	8,350	400	450	290	294	184	61	57	17	16
28	46	938	5,260	365	485	339	286	154	61	46	16	16
29	405	1,000	4,040	375	-	485	282	140	62	38	16	18
30	1,070	689	2,560	355	-	515	286	132	61	35	18	16
31	1,060	-	1,850	341	-	608	-	124	-	35	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,198	1,070	17	103	6,340
November.....	10,370	1,000	91	346	20,570
December.....	47,642	8,350	247	1,537	94,500
Calendar year 1945.....	137,839	8,350	11	378	273,400
January.....	25,244	2,130	341	814	50,070
February.....	9,570	485	262	342	18,980
March.....	11,400	608	286	368	22,610
April.....	12,400	668	282	413	24,600
May.....	5,627	268	124	182	11,160
June.....	2,527	126	61	87.6	5,210
July.....	1,218	57	27	39.3	2,420
August.....	684	33	16	22.1	1,360
September.....	594	26	16	19.8	1,180
Water year 1945-46.....	130,574	8,350	16	358	259,000

Peak discharge.- Dec. 4 (2 p.m.) 4,940 sec.-ft.; Dec. 27 (11 a.m.) 10,600 sec.-ft.

Cottonwood Creek near Cottonwood, Calif.

Location.- Water-stage recorder lat. 40°24', long. 122°13', in NE¼ sec. 7, T. 29 N., R. 3 W., 2 miles east of Cottonwood and 2 miles upstream from mouth. Altitude of gage, about 370 feet (from river-profile map).

Drainage area.- 945 square miles.

Records available.- October 1940 to September 1946.

Extremes.- Maximum discharge during year, 27,300 second-feet Dec. 27 (gage height, 12.06 feet), from rating curve extended above 5,000 second-feet; minimum, 34 second-feet Aug. 23.

1940-46: Maximum discharge, 52,300 second-feet Mar. 1, 1941 (gage height, 15.4 feet), from rating curve extended above 30,000 second-feet; minimum, 15 second-feet on several days during September 1945.

Remarks.- Records good except those for Oct. 1-3, which are poor. Small diversions above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27					Dec. 28 to Sept. 30				
1.8	41	3.4	705	7.0	5,780	1.8	150	2.3	154
2.0	86	3.8	1,070	8.0	8,550	1.9	144	2.5	234
2.2	136	4.2	1,470	9.0	12,180	2.0	163	2.7	340
2.5	231	4.8	2,160	10.2	17,700	2.1	98	3.0	530
2.8	345	5.5	3,100						
3.1	495	6.0	3,870						

Note.- Same as preceding table above 4.3 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a40	451	939	3,610	614	786	1,150	452	259	94	57	44
2	a40	271	705	3,360	614	723	998	432	249	88	52	44
3	a40	197	590	3,600	614	681	838	426	244	91	54	43
4	41	168	7,500	10,800	588	647	772	426	234	80	50	44
5	41	150	3,890	7,030	543	614	744	426	217	78	46	46
6	45	128	1,980	4,640	556	602	744	420	217	78	44	48
7	45	118	1,580	4,030	621	595	758	406	209	76	44	52
8	41	113	1,370	3,460	556	595	751	452	196	68	41	57
9	41	113	1,140	2,860	530	608	716	504	188	61	43	50
10	37	120	984	2,450	517	628	674	465	181	61	41	52
11	41	128	876	2,080	504	628	647	400	181	61	46	52
12	70	142	786	1,690	478	602	647	370	181	59	50	50
13	72	153	857	1,460	465	634	688	346	181	68	46	52
14	72	165	576	1,290	452	628	667	340	173	68	50	48
15	72	171	543	1,170	452	582	660	312	177	73	48	46
16	65	242	531	1,070	452	569	695	318	177	70	43	46
17	59	484	473	1,010	446	543	744	312	165	63	41	44
18	52	386	440	950	439	530	765	306	144	55	40	44
19	45	708	415	905	445	510	744	318	134	52	37	41
20	48	975	405	875	504	517	688	318	134	46	37	57
21	72	555	2,490	815	510	498	634	318	134	44	37	55
22	59	400	8,240	800	556	494	608	340	127	46	40	54
23	56	341	9,010	793	543	465	582	334	120	44	37	55
24	52	341	6,040	772	536	452	556	301	117	46	41	55
25	45	705	8,670	765	556	446	569	290	114	48	43	52
26	39	858	5,270	751	556	432	569	329	107	61	44	48
27	52	741	17,600	730	588	439	543	346	107	70	48	50
28	91	1,470	15,900	702	830	465	524	295	114	73	55	50
29	100	2,910	11,400	681	-	504	498	279	107	73	48	48
30	235	1,360	6,240	654	-	628	478	279	98	70	46	50
31	515	-	4,500	628	-	995	-	269	-	59	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,323	515	37	74.9	4,610
November.....	15,064	2,910	113	502	29,880
December.....	121,740	17,600	405	3,927	241,500
Calendar year 1945.....	268,956	17,600	15	737	533,500
January.....	66,431	10,800	628	2,143	131,800
February.....	15,065	830	439	538	29,880
March.....	18,031	996	432	582	35,760
April.....	20,651	1,150	478	668	40,960
May.....	11,129	504	269	359	22,070
June.....	4,985	259	98	168	9,890
July.....	2,024	94	44	65.3	4,010
August.....	1,395	57	37	45.0	2,770
September.....	1,477	57	41	49.2	2,930
Water year 1945-46.....	280,317	17,600	37	768	556,100

Peak discharge.- Dec. 4 (4 p.m.) 15,800 sec.-ft.; Dec. 22 (1:30 a.m.) 13,100 sec.-ft.; Dec. 23 (9:30 a.m.) 14,500 sec.-ft.; Dec. 25 (2:30 a.m.) 15,700 sec.-ft.; Dec. 27 (5:30 p.m.) 27,300 sec.-ft.; Jan. 4 (3 p.m.) 21,600 sec.-ft.

a No gage-height record; discharge computed on basis of records for Clear Creek near Igo and Thomas Creek at Paskenta.

Battle Creek near Cottonwood, Calif.

Location.- Water-stage recorder, lat. 40°24', long. 122°08', in NW 1/4 sec. 6, T. 29 N., R. 2 W., 3 miles upstream from mouth and 9 miles east of Cottonwood. Datum of gage is 421.47 feet above datum of Bureau of Reclamation (levels by Bureau of Reclamation).

Drainage area.- 362 square miles.

Records available.- October 1940 to September 1946.

Extremes.- Maximum discharge during year, 5,520 second-feet Dec. 21 (gage height, 7.60 feet); minimum, 86 second-feet (regulated) Aug. 11.
1940-46: Maximum discharge, 12,800 second-feet Feb. 6, 1942 (gage height, 11.85 feet), from rating curve extended above 10,000 second-feet; minimum, that of Aug. 11, 1946.
Maximum stage known, 15.8 feet, from floodmarks, Dec. 11, 1937 (discharge, 35,000 second-feet, by slope-area method).

Remarks.- Records good. Flow regulated by four small power plants and several small reservoirs above station. About 10 second-feet diverted above station for irrigation.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 21						Dec. 22 to Sept. 30			
2.4	174	3.6	585	5.2	1,820	2.4	175	3.0	344
2.6	210	4.0	795	5.5	2,220	2.6	224	3.2	415
2.9	292	4.4	1,050	6.0	2,950	2.8	280	3.5	540
3.2	408	4.8	1,380	6.3	3,400	Note.- Same as preceed: table above 3.5 feet.			

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	185	347	362	855	361	427	404	576	431	271	199	182
2	204	273	310	1,240	382	400	408	580	427	266	199	185
3	210	246	348	1,240	400	385	393	610	411	268	192	185
4	204	258	1,820	1,220	382	364	382	625	400	266	197	185
5	204	228	651	948	371	368	378	610	382	263	197	185
6	204	235	456	790	358	361	382	620	385	254	197	182
7	206	232	570	784	358	371	382	610	375	254	194	189
8	206	232	412	712	354	368	382	585	361	248	189	189
9	196	232	351	640	344	364	396	576	358	248	189	192
10	200	252	328	625	344	375	378	585	354	240	187	194
11	204	356	310	580	337	375	375	585	354	238	187	189
12	200	279	299	558	324	371	382	562	351	238	189	187
13	194	276	279	554	337	459	419	572	331	232	185	187
14	192	257	276	536	331	423	427	540	331	229	187	187
15	192	260	317	497	324	400	415	544	337	229	187	187
16	196	276	321	472	321	389	463	518	331	227	189	199
17	196	452	310	455	314	389	497	527	318	219	187	197
18	192	324	306	451	324	408	536	554	311	224	187	192
19	192	452	292	447	328	396	554	567	311	212	185	194
20	198	387	303	439	324	393	536	562	311	212	187	192
21	190	310	3,180	427	354	385	523	562	308	209	185	185
22	192	276	3,290	419	361	382	506	523	308	204	185	187
23	198	273	1,830	415	344	378	531	501	311	199	182	180
24	192	279	1,580	411	351	371	567	476	311	202	185	182
25	188	362	1,630	423	411	368	625	463	302	204	180	185
26	194	355	1,380	400	368	368	635	544	286	214	185	185
27	194	299	2,820	393	439	375	620	572	289	219	182	185
28	198	1,170	1,950	389	489	393	615	476	286	212	185	185
29	217	979	2,120	375	-	419	625	463	280	206	185	185
30	508	478	1,290	368	-	435	595	439	274	199	185	187
31	538	-	1,000	361	-	419	-	427	-	204	185	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,785	538	185	219	13,460
November	10,595	1,170	228	353	21,010
December	30,691	3,290	276	990	60,870
Calendar year 1945	155,802	3,290	177	427	309,000
January	18,424	1,240	361	584	36,540
February	10,035	489	314	358	19,900
March	12,079	459	361	390	23,960
April	14,331	635	375	478	28,430
May	16,954	625	427	547	33,630
June	10,125	431	274	338	20,080
July	7,110	271	199	229	14,100
August	5,834	199	180	188	11,570
September	5,625	193	180	188	11,160
Water year 1945-46	148,588	3,290	180	407	294,700

Peak discharge.- Nov. 28 (7 p.m.) 3,250 sec.-ft.; Dec. 4 (11 a.m.) 4,460 sec.-ft.; Dec. 21 (11 p.m.) 5,520 sec.-ft.; Dec. 22 (6:30 p.m.) 5,350 sec.-ft.; Dec. 27 (10:30 a.m.) 3,160 sec.-ft.; Jan. 2 (6:30 p.m.) 4,090 sec.-ft.

ANTELOPE CREEK BASIN

Antelope Creek near Red Bluff, Calif.

Location.- Water-stage recorder, lat. 40°12', long. 122°07', in SE $\frac{1}{4}$ sec. 7, T. 27 N., R. 2 W., 6 miles upstream from mouth and 6 miles east of Red Bluff. Altitude of gage, about 340 feet (from topographic map).

Drainage area.- 124 square miles.

Records available.- October 1940 to September 1946.

Extremes.- Maximum discharge during year, 5,470 second-feet Dec. 22 (gage height, 9.70 feet); minimum, 23 second-feet Oct. 17.

1940-46: Maximum discharge, 10,400 second-feet Feb. 6, 1942 (gage height, 13.9 feet); minimum, 14 second-feet (regulated) Oct. 1, 1940.

Flood of December 1937 reached stage of about 22 feet, from floodmarks.

Remarks.- Records good. Small diversion above station for Red Bluff water supply during October to June of each year.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.5	31	2.1	80	4.0	710
1.6	34	2.3	115	4.5	935
1.7	38	2.5	160	5.0	1,170
1.8	45	2.8	249	5.5	1,430
1.9	55	3.1	351	6.0	1,750
2.0	66	3.5	501	6.7	2,320

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	82	128	420	77	153	211	160	a67	41	37	36
2	36	49	96	409	82	136	171	160	a64	41	37	36
3	35	47	100	537	96	123	146	160	a62	40	37	36
4	35	44	1,440	676	90	113	132	163	a60	40	36	36
5	34	42	646	553	85	107	126	160	58	40	36	36
6	34	44	308	409	82	104	115	160	57	39	36	36
7	34	44	193	362	86	98	121	153	57	40	36	36
8	35	42	141	309	83	93	113	143	56	40	36	36
9	35	42	109	256	79	90	109	154	55	40	36	36
10	37	76	93	220	79	90	104	132	54	39	36	36
11	39	130	83	190	79	98	98	126	53	39	36	36
12	39	72	73	165	74	93	96	115	52	39	36	36
13	38	65	65	153	74	138	107	115	51	39	36	36
14	37	54	60	141	73	141	102	111	50	38	36	36
15	36	57	58	132	73	123	102	106	49	38	36	36
16	37	113	59	126	73	115	109	102	48	38	36	38
17	33	255	57	117	73	111	126	100	47	38	36	38
18	35	100	54	111	73	109	141	100	47	38	36	37
19	36	128	53	107	74	113	158	a89	47	38	36	37
20	36	109	53	106	80	111	155	a99	44	38	36	37
21	36	77	1,930	102	142	109	153	a99	44	38	36	37
22	36	64	2,330	98	146	106	153	a98	44	37	36	37
23	36	54	1,140	96	119	100	160	h98	44	37	36	36
24	36	53	827	93	126	96	182	a97	44	37	36	36
25	36	43	1,020	93	211	93	202	a96	44	38	36	36
26	36	85	838	91	153	90	211	a98	43	41	36	36
27	36	69	2,000	88	179	88	202	a90	42	41	36	36
28	38	562	1,160	86	182	93	196	a83	42	39	36	36
29	50	643	1,500	85	-	155	193	a78	42	38	36	35
30	245	220	868	83	-	193	174	a74	42	38	36	35
31	345	-	582	77	-	214	-	h70	-	37	36	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,647	345	33	53.1	3,270
November.....	3,463	643	42	115	6,870
December.....	18,080	2,330	53	583	35,820
Calendar year 1945.....	55,024	2,330	33	151	109,200
January.....	6,491	676	77	209	12,870
February.....	2,843	211	73	102	5,640
March.....	3,596	214	68	116	7,130
April.....	4,568	211	96	146	8,660
May.....	3,579	163	70	115	7,100
June.....	1,509	67	42	50.3	2,990
July.....	1,204	41	37	38.8	2,390
August.....	1,119	37	36	36.1	2,220
September.....	1,087	38	35	36.2	2,160
Water year 1945-46.....	48,966	2,330	33	134	97,120

Peak discharge.- Dec. 4 (12:30 p.m.) 4,150 sec.-ft.; Dec. 22 (1 a.m.) 5,470 sec.-ft.; Dec. 22 (5:30 p.m.) 5,420 sec.-ft.; Dec. 23 (8:30 a.m.) 1,900 sec.-ft.; Dec. 27 (9:30 a.m.) 2,830 sec.-ft.; Dec. 29 (5 a.m.) 2,700 sec.-ft.

a No gage-height record; discharge computed on basis of recorded range in stage, rainfall records and records for stations on nearby streams.

h Computed from staff-gage reading.

Mill Creek near Los Molinos, Calif.

Location.- Water-stage recorder, lat. 40°03'20", long. 122°01'15", in $N\frac{1}{2}$ sec. 6, T. 25 N., R. 1 W., 5 miles upstream from mouth and 5 miles northeast of Los Molinos. Altitude of gage, about 420 feet (from topographic map).

Drainage area.- 134 square miles.

Records available.- October 1928 to September 1946. September 1909 to September 1913 (fragmentary) at site 0.3 mile downstream.

Average discharge.- 18 years (1928-46), 277 second-feet.

Extremes.- Maximum discharge during year, 6,180 second-feet Dec. 21 (gage height, 9.30 feet); minimum, 92 second-feet Oct. 6.
1928-46: Maximum discharge, 23,000 second-feet Dec. 11, 1937 (gage height, 23.4 feet, from floodmarks), from rating curve extended above 3,900 second-feet on basis of slope-area studies; minimum, 49 second-feet Dec. 13, 1932.

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

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.4	86	2.4	367	4.5	1,310
1.5	102	3.0	605	5.0	1,800
1.7	144	3.5	825	6.0	2,300
2.0	230	4.0	1,060	6.9	3,200

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	224	265	581	182	296	394	497	563	197	118	102
2	96	160	221	712	212	279	341	513	371	197	116	102
3	94	162	212	892	191	282	310	545	375	194	114	102
4	94	140	1,370	888	179	246	296	569	341	188	112	102
5	94	135	708	730	173	236	299	549	334	185	112	102
6	94	135	396	573	194	233	303	569	316	179	110	102
7	94	131	320	509	186	236	303	561	303	176	110	102
8	96	124	269	441	176	249	296	521	303	176	108	102
9	97	124	224	382	173	256	289	501	296	173	106	102
10	102	140	203	345	179	276	276	517	286	165	104	100
11	120	152	185	313	176	292	289	505	276	162	102	100
12	110	149	180	289	167	265	320	473	272	160	100	100
13	104	152	175	272	167	267	356	495	269	154	102	100
14	100	140	170	259	165	334	394	449	272	152	100	99
15	99	152	165	246	167	303	429	461	269	152	100	100
16	102	179	160	256	167	293	497	441	262	149	100	106
17	102	296	165	227	165	282	561	485	256	147	99	106
18	100	200	150	224	167	266	589	533	249	142	99	102
19	100	300	145	215	173	286	573	563	249	140	99	102
20	100	282	140	212	179	279	525	525	249	137	99	102
21	99	209	2,590	203	329	262	501	505	246	135	99	100
22	99	176	2,250	197	265	259	489	405	243	133	99	100
23	97	160	1,260	197	233	252	521	378	233	131	99	99
24	97	194	938	197	262	246	581	341	221	129	99	99
25	99	299	1,200	200	262	246	645	330	215	131	99	99
26	99	240	1,310	191	243	256	637	417	212	137	100	99
27	99	215	3,100	188	276	282	593	378	209	135	100	99
28	102	825	1,840	185	334	313	589	356	206	129	100	97
29	138	723	2,020	182	-	394	585	363	203	124	102	97
30	756	363	1,130	173	-	409	513	348	200	122	102	96
31	606	-	753	170	-	405	-	360	-	122	102	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,265	736	94	138	8,460
November	6,881	825	124	229	13,650
December	24,194	3,100	140	780	47,990
Calendar year 1945	112,024	3,100	94	307	222,200
January	10,629	892	170	343	21,080
February	5,744	334	165	205	11,390
March	8,870	409	233	286	17,590
April	13,294	645	276	443	26,370
May	14,433	569	330	466	28,630
June	8,099	375	200	270	16,060
July	4,753	197	122	153	9,430
August	3,211	118	99	104	6,370
September	3,020	106	96	101	5,990
Water year 1945-46	107,393	3,100	94	294	215,000

Peak discharge.- Nov. 28 (5 p.m.) 2,590 sec.-ft.; Dec. 4 (12 m.) 3,660 sec.-ft.; Dec. 21 (10 p.m.) 6,180 sec.-ft.; Dec. 27 (9:30 a.m.) 3,910 sec.-ft.; Dec. 29 (4:30 a.m.) 2,750 sec.-ft.
a No gage-height record; discharge interpolated.

Thomes Creek at Paskenta, Calif.

Location.- Water-stage recorder, lat. 39°52', long. 122°33', in NW¼ sec. 4, T. 23 N., R. 6 W., 0.5 mile upstream from Paskenta and 4.5 miles downstream from Mill Creek.

Drainage area.- 188 square miles.

Records available.- October 1920 to September 1946 at various sites close to Paskenta (prior to January 1921, gage heights only).

Average discharge.- 25 years (1921-46), 248 second-feet.

Extremes.- Maximum discharge during year, 8,990 second-feet Dec. 28 (gage height, 8.48 feet); no flow Oct. 1.

1921-46: Maximum discharge, 18,600 second-feet Jan. 21, 1943 (gage height, 10.92 feet), from rating curve extended above 7,000 second-feet by logarithmic plotting; no flow at times during many years.

Remarks.- Records good. No storage or diversion above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28										Dec. 29 to Sept. 30			
2.45	0	3.0	26	3.6	172	5.8	2,330	2.6	0.7	3.1	43	4.0	404
2.5	2	3.1	41	3.8	264	6.3	3,220	2.7	2.2	3.2	62	4.4	695
2.6	8	3.2	58	4.0	380	6.8	4,240	2.8	6.5	3.4	113	4.8	1,040
2.7	3.0	3.3	78	4.4	660	7.5	6,000	2.9	16.5	3.6	184	5.3	1,580
2.8	8.0	3.4	102	4.6	1,020			3.0	29	3.8	284		
2.9	16	3.5	132	5.3	1,680			Note.- Same as preceding table above 5.2 feet.					

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	132	358	1,090	216	491	342	567	139	29	5.6	1.0
2	4	74	264	1,240	216	444	379	139	29	4.8	1.3	
3	a.6	76	286	1,210	202	404	284	411	126	26	4.4	1.3
4	a.6	62	785	2,220	184	361	279	411	110	25	3.9	1.4
5	a.4	50	459	1,790	180	342	313	392	102	23	3.5	1.4
6	a.3	38	356	1,210	189	361	336	379	94	23	3.5	1.4
7	a.2	30	557	1,000	207	385	354	379	86	22	3.1	1.4
8	al	26	412	800	175	457	342	356	81	20	2.6	1.3
9	al	26	326	679	165	470	319	319	76	18	2.6	1.2
10	a.7	86	292	565	165	498	296	330	74	16	2.2	1.2
11	a2.6	80	264	526	157	450	325	319	72	14	2.2	1.3
12	2.3	88	235	457	150	398	404	284	69	14	2.0	1.4
13	2.3	117	198	424	146	491	450	279	67	12	2.0	1.4
14	2.3	78	172	404	143	417	505	246	67	12	2.0	1.4
15	2.3	78	168	385	150	373	615	235	64	12	1.9	1.3
16	2.6	120	152	361	146	342	759	225	62	10	1.9	1.3
17	2.6	176	144	336	139	319	834	246	60	10	1.9	1.4
18	2.6	102	132	325	143	307	826	268	56	8.5	1.8	1.4
19	2.6	595	126	319	161	296	703	262	54	7.5	1.6	1.4
20	2.6	386	140	301	157	273	555	246	54	6.5	1.4	1.4
21	2.3	216	710	284	173	262	484	216	52	6.1	1.4	1.4
22	2.6	168	1,610	262	173	257	450	169	51	5.6	1.3	1.3
23	2.3	160	1,480	273	169	246	498	157	47	5.2	1.3	1.3
24	2.3	185	1,410	290	193	235	585	143	45	4.8	1.2	1.4
25	2.3	254	1,090	319	221	225	639	143	40	5.2	1.0	1.3
26	2.6	432	1,360	307	212	284	570	176	37	8.5	.8	1.3
27	2.6	356	5,240	290	531	385	498	157	35	16	.7	1.3
28	3.5	1,150	5,760	279	663	392	477	146	35	14	.8	1.0
29	24	940	5,010	262	-	373	457	136	35	12	1.0	1.0
30	275	508	2,190	235	-	342	398	130	32	7.5	1.2	1.0
31	298	-	1,380	225	-	404	-	130	-	6.1	1.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	647.5	298	0	20.9	1,280
November	6,789	1,150	26	226	13,470
December	33,236	5,760	126	1,072	65,920
Calendar year 1945	90,223.8	5,760	0	247	179,000
January	18,688	2,220	225	603	37,070
February	5,724	663	139	204	11,350
March	11,264	498	225	363	22,340
April	14,204	854	279	473	28,170
May	9,036	411	130	259	15,940
June	2,061	139	32	68.7	4,090
July	428.5	29	4.8	13.8	850
August	66.6	5.6	.7	2.15	132
September	38.9	1.4	1.0	1.30	77
Water year 1945-46	101,183.5	5,760	0	277	200,700

Peak discharge.- Nov. 28 (7 p.m.) 2,990 sec.-ft.; Dec. 22 (8 p.m.) 2,180 sec.-ft.; Dec. 24 (9 p.m.) 2,240 sec.-ft.; Dec. 27 (2:30 p.m.) 6,980 sec.-ft.; Dec. 28 (11:30 p.m.) 8,990 sec.-ft.; Jan. 4 (2 p.m.) 3,410 sec.-ft.

No gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Deer Creek near Vina, Calif.

Location.- Water-stage recorder, lat. 40°01', long. 121°56', in NE¼ sec. 23, T. 25 N., R. 1 W., 0.8 mile upstream from concrete diversion dam and 9 miles northeast of Vina.

Altitude of gage, about 480 feet (from topographic map).

Drainage area.- 200 square miles.

Records available.- October 1911 to December 1915, March 1920 to December 1937, January 1939 to September 1946.

Average discharge.- 27 years (1912-15, 1920-37, 1939-46), 292 second-feet.

Extremes.- Maximum discharge during year, 7,280 second-feet Dec. 21 (gage height, 9.55 feet); minimum, 89 second-feet on many days in October.

1911-15, 1920-37, 1939-46: Maximum discharge, 23,800 second-feet Dec. 10, 1937 (gage height, 19.2 feet, present datum, from floodmarks), from rating curve extended above 7,000 second-feet on basis of velocity-area studies; minimum, 43 second-feet Dec. 13, 1932.

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

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.5	84	3.0	240	4.2	770	5.5	1,650
2.4	101	3.3	338	4.5	950	6.0	2,150
2.5	120	3.6	458	4.8	1,140	6.5	2,750
2.7	182	3.9	606	5.1	1,350	7.1	3,570

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	258	289	896	184	354	476	411	181	120	103	94
2	89	164	237	818	207	342	432	403	179	120	103	94
3	89	154	220	856	204	320	391	395	172	115	99	92
4	89	124	1,560	926	209	296	371	395	167	115	99	94
5	91	118	932	860	194	283	368	383	164	115	98	94
6	90	122	499	715	199	276	360	375	160	115	98	92
7	90	124	424	638	218	286	360	368	160	115	98	92
8	92	120	349	549	204	269	338	353	155	116	98	92
9	94	120	280	481	199	299	327	338	151	114	96	92
10	98	132	243	436	202	313	309	327	150	114	96	92
11	110	151	220	395	196	320	309	309	145	116	96	92
12	105	144	202	356	186	306	331	299	145	114	96	92
13	98	155	181	331	186	432	360	289	140	114	96	92
14	94	140	172	516	181	395	387	280	140	112	96	92
15	92	142	169	296	189	360	407	270	135	112	96	94
16	94	164	164	280	191	356	449	261	135	112	96	99
17	94	276	158	264	186	353	495	252	130	112	94	99
18	92	212	153	255	189	356	529	246	130	112	94	94
19	92	249	147	249	202	356	534	243	130	110	96	94
20	91	309	147	240	223	349	499	240	130	109	94	94
21	91	220	3,040	232	424	324	467	237	125	107	94	94
22	91	184	3,180	226	375	324	445	234	125	107	92	92
23	89	167	1,860	220	313	309	449	240	125	107	92	91
24	89	184	1,430	220	324	299	476	226	125	107	92	91
25	89	280	1,600	223	331	296	509	218	125	107	92	91
26	91	240	1,760	212	309	302	514	249	120	114	92	81
27	92	218	3,460	207	331	320	490	249	120	112	92	91
28	92	649	2,500	202	403	380	476	212	120	109	92	91
29	128	770	2,670	196	-	463	467	199	120	105	92	91
30	796	399	1,630	189	-	495	436	191	120	103	92	91
31	850	-	1,150	181	-	481	-	186	-	103	92	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,351	850	89	140	8,630
November.....	6,689	770	118	222	13,230
December.....	30,826	3,460	147	994	61,140
Calendar year 1945.....	114,513	3,460	81	314	227,100
January.....	12,445	928	181	401	24,680
February.....	6,759	424	181	241	13,410
March.....	10,624	495	276	343	21,070
April.....	12,761	554	309	425	25,310
May.....	8,878	411	186	286	17,610
June.....	4,224	181	120	141	8,380
July.....	3,463	120	103	112	6,870
August.....	2,954	103	92	95.3	5,860
September.....	2,784	99	91	92.8	5,520
Water year 1945-46.....	106,758	3,460	89	292	211,700

Peak discharge.- Oct. 31 (3 a.m.) 1,720 sec.-ft.; Dec. 4 (12:30 p.m.) 3,220 sec.-ft.; Dec. 21 (9:30 p.m.) 7,280 sec.-ft.; Dec. 27 (8 a.m.) 4,080 sec.-ft.

Note.- No gage-height record Oct. 6-11, June 10 to July 7; discharge computed on basis of recorded range in stage and records for Mill Creek near Los Molinos and Chico Creek near Chico.

CHICO CREEK BASIN

Chico Creek near Chico, Calif.

Location.- Water-stage recorder, lat. 39°46', long. 121°46', in Arroyo Chico Grant, 1 mile upstream from golf clubhouse in Municipal Park and 6 miles northeast of Chico, Butte County. Datum of gage is 296.31 feet above mean sea level (levels by Corps of Engineers; War Department); prior to May 28, 1946, at datum 2.11 feet higher.

Drainage area.- 68.3 square miles.

Records available.- May 1930 to September 1946.

Average discharge.- 16 years, 138 second-feet.

Extremes.- Maximum discharge during year, 4,070 second-feet Dec. 21 (gage height, 10.17 feet); minimum, 19 second-feet (regulated) Sept. 13, 19, 24.
1930-46: Maximum discharge, 8,260 second-feet Dec. 10, 1937 (gage height, 18.7 feet, new datum), from rating curve extended above 5,000 second-feet on basis of rating at cable gage, velocity-area studies, and logarithmic plotting; minimum, 10 second-feet (regulated) Dec. 11, 1932, Aug. 15, 1939.

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

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	104	142	404	70	169	210	a57	44	27	23	22
2	22	62	106	337	85	159	198	a56	42	28	23	23
3	23	48	87	361	91	148	182	a56	41	28	22	22
4	23	42	246	461	93	138	174	a55	39	27	22	23
5	24	40	505	542	85	129	165	a53	35	26	22	22
6	24	39	382	434	88	120	157	a50	34	27	22	25
7	24	39	274	355	103	113	150	a48	34	28	21	22
8	25	36	211	296	94	106	139	h47	32	27	20	23
9	27	38	158	255	91	101	132	h47	31	25	20	22
10	a28	45	127	226	94	100	123	h46	30	26	20	22
11	29	47	108	204	94	103	116	h45	30	27	21	22
12	29	51	95	182	88	98	110	a45	30	26	21	21
13	28	58	84	167	85	136	106	h44	30	26	21	21
14	27	51	74	157	84	132	100	h44	29	26	20	20
15	26	51	68	148	90	125	94	h44	29	26	20	20
16	26	78	65	139	94	120	91	h44	29	26	21	21
17	27	216	62	130	93	115	86	h42	28	26	21	21
18	27	122	59	123	94	111	84	h40	26	26	21	20
19	27	108	57	116	101	113	82	h38	28	25	21	19
20	27	106	57	111	122	113	79	h38	27	25	21	20
21	27	86	1,610	105	214	108	76	h58	27	25	22	20
22	29	70	2,240	98	260	101	73	h40	27	25	22	20
23	28	61	1,120	94	216	98	70	h42	27	24	22	20
24	26	62	836	93	200	93	69	h41	28	24	22	19
25	26	116	1,410	91	196	88	68	a41	28	24	22	20
26	26	100	1,440	86	184	85	66	a54	28	26	22	20
27	26	82	3,180	84	180	82	65	h52	28	26	22	20
28	27	303	1,910	80	184	98	a63	48	28	24	22	20
29	42	492	1,420	79	-	176	a60	46	28	24	22	21
30	271	216	913	75	-	196	a58	45	27	24	22	22
31	325	-	598	72	-	210	-	44	-	24	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,369	325	22	44.2	2,720
November	2,967	492	36	98.9	5,880
December	19,634	3,180	57	633	38,940
Calendar year 1945	56,476	3,180	17	155	112,000
January	6,105	542	72	197	12,110
February	3,473	260	70	124	6,890
March	3,784	210	82	122	7,510
April	3,246	210	58	108	6,440
May	1,431	57	38	46.2	2,840
June	926	44	27	30.9	1,840
July	798	28	24	25.7	1,580
August	665	23	20	21.5	1,320
September	651	23	19	21.0	1,250
Water year 1945-46	45,029	3,180	19	123	89,320

Peak discharge.- Oct. 31 (6:30 a.m.) 610 sec.-ft.; Nov. 28 (9:30 p.m.) 1,000 sec.-ft.; Dec. 5 (3 p.m.) 842 sec.-ft.; Dec. 21 (10:30 p.m.) 4,070 sec.-ft.; Dec. 27 (9 a.m.) 3,670 sec.-ft.
a No gage-height record; discharge computed on basis of records for Deer Creek near Vina.
h Computed from staff-gage reading.

Stony Creek near Hamilton City, Calif.

Location.- Water-stage recorder, lat. 39°43'20", long. 122°03'10", in Capay Grant, 2.5 miles southwest of Hamilton City, 8 miles east of Orland, Glenn County, and 5 miles upstream from mouth. Altitude of gage, about 150 feet (from topographic map). Prior to Jan. 11, 1946, at site 3 miles upstream.

Drainage area.- 764 square miles at present site.

Records available.- February to September 1946; January 1941 to January 1946 at former site; records comparable except for extremely low flows.

Extremes.- Maximum discharge during year, 18,100 second-feet Dec. 25 (gage height, 5.7 feet); no flow for several months.
1941-46: Maximum discharge, 37,500 second-feet Mar. 1, 1941 (gage height, 6.35 feet, site and datum then in use); no flow part of each year.

Remarks.- Records fair except those for periods of no gage-height record and for May, which are poor. Flow regulated by East Park Reservoir (capacity, 51,000 acre-feet), Stony Gorge Reservoir (capacity, 50,200 acre-feet), and diversions for irrigation of Orland project, Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	34	159	2,430	220	565	423	20				
2	5	34	200	1,940		387	490	13				
3	5	29	300	1,900		340	468	4.9				
4	5	27	619	3,500		360	446	13				
5	5	25	1,210	2,700		360	441	65				
6	6	25	584	2,200	150	308	454	4.2				
7	7	24	394	2,000		218	468	2				
8	8	20	398	1,800		194	477	4.9				
9	10	10	270	1,600		155	459	0				
10	10	7	192	1,450		127	423	0				
11	12	10	171	1,200	150	116	374	0				
12	15	12	156	1,000		114	324	0				
13	16	14	144	900		120	274	0				
14	18	16	138	760		152	243	0				
15	22	18	125	660		140	178	9.4				
16	25	20	115	600	150	124	133	0				
17	25	22	110	580		104	122	0				
18	24	27	100	520		103	112	0				
19	24	33	90	480		92	110	0				
20	24	124	85	450		104	112	0				
21	23	120	329	350	162	122	118	0				
22	23	79	1,910		168	118	110	0				
23	23	51	4,020		168	138	88	3				
24	23	42	4,080		162	118	99	0				
25	23	38	10,400		160	116	114	0				
26	24	74	4,820	350	170	110	99	20				
27	24	125	7,160		170	95	78	34				
28	24	122	12,000		411	81	58	27				
29	26	260	9,000		-	124	52	2				
30	31	242	5,000		-	188	35	0				
31	34	-	3,500		-	285	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,549	34	5	17.7	1,090
November.....	6,684	260	7	56.1	3,340
December.....	67,779	12,000	85	2,186	134,400
Calendar year 1945.....	101,093	12,000	-	277	200,500
January.....	32,500	3,500	-	1,048	64,460
February.....	5,271	411	-	188	10,450
March.....	5,676	585	81	183	11,260
April.....	7,332	490	35	246	14,640
May.....	222.4	65	0	7.17	441
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	121,063.4	12,000	0	332	240,100

† Result of discharge measurement.

Note.- No gage-height record Oct. 1-15, 17-21, 23-28, Nov. 8-17, Dec. 2, 3, 15-19, 28-31, Jan. 3-9; discharge computed on basis of 2 discharge measurements and records for stations on nearby streams. No record Jan. 11 to Feb. 19. Discharge May 5, 7, 9-14, 16-26, 29 estimated.

Butte Creek near Chico, Calif.

Location.- Water-stage recorder, lat. 39°44', long. 121°42', in NW $\frac{1}{4}$ sec. 36, T. 22 N., R. 2 E., 0.8 mile downstream from Little Butte Creek and 7.5 miles east of Chico. Altitude of gage, about 350 feet (from topographic map).

Drainage area.- 148 square miles.

Records available.- November 1930 to September 1946.

Average discharge.- 15 years (1931-46), 395 second-feet.

Extremes.- Maximum discharge during year, 5,620 second-feet Dec. 27 (gage height, 7.63 feet); minimum, 42 second-feet (regulated) Aug. 27.

1930-46: Maximum discharge, 17,000 second-feet Dec. 11, 1937 (gage height, 18.9 feet, site and datum then in use), from rating curve extended above 6,000 second-feet by logarithmic plotting; minimum recorded, 22 second-feet (regulated) Aug. 19, 1939.

Remarks.- Records good. Butte Creek receives considerable water above station from West Branch Feather River by way of De Sabla and Centerville power plants. Pacific Gas & Electric Co. has furnished the following record of this flow for 1945-46.

Month	Mean discharge (second-feet)	Runoff (acre-feet)
October.....	35.0	2,150
November.....	61.6	3,670
December.....	68.7	4,220
January.....	77.8	4,780
February.....	69.5	3,860
March.....	67.5	4,150
April.....	16.8	999
May.....	0	0
June.....	60.8	3,610
July.....	43.1	2,650
August.....	41.5	2,550
September.....	26.1	1,550
Water year..	47.2	34,190

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	310	351	1,170	311	455	533	365	209	152	115	97
2	106	202	269	1,080	360	425	485	360	226	140	115	123
3	103	191	265	1,050	350	392	443	370	212	137	112	126
4	110	181	409	1,210	360	381	461	365	216	152	102	112
5	103	178	698	1,200	325	365	467	360	212	143	120	94
6	106	181	535	1,000	345	365	449	350	202	149	115	97
7	103	178	464	902	360	355	437	350	202	118	100	100
8	116	174	404	803	355	355	403	330	209	155	115	85
9	108	161	325	734	345	355	370	311	209	146	110	92
10	113	184	315	662	335	360	345	316	202	146	97	94
11	123	181	278	630	335	370	345	302	196	134	118	87
12	108	213	261	597	320	350	272	189	137	110	81	81
13	101	206	552	294	478	335	260	192	132	112	94	94
14	99	188	236	539	325	437	350	264	196	126	112	81
15	99	188	221	503	320	403	355	280	192	134	132	104
16	101	259	221	479	316	398	376	240	183	140	104	85
17	101	475	224	461	307	360	403	240	183	129	112	104
18	106	287	202	437	311	370	414	235	186	126	118	102
19	128	335	198	425	330	408	425	222	161	126	115	87
20	123	330	188	414	335	361	414	212	164	126	118	92
21	123	261	2,240	392	527	365	398	219	170	120	118	94
22	113	232	3,640	376	527	350	366	212	183	123	115	87
23	118	221	2,060	376	467	365	398	219	146	123	112	94
24	110	236	1,680	365	449	340	408	212	176	118	110	85
25	103	366	2,690	370	449	325	437	196	167	123	100	81
26	96	297	2,760	345	420	330	443	244	164	126	118	81
27	99	269	4,890	335	443	330	414	229	161	126	112	85
28	96	566	3,470	335	491	398	408	196	161	129	126	83
29	149	775	3,070	320	-	564	420	189	155	120	120	76
30	686	448	1,980	320	-	564	403	180	140	115	118	85
31	597	-	1,460	316	-	545	-	180	-	120	107	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,465	686	96	144	8,860
November.....	8,273	775	161	276	16,410
December.....	36,234	4,890	188	1,169	71,870
Calendar year 1945	153,852	4,890	96	422	305,200
January.....	18,698	1,210	316	603	37,090
February.....	10,412	527	294	372	20,650
March.....	12,234	564	325	395	24,270
April.....	12,275	533	335	409	24,350
May.....	8,278	370	180	267	16,420
June.....	5,564	226	140	185	11,040
July.....	4,091	155	115	132	8,110
August.....	3,508	132	97	113	6,960
September.....	2,788	126	76	92.9	5,530
Water year 1945-46	126,820	4,890	76	347	251,600

Peak discharge.- Dec. 21 (12 p.m.) 5,070 sec.-ft.; Dec. 27 (9:30 a.m.) 5,620 sec.-ft.

Lake Almanor near Prattville, Calif.

Location.- Staff gage, lat. 40°10'30", long. 121°05'25", in NW $\frac{1}{4}$ sec. 28, T. 27 N., R. 8 E., at outlet tower at dam on North Fork Feather River and 5 miles southeast of Prattville. Datum of gage is 4,400 feet above mean sea level; gage readings have been reduced to elevations above mean sea level.

Drainage area.- 506 square miles.

Records available.- October 1913 to September 1946. 1913 to 1939, summary records only, in Water-Supply Paper 881.

Extremes.- Maximum contents observed during year, 552,700 acre-feet June 4, 6 (elevation, 4,469.41 feet); minimum observed, 374,800 acre-feet Mar. 8-11 (elevation, 4,459.93 feet).

1913-46: Maximum contents, 798,900 acre-feet June 9, 1928 (elevation, 4,480.5 feet); minimum, 5,230 acre-feet Feb. 5, 1918 (elevation, 4,416.1 feet).

Remarks.- Lake is formed by earth-fill dam; storage began in July 1913; dam raised to elevation 4,455 feet above mean sea level in 1917 and to 4,515 feet above mean sea level in 1927. Usable capacity, 649,800 acre-feet between elevations 4,400 feet (bottom of outlet to river) and 4,474 feet (present upper storage limit). Water is diverted by tunnel to Butt Valley Reservoir for use in Caribou power plant and some is released at Almanor Dam down natural channel of river. (See records for North Fork Feather River near Prattville on following page.) Records show contents at 12 p.m. Interpolated from readings made at 5 p.m., all of which is available for diversion to Butt Valley Reservoir except 15,700 acre-feet (below elevation 4,429 feet) that can only be released down river.

Cooperation.- Records of contents, furnished by Pacific Gas & Electric Co. under general supervision of Geological Survey, obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	494,700	489,700	497,400	485,700	399,800	377,400	418,200	494,900	548,700	535,700	481,400	423,400
2	493,000	491,200	495,900	484,800	399,400	377,000	417,800	498,000	550,700	535,100	479,500	421,800
3	491,200	492,400	495,100	484,000	400,100	376,800	418,200	501,900	552,100	534,100	477,800	419,700
4	489,500	493,200	494,500	484,400	399,100	376,300	418,700	505,400	552,700	532,900	475,700	417,500
5	488,000	493,200	492,600	483,100	397,700	376,000	419,700	510,100	552,500	531,300	473,800	415,700
6	486,200	493,200	489,500	480,600	395,400	375,500	421,100	514,200	552,700	529,500	472,100	414,400
7	484,500	492,600	486,200	458,200	393,100	375,100	423,100	516,600	552,500	527,900	470,600	413,000
8	482,800	492,000	485,200	456,300	391,100	374,800	424,500	519,400	552,100	526,300	468,300	411,700
9	481,300	490,800	479,200	454,100	389,600	374,800	426,500	520,000	551,700	524,700	466,300	410,100
10	480,900	490,100	475,500	454,100	388,300	374,800	428,900	521,400	551,700	523,000	464,400	408,300
11	482,800	489,300	472,700	448,900	387,100	374,800	430,700	522,200	551,300	521,200	462,300	407,100
12	484,500	489,300	470,200	444,300	385,700	375,500	432,400	523,400	550,700	519,200	459,900	405,700
13	485,500	489,900	468,000	439,700	384,500	377,700	434,600	525,100	549,900	515,800	457,300	404,000
14	486,200	488,700	466,700	435,800	383,800	379,400	437,300	526,700	549,100	513,900	455,200	402,600
15	487,400	489,500	466,300	432,000	382,700	381,200	439,900	527,900	548,500	512,100	453,000	401,000
16	488,300	489,300	463,800	428,900	382,000	382,700	442,600	528,900	547,800	510,500	450,600	399,400
17	489,100	488,900	462,500	425,800	381,500	384,500	445,400	530,100	547,400	508,900	448,200	398,000
18	489,900	488,300	460,800	423,100	381,000	386,200	448,500	531,300	546,800	507,200	446,100	396,800
19	490,800	489,700	459,300	422,000	380,600	388,200	452,100	532,700	546,400	505,400	444,300	395,700
20	491,400	490,100	459,100	419,700	381,000	390,100	445,600	533,900	545,800	503,900	442,800	394,700
21	491,800	490,300	461,400	416,800	381,000	391,700	459,000	534,700	545,000	502,100	442,600	393,400
22	491,600	490,700	463,600	415,300	380,600	394,800	462,900	535,700	544,200	500,700	442,300	392,200
23	490,300	491,000	464,600	413,200	379,600	396,800	466,700	536,300	543,400	498,800	441,200	391,000
24	488,700	492,000	464,800	410,800	378,900	398,700	469,100	536,700	542,600	495,300	439,500	389,600
25	487,000	492,800	465,100	409,400	378,400	400,700	471,900	537,100	541,800	493,400	437,700	388,300
26	485,300	493,600	465,900	408,000	378,000	401,900	475,900	537,900	540,800	491,600	436,000	387,100
27	483,600	494,100	466,300	406,400	377,700	403,000	481,300	539,400	539,800	489,900	433,600	386,100
28	482,200	495,500	466,800	404,400	377,400	407,400	484,900	541,000	538,800	488,300	431,400	385,400
29	480,000	497,000	467,000	402,600	-	411,900	488,500	542,600	537,700	486,400	429,100	384,500
30	486,600	498,200	466,800	401,600	-	414,200	492,000	544,400	536,900	484,900	427,100	383,400
31	488,700	-	466,500	400,100	-	415,900	-	546,400	-	483,200	425,300	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	4,466.59	496,600	-
Oct. 31.....	4,466.18	488,700	-7,900
Nov. 30.....	4,466.67	498,200	+9,500
Dec. 31.....	4,465.01	466,500	-31,700
Calendar year 1945....	-	-	+8,700
Jan. 31.....	4,461.38	400,100	-66,400
Feb. 28.....	4,460.08	377,400	-22,700
Mar. 31.....	4,462.26	415,900	+38,500
Apr. 30.....	4,466.35	492,000	+76,100
May 31.....	4,469.10	546,400	+54,400
June 30.....	4,468.63	556,900	+9,500
July 31.....	4,465.89	483,200	-53,700
Aug. 31.....	4,462.78	425,300	-57,900
Sept. 30.....	4,460.43	383,400	-41,900
Water year 1945-46....	-	-	-113,200

North Fork Feather River near Prattville, Calif.

Location. Water-stage recorder and compound rectangular concrete weir, lat. 40°10', long. 121°06', in SW¹ sec. 28, T. 27 N., R. 8 E., 0.5 mile downstream from Almanor Dam, 5 miles southeast of Prattville, and 9 miles upstream from Butt Creek. Altitude of gage, about 4,380 feet (from topographic map).

Drainage area. 507 square miles.

Records available. March 1914 to September 1946 (tables of daily discharge for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). June 1905 to March 1914 at site near that of Almanor Dam.

Average discharge. 40 years (1905-10, 1911-46), 890 second-feet, including diversion through Almanor-Butt Creek tunnel.

Extremes. Maximum discharge during year, 1,950 second-feet (regulated) Jan. 11 (gage height, 6.05 feet); minimum, 13 second-feet (regulated) Apr. 13-30. Extremes do not include diversions through Almanor-Butt Creek tunnel.

1905-46: Maximum discharge, 10,000 second-feet Mar. 19, 1907, before construction of dam (gage height, 16.2 feet, at former site), from rating curve extended above 3,700 second-feet; no flow (result of regulation) Apr. 15, 16, 1914, at times during January to April 1919, and on Apr. 21, 1923.

Remarks. Records good except those for Jan. 16 to Mar. 2, which are fair. Flow regulated by Lake Almanor (see preceding page). Figures of daily discharge show release from Lake Almanor down North Fork Feather River. Figures of monthly discharge show release and also total runoff. Water is diverted for power from Lake Almanor through Almanor-Butt Creek tunnel to Butt Creek.

Cooperation. Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	373	20	391	777	480	55	14	14	14	123	362	425
2	373	20	391	777	480	55	14	14	14	331	421	562
3	373	20	398	777	480	55	14	14	14	209	493	626
4	373	67	640	777	480	55	14	14	14	293	535	484
5	373	162	994	1,030	480	54	14	14	14	310	472	320
6	373	25	1,300	1,280	480	54	14	14	14	398	472	256
7	373	25	1,490	1,270	480	54	14	14	14	398	514	296
8	373	25	1,490	1,270	480	54	14	14	14	359	535	352
9	236	25	1,490	1,270	480	54	14	14	14	296	535	303
10	28	25	1,350	1,270	480	54	14	14	14	231	535	261
11	27	25	1,030	1,660	h480	54	14	14	14	279	531	258
12	26	25	1,030	1,930	430	54	14	14	14	575	575	256
13	26	25	691	1,930	300	44	13	14	14	692	682	250
14	26	25	522	1,930	300	14	13	14	14	644	682	247
15	25	132	522	1,930	300	14	13	14	14	522	677	247
16	25	391	522	1,930	300	14	13	14	14	425	677	247
17	25	391	522	1,930	300	14	h13	14	14	484	677	247
18	25	391	522	1,930	230	14	13	14	14	480	677	247
19	25	391	522	1,930	55	14	13	14	14	548	668	213
20	25	391	367	1,930	55	14	13	14	14	617	644	193
21	24	391	256	1,930	55	14	13	14	14	603	612	193
22	25	391	256	1,930	55	14	13	14	14	535	566	193
23	142	391	256	1,930	55	14	13	14	14	557	526	193
24	359	391	258	1,930	55	14	h13	14	14	584	476	193
25	355	391	258	1,930	55	14	13	14	14	540	476	193
26	355	391	e558	1,930	55	14	13	14	14	440	472	133
27	355	391	e772	1,930	55	14	13	14	50	413	444	16
28	358	391	772	1,490	55	14	13	14	143	452	459	16
29	259	391	772	661	-	14	13	14	213	452	701	16
30	20	391	772	480	-	14	13	14	187	456	597	16
31	20	-	777	480	-	14	-	14	-	417	355	-

Month	Observed					Diversions in acre-feet†	Adjusted for diversion	
	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		Mean	Runoff in acre-feet
October.....	5,772	373	20	166	11,450	36,380	778	47,830
November.....	6,531	391	20	217	12,910	24,240	624	37,150
December.....	21,881	1,490	256	706	43,400	55,450	1,608	99,850
Calendar year 1945	61,492.5	1,490	4.4	168	122,000	445,400	784	567,400
January.....	46,149	1,930	480	1,489	91,540	38,680	2,118	130,200
February.....	7,990	480	55	285	15,850	48,690	1,162	64,540
March.....	948	55	14	30.6	1,880	22,120	390	24,000
April.....	402	14	13	13.4	797	9,690	159	9,490
May.....	434	14	14	14.0	861	37,660	626	38,520
June.....	957	213	14	31.9	1,900	51,090	891	52,990
July.....	13,463	692	123	434	26,700	57,550	1,370	84,250
August.....	17,048	701	355	550	33,810	52,050	1,396	85,860
September.....	7,452	626	16	248	14,780	55,280	1,177	70,060
Water year 1945-46	129,007	1,930	13	353	255,900	487,900	1,027	743,700

† Diversion through Almanor-Butt Creek tunnel, computed as difference in flow between the two stations on Butt Creek. There is some unmeasured inflow between the two stations.

e Computed from graph based on powerhouse records.

h Computed from staff-gage reading.

Note.—No gage-height record Jan. 9, 10, 16-27, Feb. 1-3, 6-10, Feb. 12 to Mar. 2, Mar. 28-31, Apr. 2-16, 18-23, Apr. 25 to May 20, June 19-25, Sept. 17; discharge computed on basis of power company's record of draft from Lake Almanor.

North Fork Feather River at Big Bar, Calif.

Location.- Water-stage recorder, lat. 39°48', long. 121°27', in NE $\frac{1}{4}$ sec. 6, T. 22 N., R. 5 E., between railroad and highway bridges, 0.2 mile downstream from Big Bar and 6 miles upstream from intake of power plant at Big Bend. Altitude of gage, about 1,320 feet (from topographic map).

Drainage area.- 1,945 square miles.

Records available.- October 1939 to September 1946. February 1911 to August 1930 and

October 1931 to September 1937 at site 0.8 mile upstream.

Average discharge.- 30 years (1911-12, 1913-20, 1921-30, 1931-37, 1939-46), 2,715 second-foot.

Extremes.- Maximum discharge during year, 19,300 second-foot Dec. 29 (gage height, 15.47 feet); minimum, 718 second-foot (regulated) Oct. 10.

1911-37, 1939-46: Maximum discharge, 66,900 second-foot Dec. 11, 1937 (gage height, 29.7 feet at present site, from floodmarks), from rating curve extended above 34,000 second-foot by logarithmic plotting; minimum daily discharge, 235 second-foot (regulated) Oct. 31, 1932.

Remarks.- Records good. Flow regulated by Lake Almanor (see p. 319), Bucks Creek Reservoir (see p. 328), Butt Valley Reservoir, power plants, and diversions.

Cooperation.- Water-stage recorder record furnished by Pacific Gas & Electric Co.

Rating table, water year, 1945-46 (gage height, in feet, and discharge, in second-foot)

2.4	808	5.0	2,380	8.5	6,280
2.7	930	5.5	2,790	9.5	7,800
3.0	1,060	6.0	3,260	11.0	10,300
3.5	1,350	6.5	3,760	13.0	14,000
4.0	1,650	7.0	4,330	15.0	18,200
4.5	2,000	7.5	4,950		

Discharge, in second-foot, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,820	2,510	2,900	8,100	2,850	3,320	3,350	4,730	2,440	1,790	2,010	1,710
2	1,860	1,800	2,690	7,420	2,930	3,230	3,340	4,630	2,110	1,800	1,990	1,850
3	1,850	1,550	2,620	7,370	2,830	2,930	3,220	4,580	2,360	1,730	2,100	2,130
4	1,820	1,530	2,830	7,020	2,920	3,200	3,270	4,500	2,300	1,810	1,900	2,000
5	1,800	1,680	3,860	7,170	2,860	3,020	3,510	4,160	2,240	1,820	1,990	1,850
6	1,770	1,580	4,020	6,720	2,970	2,800	3,340	4,560	2,150	1,890	1,990	1,750
7	1,530	1,500	4,450	6,520	2,950	2,760	3,240	4,430	2,060	1,830	1,990	1,710
8	1,570	1,470	4,250	6,210	2,880	2,670	3,420	4,310	1,980	1,890	2,030	1,590
9	1,540	1,620	4,020	5,820	2,840	2,770	3,330	4,150	1,730	1,820	2,020	1,730
10	836	1,570	3,920	5,530	2,670	2,970	3,030	4,070	1,940	1,730	2,020	1,700
11	1,010	1,530	3,330	5,460	2,840	3,450	3,120	3,790	1,920	1,700	1,820	1,680
12	1,240	1,510	3,240	5,750	2,800	3,430	3,140	3,300	1,870	1,880	1,980	1,680
13	1,350	1,510	3,030	5,570	2,480	3,750	3,380	3,500	1,850	2,100	2,130	1,680
14	1,200	1,570	2,580	5,440	2,540	3,450	3,390	3,330	1,850	2,020	2,140	1,670
15	1,310	1,640	2,520	5,290	2,540	3,160	3,980	3,240	1,780	2,020	2,140	1,570
16	1,460	2,300	2,430	5,190	2,440	2,920	4,460	3,310	1,450	1,910	2,130	1,700
17	1,500	2,770	2,490	5,070	2,370	2,670	5,120	3,350	1,740	1,940	2,150	1,730
18	1,490	2,180	2,520	5,050	2,540	2,990	5,640	3,410	1,730	1,940	2,060	1,620
19	1,520	2,540	2,000	4,830	2,400	3,030	5,890	3,510	1,840	1,930	2,130	1,690
20	1,430	2,620	2,450	4,710	2,400	3,240	5,190	3,360	1,870	2,060	2,130	1,670
21	1,320	2,470	5,740	4,850	2,640	3,150	4,690	3,160	1,710	2,040	2,100	1,640
22	1,480	2,560	15,800	4,790	2,810	3,060	4,930	2,910	1,780	2,010	2,050	1,620
23	1,500	2,510	12,900	4,790	2,770	2,810	5,050	3,080	1,540	1,980	2,030	1,650
24	1,800	2,650	10,300	4,760	2,580	2,590	5,410	2,920	1,720	2,060	1,930	1,640
25	1,900	2,920	10,200	4,810	3,040	2,880	5,660	2,820	1,760	2,190	1,820	1,640
26	1,900	2,960	11,200	4,830	2,680	2,970	5,550	2,910	1,760	2,110	1,910	1,490
27	1,790	2,860	15,100	4,690	2,790	3,400	5,020	2,920	1,760	2,040	1,940	1,450
28	1,740	2,970	14,400	4,560	3,310	3,790	4,770	2,830	1,800	1,940	1,850	1,350
29	2,290	3,690	17,600	3,560	-	4,280	5,000	2,650	1,870	2,080	2,120	1,420
30	3,740	3,290	14,500	3,060	-	3,840	4,650	2,470	1,740	2,060	2,190	1,430
31	3,890	-	10,400	2,950	-	3,450	-	2,460	-	2,060	1,850	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-foot
October	53,256	3,890	836	1,718	105,600
November	65,260	3,690	1,330	2,175	129,400
December	200,800	17,600	2,430	6,477	398,500
Calendar year 1945	1,048,216	17,600	836	2,872	2,079,000
January	167,990	8,100	2,950	5,419	335,200
February	76,650	5,310	2,370	2,738	152,000
March	98,180	4,280	2,590	3,167	194,700
April	127,090	5,690	3,030	4,236	252,100
May	109,370	4,730	2,460	3,528	216,900
June	56,670	2,440	1,450	1,889	112,400
July	60,180	2,190	1,700	1,941	119,400
August	52,640	2,190	1,820	2,021	124,200
September	50,040	2,130	2,350	1,668	99,250
Water year 1945-46	1,128,126	17,600	836	3,091	2,237,000

Feather River near Oroville, Calif.

Location.- Water-stage recorder, lat. 39°32', long. 121°29', in NE $\frac{1}{4}$ sec. 2, T. 19 N., R. 4 E., 75 feet upstream from bridge on Feather River Highway, 2 miles downstream from confluence of North and Middle Forks, and 3 miles northeast of Oroville. Datum of gage is 182.02 feet above mean sea level, datum of 1929.

Drainage area.- 3,611 square miles.

Records available.- October 1934 to September 1946. January 1902 to September 1934 at site at Oroville, 5 miles downstream.

Average discharge.- 44 years, 5,873 second-feet.

Extremes.- Maximum discharge during year, 54,400 second-feet Dec. 29 (gage height, 44.9 feet); minimum, 960 second-feet (regulated) Oct. 23 (gage height, 5.03 feet).

1902-34 at Oroville: Maximum discharge observed, 230,000 second-feet Mar. 19, 1907 (gage height, 28.2 feet, reading on U. S. Weather Bureau staff gage at bridge, equivalent to 39.3 feet at staff gage at cable 1,000 feet upstream; probably had been higher during night); minimum, 300 second-feet (estimated, regulated) Nov. 9, 1931 (gage height, -1.7 feet).

1934-46 near Oroville: Maximum discharge, 185,000 second-feet Dec. 11, 1937 (gage height, 73.6 feet, from floodmarks), from rating curve extended above 62,000 second-feet on basis of velocity-area studies and verified by slope-area computation; minimum, 462 second-feet Dec. 10, 1934 (gage height, 3.55 feet).

Remarks.- Records excellent. Flow regulated by power plants and Lake Almanor (see p. 319), BUCKS Creek (see p. 328), Butt Valley, and smaller reservoirs.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

5.8	1,250	9.0	2,940	23.0	14,300
6.1	1,380	11.0	4,140	26.0	17,700
6.3	1,470	13.0	5,370	30.0	22,900
6.8	1,720	16.0	7,820	34.0	28,900
7.1	1,880	18.0	9,300	38.0	36,300
8.0	2,380	20.0	11,200	42.0	45,900

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,020	4,720	5,890	17,200	4,680	6,510	7,880	9,970	4,430	2,390	2,330	2,030
2	2,120	3,000	4,090	15,200	4,810	6,240	7,530	9,880	4,150	2,380	2,300	2,010
3	2,080	2,480	3,730	15,800	4,820	6,040	7,230	9,880	4,200	2,380	2,250	2,350
4	2,090	2,190	4,440	15,800	4,950	5,850	7,370	9,840	4,070	2,370	2,240	2,280
5	2,060	2,080	6,630	15,700	4,670	5,590	7,750	9,480	4,000	2,380	2,190	2,160
6	2,050	2,330	6,120	13,900	4,750	5,410	7,800	9,710	3,800	2,360	2,220	2,010
7	1,840	2,230	6,180	12,600	5,330	5,340	7,630	9,700	3,670	2,390	2,260	1,890
8	1,830	2,100	5,810	11,800	4,850	5,460	7,400	9,360	3,460	2,400	2,280	1,940
9	1,810	2,200	5,290	10,500	4,690	5,570	7,360	8,360	3,280	2,330	2,280	1,910
10	1,250	2,370	5,060	9,660	4,560	5,860	6,850	8,390	3,310	2,280	2,280	1,950
11	1,320	2,360	4,590	9,080	4,570	6,420	6,720	7,890	3,240	2,240	2,170	1,940
12	1,500	2,450	4,280	9,120	4,540	6,340	7,080	7,320	3,130	2,330	2,170	1,930
13	1,690	2,460	4,120	8,640	4,270	7,970	7,650	7,120	3,010	2,430	2,430	1,840
14	1,580	2,360	3,580	8,370	4,180	7,320	7,860	6,790	2,920	2,480	2,380	1,920
15	1,600	2,580	3,460	8,030	4,250	6,640	8,620	6,470	2,860	2,440	2,390	1,860
16	1,800	3,720	3,400	7,880	4,170	6,440	9,880	6,520	2,660	2,410	2,420	1,920
17	1,850	5,060	3,220	7,620	4,060	6,060	11,300	6,620	2,630	2,370	2,440	2,040
18	1,840	3,940	3,350	7,470	4,180	5,970	12,400	6,810	2,680	2,360	2,340	1,940
19	1,840	3,840	3,310	7,300	4,100	6,360	12,700	7,020	2,780	2,360	2,370	1,990
20	1,740	4,780	3,410	7,030	4,180	6,540	11,800	8,690	2,740	2,380	2,410	1,940
21	1,700	3,940	12,800	6,960	5,100	6,480	10,600	6,340	2,570	2,430	2,380	1,840
22	1,730	3,780	39,200	6,950	5,330	6,340	10,300	5,720	2,560	2,430	2,320	1,820
23	1,800	3,800	27,000	6,800	5,080	6,240	10,700	5,620	2,360	2,410	2,300	1,780
24	2,000	3,730	20,800	6,790	5,110	5,910	11,600	5,290	2,510	2,360	2,190	1,780
25	2,030	4,870	27,900	6,860	5,580	5,710	12,200	5,020	2,470	2,420	2,130	1,900
26	2,180	4,400	28,300	6,840	5,340	5,930	12,300	5,770	2,500	2,480	2,080	1,840
27	2,030	4,400	40,400	6,630	5,480	6,410	11,400	5,640	2,450	2,420	2,200	1,690
28	2,010	4,680	38,200	6,480	6,950	7,240	10,800	5,270	2,460	2,340	2,120	1,860
29	2,320	6,530	45,800	5,830	-	8,870	11,000	4,960	2,540	2,520	2,310	1,580
30	6,750	5,120	31,200	5,050	-	8,870	10,300	4,640	2,410	2,310	2,460	1,520
31	7,270	-	22,500	4,820	-	8,040	-	4,530	-	2,310	2,130	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	67,830	7,270	1,250	2,188	134,500
November.....	104,460	6,530	2,080	3,482	207,200
December.....	420,860	45,800	3,220	15,580	834,800
Calendar year 1945.....	2,032,640	45,800	1,250	5,569	4,052,000
January.....	288,110	17,200	4,820	9,294	571,500
February.....	134,580	6,950	4,060	4,806	266,900
March.....	199,950	8,870	5,340	6,450	396,600
April.....	281,990	12,700	7,230	9,400	559,300
May.....	222,820	9,970	4,530	7,188	442,000
June.....	91,870	4,430	2,380	3,062	182,200
July.....	73,670	2,480	2,240	2,376	146,100
August.....	70,890	2,460	2,080	2,287	140,600
September.....	57,410	2,350	1,520	1,914	113,900
Water year 1945-46.....	2,014,440	45,800	1,250	5,519	3,996,000

Peak discharge.- Dec. 22 (6 a.m.) 46,500 sec.-ft.; Dec. 27 (8:30 a.m.) 44,300 sec.-ft.; Dec. 29 (2 a.m.) 54,400 sec.-ft.

Feather River at Nicolaus, Calif.

Location.- Water-stage recorder, lat. 38°54'00", long. 121°35'05", at Nicolaus, Sutter County, 0.4 mile downstream from highway bridge. Zero of gage is set to datum of Corps of Engineers, War Department.

Records available.- June 1921 to December 1942 (low-water periods only) and April 1943 to September 1946 in reports of Geological Survey. 1939-46 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 94,000 second-feet Dec. 30 (gage height, 45.23 feet); minimum, 341 second-feet Aug. 9 (gage height, 20.62 feet).
1943-46: Maximum discharge, that of Dec. 30, 1945.
1921-46: No flow Aug. 2-18, 1924; July 11-22, 24, 26, Aug. 1, 1931.

Remarks.-Records good except those for periods of no gage-height record and backwater, which are fair. Flow regulated by reservoirs, many diversions, and power plants. See "Remarks" for Feather River near Oroville.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,880	6,370	7,840	49,000	8,690	12,100	16,200	15,600	6,290	al,040	497	745
2	1,870	5,030	6,550	37,000	8,450	11,400	14,800	14,800	5,380	a980	471	827
3	1,790	3,480	5,920	32,000	8,980	10,700	13,700	14,500	4,990	930	435	556
4	1,850	2,860	5,200	31,100	9,200	10,400	12,800	14,700	5,580	802	409	549
5	1,860	2,890	7,760	34,500	9,000	9,820	12,600	14,700	5,650	738	385	752
6	1,860	2,700	12,200	34,700	8,500	9,390	12,700	14,800	5,280	682	374	745
7	1,870	2,700	11,300	31,600	9,560	8,980	12,600	15,000	4,750	661	363	675
8	1,860	2,470	10,400	29,400	10,700	8,980	12,400	15,100	4,310	640	358	614
9	1,800	2,500	9,320	e23,000	9,370	9,130	12,100	14,100	3,840	614	363	594
10	1,840	2,500	8,100	e20,000	8,640	9,150	12,000	12,600	3,550	588	380	568
11	1,670	2,820	7,140	e17,500	8,540	9,630	11,100	12,300	3,360	568	380	601
12	1,380	2,940	6,430	e16,500	8,470	10,100	10,500	11,600	2,960	568	385	717
13	1,530	2,940	5,860	e16,000	8,020	11,200	10,800	11,100	2,710	530	409	788
14	1,680	2,950	5,460	e15,500	7,620	15,200	11,300	10,800	2,480	510	391	773
15	1,610	2,890	4,830	e15,000	7,440	13,500	11,900	10,200	2,260	536	439	724
16	1,450	3,150	4,800	e14,500	7,460	12,000	12,300	9,780	2,250	601	516	752
17	1,550	4,280	4,650	e14,000	7,230	11,200	13,400	9,300	2,170	620	542	788
18	1,660	5,640	4,400	e13,600	7,170	10,600	14,900	9,120	1,890	582	556	1,020
19	1,600	5,990	4,380	e13,400	7,300	10,100	16,100	9,930	1,860	562	542	1,100
20	1,560	4,390	4,370	e13,000	7,380	10,900	16,300	11,300	1,650	562	566	1,110
21	1,560	5,080	4,810	e12,800	7,710	12,000	15,600	11,400	al,590	556	620	1,260
22	1,500	4,580	25,300	e12,500	10,000	11,400	14,500	11,000	al,540	588	661	1,280
23	1,320	4,300	46,500	e12,200	10,400	10,900	14,200	9,040	al,480	582	640	1,230
24	1,460	4,340	53,300	12,000	9,320	10,400	15,000	7,960	al,430	523	588	1,180
25	1,540	4,630	46,200	11,800	9,470	9,880	16,100	7,030	al,380	523	568	1,170
26	1,630	5,540	54,400	11,700	9,840	9,510	17,300	6,770	al,320	530	542	1,240
27	1,570	5,360	58,300	11,500	9,390	9,660	17,900	8,640	al,260	542	523	1,300
28	1,550	5,110	71,500	11,100	9,840	10,100	17,400	8,680	al,210	594	497	1,300
29	1,500	6,730	86,800	10,900	-	13,400	16,700	7,490	al,150	601	549	1,160
30	1,780	8,330	90,000	9,970	-	18,500	16,300	7,010	al,100	549	549	1,150
31	4,630	-	71,500	9,100	-	18,600	-	6,450	al,100	530	661	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	53,810	4,630	1,320	1,736	106,700
November.....	125,560	8,330	2,470	4,185	249,000
December.....	743,320	90,000	4,370	23,980	1,474,000
Calendar year 1945.....	3,053,468	90,000	296	8,366	6,056,000
January.....	596,670	49,000	9,100	19,250	1,183,000
February.....	243,670	10,700	7,170	8,702	483,500
March.....	348,830	18,600	8,980	11,250	691,900
April.....	421,500	17,900	10,500	14,050	836,000
May.....	342,800	15,600	6,450	11,060	679,900
June.....	86,670	6,290	1,100	2,889	171,900
July.....	19,412	1,040	510	626	38,500
August.....	15,147	356	549	489	30,040
September.....	27,068	1,300	-	902	53,630
Water year 1945-46.....	3,024,457	90,000	358	8,286	5,998,000

Peak discharge.- Dec. 24 (5 a.m.) 57,200 sec.-ft.; Dec. 30 (12:40 a.m.) 94,000 sec.-ft.; Jan. 5 (8 p.m.) 35,400 sec.-ft.

a No gage-height record; discharge computed on basis of unpublished records for station at Shanghai Bend.

c Backwater from Sacramento River; discharge computed on basis of unpublished records for Feather River at Shanghai Bend and Bear River near Wheatland.

Butt Creek above Almanor-Butt Creek tunnel, near Prattville, Calif.

Location.- Water-stage recorder, lat. 40°12', long. 121°12', in NW¼ sec. 16, T. 27 N., R. 7 E., 1.2 miles upstream from outlet of tunnel from Lake Almanor to Butt Creek and 2.5 miles southwest of Prattville. Altitude of gage, about 4,300 feet (from topographic map).

Drainage area.- 64.3 square miles.

Records available.- October 1936 to September 1937, October 1938 to September 1946.

Extremes.- Maximum discharge during year, 545 second-feet Dec. 29 (gage height, 4.65 feet); minimum, 16 second-feet Aug. 20, 21.
1936-37, 1938-46: Maximum discharge, 1,500 second-feet Feb. 28, 1940 (gage height, 5.75 feet); minimum, 3.2 second-feet Dec. 11, 1936.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No storage above station. Wallack ditch, above station, occasionally diverts several second-feet into Yellow Creek Basin.

Cooperation.- Water-stage recorder graph and one discharge measurement, furnished by the Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	52	42	131	39	75	88	168	56	29	25	22
2	25	40	40	129	38	72	80	168	54	29	25	21
3	25	37	40	122	38	64	82	170	48	29	24	21
4	25	34	35	109	38	60	91	170	48	29	24	21
5	24	34	42	101	36	58	96	166	48	29	22	21
6	25	34	41	88	36	56	94	166	49	29	22	21
7	25	34	43	82	37	58	90	164	48	29	21	21
8	26	34	37	72	36	65	88	156	47	29	21	21
9	27	35	37	71	34	86	85	147	46	28	20	20
10	35	44	39	b66	33	96	90	142	46	28	19	20
11	39	40	35	62	34	86	110	131	44	27	19	20
12	32	40	30	b60	34	96	115	122	43	27	19	20
13	29	37	26	b58	b34	108	120	116	43	27	18	20
14	28	35	30	b57	b35	86	130	108	42	26	18	20
15	28	41	37	56	b36	82	140	104	42	26	18	21
16	30	40	37	56	b37	86	160	97	41	26	18	23
17	28	46	53	55	b39	91	180	91	40	26	18	22
18	27	40	28	b54	41	94	200	90	39	26	17	22
19	27	74	28	53	42	96	200	88	39	26	17	21
20	27	58	34	53	44	91	190	85	38	25	17	21
21	27	46	107	52	44	85	180	80	38	25	17	21
22	27	43	272	52	43	90	180	76	38	25	17	21
23	25	42	162	52	43	86	180	72	38	25	17	21
24	25	53	104	52	46	90	190	67	37	27	18	21
25	25	34	94	53	48	96	200	66	35	27	18	21
26	24	50	122	50	50	109	190	75	34	29	18	21
27	24	48	182	49	69	118	190	66	34	27	19	21
28	f27	43	292	48	82	122	190	61	34	26	20	21
29	f61	60	415	46	-	115	180	59	34	25	20	21
30	150	47	226	45	-	106	176	58	32	25	21	22
31	118	-	160	43	-	96	-	56	-	25	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,091	150	24	35.2	2,160
November.....	1,315	74	34	43.8	2,610
December.....	2,850	415	26	91.9	5,650
Calendar year 1945.....	21,134	415	18	57.9	41,920
January.....	2,077	131	43	67.0	4,120
February.....	1,166	82	33	41.6	2,310
March.....	2,713	122	56	87.5	5,380
April.....	4,285	200	80	143	8,500
May.....	3,385	170	56	109	6,710
June.....	1,255	56	32	41.8	2,490
July.....	836	29	25	27.0	1,660
August.....	609	25	17	19.6	1,210
September.....	630	23	20	21.0	1,250
Water year 1945-46.....	22,212	415	17	60.9	44,050

b Stage-discharge relation affected by ice.

f Fragmentary gage-height record; discharge computed on basis of partly estimated gage-height record.

Note.- No gage-height record Jan. 28 to Feb. 12, Mar. 4-8, Apr. 10-29; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

Butt Creek below Almanor-Butt Creek tunnel, near Prattville, Calif.

Location.- Water-stage recorder and concrete control, lat. 40°10', long. 121°11', in NW 1/4 Sec. 22, T. 27 N., R. 7 E., 400 feet downstream from outlet of tunnel from Lake Almanor to Butt Creek and 3 miles southwest of Prattville. Altitude of gage, about 4,200 feet (from topographic map).

Drainage area.- 67.3 square miles.

Records available.- October 1938 to September 1946.

Extremes.- Maximum discharge during year, 1,470 second-feet Dec. 29 (gage height, 3.58 feet); minimum, 49 second-feet (regulated) Aug. 22.
1938-46: Maximum discharge, 2,170 second-feet Mar. 30, 1940 (gage height, 4.37 feet); minimum, 36 second-feet June 13, Dec. 3, 1940.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Difference in flow at this station and at station above tunnel (see preceding page) shows amount of diversion from Lake Almanor to Butt Creek and Butt Valley Reservoir, plus natural local inflow from 3 square miles of intervening drainage area.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height,* in feet,
and discharge, in second-feet)

0.6	50	1.4	228	2.8	905
.7	64	1.7	335	3.2	1,180
.9	100	2.0	484	3.5	1,410
1.1	144	2.4	685		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	957	102	557	1,050	940	964	581	178	87	944	957	964
2	957	85	957	1,050	940	964	944	176	85	950	957	964
3	957	79	957	1,050	940	970	950	178	593	950	964	957
4	957	78	950	1,040	940	970	964	176	998	957	964	957
5	957	563	957	1,030	940	977	742	173	998	964	964	957
6	957	977	957	1,010	930	984	123	170	998	964	957	950
7	957	977	957	1,010	930	991	121	650	998	970	957	950
8	950	984	957	1,000	930	998	119	1,050	991	970	950	950
9	957	984	957	1,000	930	1,010	119	1,050	991	970	950	950
10	957	984	950	1,000	930	1,020	121	1,050	991	970	950	950
11	97	984	957	991	920	1,010	135	1,050	991	970	944	950
12	72	984	944	984	920	622	139	1,050	991	964	944	950
13	69	977	944	984	918	152	144	1,050	991	970	938	950
14	67	970	944	977	924	128	152	1,050	984	964	938	950
15	67	977	944	977	918	121	170	1,040	984	964	931	957
16	69	977	944	970	918	123	198	1,040	977	964	931	957
17	66	662	944	944	918	132	216	1,030	977	964	931	957
18	64	87	944	750	905	130	228	1,030	970	964	931	957
19	63	115	938	70	905	121	228	1,030	970	964	931	950
20	63	104	938	70	898	117	210	1,030	964	964	935	950
21	66	90	1,030	70	898	113	198	1,030	964	964	53	944
22	577	85	1,170	70	898	115	192	1,020	957	964	50	944
23	950	85	1,080	70	905	110	198	1,020	950	964	533	944
24	950	92	1,020	70	918	113	216	1,020	950	964	944	944
25	957	96	1,000	70	918	119	228	1,010	944	964	950	944
26	957	90	1,040	70	924	128	225	1,030	944	964	950	944
27	957	87	1,100	70	950	139	216	614	944	964	957	944
28	964	81	1,210	300	970	147	213	100	944	957	957	938
29	998	94	1,340	950	-	135	207	94	944	964	957	938
30	1,080	87	1,140	950	-	126	190	92	944	964	957	938
31	745	-	1,080	950	-	117	-	89	-	957	957	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	19,435	1,080	63	627	36,550
November.....	15,537	984	78	451	26,850
December.....	30,807	1,540	557	994	61,100
Calendar year 1945	245,701	1,540	61	673	487,500
January.....	21,617	1,050	70	697	42,880
February.....	25,862	970	898	924	51,500
March.....	13,866	1,020	110	447	27,500
April.....	8,667	964	119	289	17,190
May.....	22,370	1,050	89	722	44,370
June.....	27,014	998	85	900	53,580
July.....	29,851	970	944	865	59,210
August.....	26,849	964	50	866	53,250
September.....	28,499	964	938	950	56,530
Water year 1945-46	268,374	1,540	50	735	532,300

Note.- No gage-height record Jan. 18 to Feb. 12; discharge computed on basis of records of tunnel operation furnished by Pacific Gas & Electric Co.

FEATHER RIVER BASIN

Indian Creek near Crescent Mills, Calif.

Location.- Water-stage recorder, lat. 40°05', long. 120°56', in SW¼ sec. 25, T. 26 N., R. 9 E., 0.8 mile upstream from Dixie Creek and 1.5 miles south of town of Crescent Mills. Altitude of gage, about 3,500 feet (from topographic map).

Drainage area.- 746 square miles.

Records available.- October 1930 to September 1946. January 1906 to December 1909 and September 1911 to March 1918 at site 800 feet upstream.

Average discharge.- 25 years (1906-9, 1911-17, 1930-46), 533 second-feet.

Extremes.- Maximum discharge during year, 6,050 second-feet Dec. 30 (gage height, 11.07 feet); minimum, 7.2 second-feet (regulated) Aug. 23.
1906-9, 1911-18, 1930-46: Maximum discharge, 14,000 second-feet Feb. 28, 1940 (gage height, 16.07 feet), from rating curve extended above 4,000 second-feet by logarithmic plotting; minimum, 1.7 second-feet Aug. 25, 1931.

Remarks.- Records good. Diversions above station for irrigation in Indian and Genesee Valleys.

Rating tables, water-year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 30						Dec. 31 to Sept. 30					
1.8	15	3.0	150	6.0	1,300	1.4	9	2.0	41	2.8	130
1.8	25	3.3	204	7.0	2,020	1.5	12	2.2	58	3.1	173
2.0	38	3.6	268	9.0	3,830	1.7	20	2.4	80	3.5	246
2.2	53	4.0	374	10.4	5,310	1.8	26	2.6	104		
2.4	73	4.6	585								
2.7	107	5.2	855								
						Note.- Same as preceding table above					
						3.5 feet					

Note.- Same as preceding table above 3.5 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	410	332	2,150	248	860	1,310	1,380	282	66	19	9.9
2	17	259	280	1,860	255	910	1,230	1,270	266	62	15	9.3
3	20	185	253	1,570	248	950	1,170	1,190	248	54	12	10
4	20	155	273	1,470	250	905	1,170	1,150	211	47	12	13
5	22	140	420	1,380	255	787	1,280	1,130	191	45	11	15
6		148	401	1,190	264	742	1,400	1,100	184	47	11	12
7	22	152	357	999	273	805	1,420	1,080	181	43	11	12
8	22	144	324	885	248	895	1,380	1,020	170	35	12	11
9	22	136	278	758	248	980	1,290	945	155	24	11	11
10	27	155	261	670	242	1,070	1,210	885	147	21	10	11
11	40	198	250	601	248	1,250	1,150	820	116	18	9.6	10
12	51	191	253	502	215	1,270	1,180	764	69	15	10	11
13	48	181	194	460	228	1,280	1,310	715	65	11	10	11
14	40	172	167	439	224	1,290	1,460	661	52	11	9.3	11
15	42	214	174	414	236	1,170	1,590	617	59	12	11	11
16	48	321	180	389	238	1,110	1,780	593	70	11	11	12
17	42	450	181	360	236	1,050	2,080	573	78	12	10	12
18	39	368	171	346	234	1,030	2,360	561	110	15	9.6	16
19	38	515	158	340	238	1,050	2,500	545	113	18	10	13
20	39	360	160	335	261	1,140	2,380	529	102	12	10	13
21	39	363	538	321	338	1,130	2,080	505	90	12	9.9	14
22	39	305	2,020	318	423	1,100	1,860	474	92	15	9.3	14
23	39	273	3,590	318	439	1,080	1,740	460	93	15	9.3	13
24	39	259	2,690	324	460	1,080	1,720	420	97	15	11	14
25	39	343	2,120	383	513	1,060	1,800	398	92	17	11	15
26	39	346	1,930	360	470	1,100	1,890	433	70	19	11	17
27	39	518	1,960	318	480	1,160	1,850	436	65	20	10	17
28	40	308	1,960	310	688	1,290	1,720	395	62	18	10	17
29	49	433	4,220	290	-	1,460	1,590	349	64	16	10	18
30	280	398	5,280	268	-	1,510	1,500	318	67	13	9.6	18
31	525	-	3,180	242	-	1,460	-	297	-	16	9.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,806	525	17	58.3	3,580
November.....	8,000	450	136	267	15,870
December.....	34,515	5,280	158	1,113	68,460
Calendar year 1945	160,285.7	5,280	7.5	439	317,900
January.....	20,368	2,150	242	657	40,400
February.....	8,698	688	215	311	17,250
March.....	35,954	1,510	742	1,095	67,350
April.....	48,400	2,500	1,150	1,813	96,000
May.....	21,993	1,380	297	709	43,620
June.....	3,661	282	52	122	7,260
July.....	755	66	11	24.4	1,500
August.....	334.9	19	9.3	10.8	664
September.....	391.2	16	9.3	13.0	776
Water year 1945-46	182,876.1	5,280	9.3	501	362,700

Peak discharge.- Dec. 23 (10 a.m.) 3,790 sec.-ft.; Dec. 30 (2 a.m.) 6,050 sec.-ft.

Spanish Creek at Keddle, Calif.

Location.- Water-stage recorder, lat. 40°00'05", long. 120°57'20", in NE $\frac{1}{4}$ sec. 27, T. 25 N., R. 9 E., 200 feet upstream from Blackhawk Creek and 0.9 mile southeast of Keddle. Altitude of gage, about 3,250 feet (from topographic map).

Drainage area.- 184 square miles.

Records available.- October 1933 to September 1946. October 1911 to September 1933 at site 1.2 miles downstream.

Average discharge.- 13 years (1933-46), 285 second-feet.

Extremes.- Maximum discharge during year, 4,440 second-feet Dec. 22 (gage height, 7.45 feet); minimum, 16 second-feet Aug. 30.
1911-46: Maximum discharge, 12,400 second-feet Dec. 11, 1937 (gage height, 12.43 feet), from rating curve extended above 4,400 second-feet by logarithmic plotting; minimum, 3.8 second-feet Aug. 12, 1934.

Remarks.- Records good. Diversion above station for irrigation in American Valley.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.1	17	2.1	83	3.5	535
1.2	20	2.2	97	3.9	780
1.3	24	2.4	132	4.5	1,250
1.5	34	2.6	179	5.0	1,700
1.7	46	2.8	238	6.0	2,710
1.9	61	3.1	348	6.7	3,500

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	204	185	710	145	430	412	465	143	47	30	20
2	35	128	154	688	147	382	390	450	136	45	26	22
3	34	105	141	794	141	361	382	460	128	44	24	22
4	32	93	179	674	150	313	435	445	122	43	22	23
5	32	86	305	826	141	290	480	426	115	44	20	23
6	31	90	245	510	145	283	460	412	110	40	20	24
7	32	96	235	465	154	290	435	394	103	39	20	24
8	33	89	207	408	143	305	404	373	99	41	21	23
9	35	86	174	344	141	328	373	348	94	44	21	22
10	42	108	156	321	141	382	344	332	87	42	21	23
11	56	136	147	290	143	404	352	305	86	39	21	24
12	53	111	136	265	127	361	404	287	78	36	20	26
13	46	102	121	252	154	485	470	269	76	37	19	24
14	44	94	107	235	150	404	485	258	76	36	19	24
15	43	136	115	222	139	352	540	252	75	36	19	24
16	47	207	113	210	139	321	644	238	70	36	20	27
17	45	340	113	201	141	309	724	235	69	36	22	30
18	45	210	110	193	143	321	766	232	68	37	24	30
19	42	196	100	187	150	390	724	232	67	35	24	29
20	42	213	103	185	166	435	632	222	66	34	22	30
21	42	164	1,140	176	276	394	574	213	63	32	22	29
22	42	141	3,480	176	302	369	552	204	62	32	22	27
23	42	128	2,270	174	283	356	574	207	59	32	23	27
24	41	134	1,580	179	321	328	644	190	55	30	22	27
25	42	255	1,440	185	369	313	680	187	52	33	22	27
26	42	204	1,700	174	328	325	650	226	49	42	22	27
27	42	172	2,200	169	369	365	590	204	50	38	22	27
28	42	184	1,950	164	540	430	562	182	52	35	20	28
29	61	352	2,600	159	-	579	540	169	51	32	20	27
30	406	238	1,510	152	-	520	495	159	51	31	16	27
31	510	-	962	141	-	435	-	150	-	30	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,115	510	31	68.2	4,200
November	4,802	352	86	160	9,520
December	23,778	3,480	-	767	47,160
Calendar year 1945	94,077	3,550	17	258	186,600
January	9,609	794	141	310	19,060
February	5,648	540	127	202	11,200
March	11,580	579	283	373	22,930
April	15,717	766	344	524	31,170
May	8,726	465	150	281	17,310
June	2,412	143	49	80.4	4,780
July	1,158	47	30	37.4	2,300
August	664	30	16	21.4	1,320
September	767	30	20	25.6	1,520
Water year 1945-46	86,956	3,480	16	238	172,500

Peak discharge.- Dec. 22 (3 a.m.) 4,440 sec.-ft.; Dec. 29 (4:30 a.m.) 3,110 sec.-ft.

Bucks Creek Reservoir near Bucks Ranch, Calif.

Location.- Water-stage recorder, lat. 39°54', long. 121°12', in NW¼ sec. 33, T. 24 N., R. 7 E., at dam on Bucks Creek, 2 miles northwest of former Bucks Ranch and 15 miles west of Quincy. Datum of gage is 5,000 feet above mean sea level; gage readings have been reduced to elevations above mean sea level.

Drainage area.- 28 square miles.

Records available.- October 1928 to September 1946.

Extremes.- Maximum contents during year, 103,500 acre-feet May 29 (elevation, 5,155.8 feet); minimum, 71,200 acre-feet Oct. 28 (elevation, 5,137.1 feet).

1928-46: Maximum contents, 105,800 acre-feet June 23, 1938 (elevation, 5,157.1 feet); minimum, 12,330 acre-feet Feb. 27, 1929 (elevation, 5,090.7 feet).

Remarks.- Reservoir is formed by concrete-faced rock-fill dam completed in 1927; storage began in May 1927. Capacity, 101,400 acre-feet between elevations 5,064.75 feet (sill of outlet gate) and 5,154.85 feet (spillway crest) above mean sea level. Released water flows down Bucks Creek to diversion dam, where it enters tunnel that discharges into Grizzly Creek, thence to Bucks Creek power plant. Records show total contents at 12 p. m., of which 274 acre-feet are not available for release.

Cooperation.- Record of contents, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77,400	72,300	75,200	86,700	79,100	75,900	76,600	86,300	103,200	102,100	96,900	86,000
2	77,200	72,800	75,600	85,900	79,000	75,900	76,800	86,900	103,000	101,900	96,400	85,600
3	77,100	73,300	75,700	87,200	78,900	75,900	76,600	87,700	103,000	101,800	96,000	85,100
4	76,900	73,600	75,700	87,500	79,400	75,700	76,600	89,400	102,900	101,700	95,600	84,700
5	76,400	73,600	75,900	88,000	79,700	75,600	76,500	88,200	102,800	101,500	95,300	84,200
6	76,100	73,800	76,200	88,100	80,100	75,400	76,400	89,000	102,800	101,300	95,000	83,800
7	75,700	73,800	76,400	87,900	80,400	75,400	76,300	89,800	102,800	101,100	94,700	83,300
8	75,600	73,900	76,600	87,700	78,700	75,300	76,400	90,700	102,700	100,900	94,400	82,700
9	75,400	73,900	76,600	87,400	78,400	75,200	76,500	91,500	102,700	100,700	94,100	82,500
10	75,100	73,900	76,700	87,000	78,400	75,000	76,500	92,400	102,700	100,700	93,700	82,200
11	74,900	73,900	76,700	86,700	78,200	75,100	76,600	93,700	102,700	100,600	93,400	82,000
12	74,600	73,900	76,700	86,200	78,000	75,100	76,600	94,400	102,700	100,500	93,000	81,600
13	74,800	73,900	76,900	86,000	77,900	75,200	76,800	95,100	102,600	100,300	92,700	81,400
14	74,400	73,900	76,900	85,600	77,700	75,300	76,900	95,600	102,600	100,800	92,200	81,100
15	74,100	73,900	77,100	85,300	77,500	75,400	77,100	96,300	102,600	100,800	91,900	81,000
16	73,900	73,900	77,100	84,900	77,300	75,600	77,400	97,000	102,600	100,700	91,500	80,800
17	73,600	73,900	77,400	84,400	77,300	75,600	77,800	97,800	102,500	100,700	91,100	80,400
18	73,400	73,800	77,700	84,800	77,300	75,600	78,400	98,400	102,500	100,500	90,800	80,000
19	73,100	73,900	78,000	84,500	77,200	75,500	79,000	99,200	102,500	100,500	90,500	79,700
20	72,900	73,900	78,500	83,200	76,800	75,400	79,400	99,800	102,400	100,500	90,200	79,400
21	72,800	74,100	79,000	82,700	76,600	75,300	79,900	100,300	102,400	100,400	90,000	79,000
22	72,600	74,300	79,900	82,400	76,600	75,200	80,400	100,900	102,300	100,300	89,700	78,500
23	72,100	74,300	80,700	81,900	76,600	75,200	80,900	101,300	102,300	100,100	89,400	78,000
24	72,000	74,400	81,400	81,600	76,400	75,200	81,500	101,900	102,300	99,800	89,200	77,500
25	71,800	74,700	82,100	81,100	76,200	74,900	82,200	102,300	102,300	99,700	88,800	77,000
26	71,600	74,900	82,700	80,700	76,200	74,900	82,900	102,900	102,300	99,400	88,400	76,500
27	71,500	74,900	83,600	80,600	76,100	74,900	83,600	103,200	102,200	99,100	88,000	76,000
28	71,200	75,100	84,300	80,100	76,100	74,700	84,200	103,300	102,200	98,700	87,500	75,400
29	71,000	75,100	85,300	79,700	-	74,700	84,900	103,500	102,200	98,200	87,100	75,000
30	71,600	75,100	85,800	79,400	-	74,900	85,600	103,400	102,200	97,800	86,700	74,700
31	72,000	-	86,200	79,300	-	74,900	-	103,400	-	97,300	86,300	-

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	5,141.0	77,600	-
Oct. 31	5,137.6	72,000	-5,600
Nov. 30	5,139.5	75,100	+3,100
Dec. 31	5,146.2	86,200	+11,200
Calendar year 1945	-	-	+4,100
Jan. 31	5,142.0	79,300	-6,900
Feb. 28	5,140.1	76,100	-3,200
Mar. 31	5,139.4	74,900	-1,200
Apr. 30	5,145.8	85,600	+10,700
May 31	5,155.8	103,400	+17,800
June 30	5,155.2	102,200	-1,200
July 31	5,152.4	97,300	-4,900
Aug. 31	5,146.2	86,300	-11,000
Sept. 30	5,139.2	74,700	-11,600
Water year 1945-46	-	-	-2,900

West Branch Feather River near Yankee Hill, Calif.

Location.- Water-stage recorder, lat. 39°42', long. 121°34', in SW¹/₄ sec. 5, T. 21 N., R. 4 E., at highway bridge, 1.4 miles downstream from Concow Creek and 2 miles west of Yankee Hill. Altitude of gage, about 1,100 feet (from topographic map).

Drainage area.- 145 square miles.

Records available.- September 1930 to September 1946.

Average discharge.- 16 years, 340 second-feet.

Extremes.- Maximum discharge during year, 7,130 second-feet Dec. 27 (gage height, 16.03 feet); minimum, 4.6 second-feet Sept. 24, 25.
1930-46: Maximum discharge, 21,400 second-feet Dec. 11/ 1937 (gage height, 30.3 feet), from rating curve extended above 15,000 second-feet; minimum, 0.3 second-foot Jan. 8, 1937 (gage height, 1.69 feet).

Remarks.- Records good. Spring Valley ditch (see p. 331) diverts water from Concow Creek below Lake Wileonr (capacity, 8,000 acre-feet) for power development and irrigation. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek Basin (see p. 318) for power development in De Sable and Center-ville plants of Pacific Gas & Electric Co. Round Valley Reservoir (capacity, 1,285 acre-feet) and Philbrook Reservoir (capacity, 4,875 acre-feet) provide storage on headwaters for these three canals.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27						Dec. 28 to Sept. 30					
2.5	6.5	3.6	75	7.0	930	2.4	5.0	3.1	46	4.6	240
2.6	9.2	4.0	124	8.0	1,355	2.5	9.0	3.4	72	5.0	322
2.7	12.5	4.5	208	9.0	1,850	2.7	19	3.8	114	5.4	414
2.8	17	5.0	312	11.0	3,000	2.9	31	4.2	169	5.9	546
3.0	26	5.5	434	13.0	4,540	Note.- Same as preceding table above 5.9 feet.					
3.3	48	6.0	576	15.0	6,200						

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	215	159	1,130	164	316	482	612	168	12	5.4	6.6
2	6.3	79	118	1,110	198	266	424	641	154	12	5.4	7.0
3	6.0	57	94	1,190	210	264	369	660	140	12	5.4	6.6
4	6.0	42	260	1,350	207	236	372	648	127	11	5.0	6.6
5	5.8	28	555	1,340	176	223	381	638	118	10	5.0	7.0
6	5.8	51	351	974	201	227	383	651	99	9.0	5.4	6.2
7	6.3	38	308	818	280	258	367	625	84	8.6	5.4	6.2
8	6.8	17	236	694	225	280	383	582	78	8.2	5.8	6.2
9	7.3	11	154	594	205	297	395	546	67	7.8	6.2	7.0
10	7.6	22	123	523	203	331	376	555	61	7.4	5.8	7.4
11	7.8	53	106	474	195	318	397	459	61	7.4	5.4	7.4
12	7.8	44	88	424	172	303	429	424	66	6.6	5.8	7.0
13	7.3	50	71	395	164	509	454	419	60	6.6	5.4	6.2
14	6.8	34	62	367	158	397	498	378	55	7.0	5.4	6.2
15	6.5	46	62	340	166	346	558	372	50	7.8	5.0	6.2
16	6.8	151	57	320	171	331	638	378	44	7.0	5.4	9.0
17	7.0	404	53	301	160	326	726	404	42	7.0	5.4	8.2
18	7.3	128	47	288	160	326	789	409	40	7.0	5.0	7.0
19	7.6	206	45	276	169	331	778	402	33	6.6	5.4	5.4
20	8.1	224	44	264	196	329	705	419	30	6.2	5.4	5.0
21	8.4	117	2,910	248	388	309	641	395	30	6.2	5.8	5.4
22	a8.2	79	4,600	236	382	297	635	333	25	6.2	5.8	5.8
23	a7.7	64	2,320	229	295	284	716	337	26	6.2	6.2	5.8
24	a7.2	110	1,890	225	288	276	792	297	26	6.6	6.2	5.0
25	a6.8	272	3,640	229	295	268	818	288	24	6.6	6.6	4.8
26	6.5	181	3,570	217	252	299	789	485	23	8.2	7.0	5.0
27	6.8	143	6,100	200	284	349	730	385	18	9.0	7.0	5.8
28	7.0	435	4,640	194	385	402	750	324	16	7.8	7.0	5.8
29	36	600	4,400	186	-	438	712	299	15	7.0	7.4	5.8
30	937	254	2,130	174	-	558	622	270	16	6.2	7.0	5.8
31	717	-	1,440	166	-	520	-	230	-	5.8	6.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,886.3	937	5.8	60.8	3,740
November.....	4,155	600	11	138	8,240
December.....	40,633	6,100	44	1,311	80,590
Calendar year 1945	131,687.5	6,100	5.6	361	261,200
January.....	15,456	1,340	166	499	30,660
February.....	6,327	388	158	226	12,550
March.....	10,292	558	223	332	20,410
April.....	17,089	818	367	570	33,900
May.....	13,885	660	230	447	27,500
June.....	1,796	168	15	59.8	3,560
July.....	243.0	12	5.8	7.84	482
August.....	181.0	7.4	5.0	5.84	359
September.....	189.4	9.0	4.8	6.31	376
Water year 1945-46	112,112.7	6,100	4.8	307	222,400

Peak discharge.- Oct. 30 (5 a.m.), 1,970 sec.-ft.; Dec. 22 (4:30 a.m.), 6,490 sec.-ft.; Dec. 27

(10 a.m.) 7,130 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

FEATHER RIVER BASIN

Concow Creek near Yankee Hill, Calif.

Location.- Water-stage recorder above diversion dam of Spring Valley ditch, lat. 39°46', long. 121°32', in NE¼ sec. 16, T. 22 N., R. 4 E., 300 feet downstream from Lake Wilenor Dam and 4 miles north of Yankee Hill post office. Altitude of gage, about 1,850 feet (from topographic map).

Drainage area.- 14.7 square miles.

Records available.- October 1927 to September 1946.

Average discharge.- 19 years, 27.8 second-feet, combined flow of Concow Creek and Spring Valley ditch.

Extremes.- Maximum discharge during year, 864 second-feet Dec. 27 (gage height, 2.80 feet), from rating curve extended above 80 second-feet by computations of flow over dam; no flow most of year.

1927-46: Maximum discharge, 2,060 second-feet Jan. 21, 1943 (gage height, 5.35 feet, from floodmark in well), from rating curve extended above 80 second-feet by computations of flow over dam; no flow for many months in each year.

Remarks.- Records excellent except those above 200 second-feet, which are good. On Sept. 30, 1945, storage in Lake Wilenor (capacity, 8,000 acre-feet), was 4,500 acre-feet, and on Sept. 30, 1946, it was 2,540 acre-feet. Records show flow passing diversion dam; for total flow out of reservoir, add that of Spring Valley ditch (see following page).

Cooperation.- Water-stage recorder graph, furnished by Table Mountain and Thermalito Irrigation Districts, obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.0	0	0.4	23	0.8	113	1.6	382
.1	1.0	.5	40	1.0	174	1.8	458
.2	3.6	.6	61	1.2	240	2.0	535
.3	10	.7	86	1.4	310	2.5	738

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	68	14	31	42					
2			0	71	20	15	12					
3			0	108	25	0	0					
4			0	158	22	0	0					
5			0	161	16	0	0					
6			0	102	26	0	0					
7			0	84	46	0	0					
8			0	66	40	0	0					
9			0	53	33	0	0					
10			0	44	35	0	0					
11			0	40	35	0	0					
12			0	35	30	0	0					
13			0	31	26	0	0					
14			0	30	26	0	0					
15			0	30	30	0	0					
16			0	28	31	0	0					
17			0	26	28	0	0					
18			0	23	28	0	0					
19			0	22	31	0	0					
20			0	23	35	0	0					
21			0	22	80	0	0					
22			105	20	78	0	0					
23			193	20	57	0	0					
24			180	19	48	0	0					
25			564	22	44	0	0					
26			390	16	35	0	0					
27			730	14	37	0	0					
28			456	14	35	0	0					
29			299	14	-	6.5	0					
30			148	15	-	40	0					
31			94	14	-	46	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	3,169	730	0	102	6,290
Calendar year 1945.....	8,626.8	730	0	23.6	17,120
January.....	1,393	161	14	44.9	2,760
February.....	991	80	14	35.4	1,970
March.....	138.5	46	0	4.47	275
April.....	54	42	0	1.80	107
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	5,745.5	730	0	15.7	11,400

Spring Valley ditch near Yankee Hill, Calif.

Location.- Water-stage recorder, lat. 39°46', long. 121°32', in NE¹ sec. 16, T. 22 N., R. 4 E., just downstream from diversion dam and 4 miles north of Yankee Hill post office. Altitude of gage, about 1,840 feet (from topographic map).

Records available.- October 1927 to September 1946.

Average discharge.- 19 years, 10.5 second-feet.

Extremes.- Maximum daily discharge during year, 42 second-feet Sept. 9, 10; minimum daily, 0.1 second-foot Jan. 1-3, Jan. 8 to Feb. 19.
1927-46: Maximum daily discharge, 49 second-feet Oct. 25-27, 1928; no flow at times during most years.

Remarks.- Records excellent. Ditch diverts from left bank of Concow Creek (see preceding page) 300 feet downstream from Lake Wilenor; water used for power development in Lime Saddle and Coal Canyon plants of Pacific Gas & Electric Co., and for irrigation in Table Mountain and Thermalito Irrigation Districts.

Cooperation.- Water-stage recorder graph, furnished by Table Mountain and Thermalito Irrigation Districts, obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	0.2	0.2	0.1	0.1	0.2	29	0.4	0.7	8.9	22	32
2	31	.2	.2	.1	.1	6.5	27	.4	.7	11	22	35
3	31	.2	.2	.1	.1	20	26	.4	.7	13	22	34
4	31	.2	.3	.2	.1	23	26	.3	.7	13	24	35
5	31	.2	.4	.2	.1	22	26	.3	.6	13	27	34
6	34	.2	.2	.2	.1	22	26	.3	.5	12	27	34
7	36	.2	.2	.2	.1	24	26	.3	.5	11	29	36
8	36	.2	.2	.1	.1	28	26	.3	.5	11	30	40
9	34	.2	.2	.1	.1	27	26	.3	.5	12	30	42
10	29	.2	.2	.1	.1	27	26	.3	.5	12	30	42
11	24	.2	.2	.1	.1	27	24	.2	.5	13	28	40
12	22	.2	.2	.1	.1	26	23	2.8	.5	14	28	40
13	22	.2	.2	.1	.1	26	22	3.6	.5	16	28	40
14	25	.2	.2	.1	.1	26	25	2.8	.5	18	28	40
15	30	.2	.2	.1	.1	26	34	3.0	.9	18	28	40
16	32	.2	.2	.1	.1	26	35	3.3	1.6	18	28	39
17	32	.2	.2	.1	.1	26	38	3.4	3.2	16	29	34
18	32	.2	.2	.1	.1	26	37	4.0	4.3	15	30	34
19	29	.2	.2	.1	.1	25	36	3.9	4.4	15	32	36
20	26	.2	.2	.1	.2	24	17	2.7	7.0	17	32	37
21	22	.2	.5	.1	.2	24	.5	2.3	9.6	20	34	38
22	21	.2	.5	.1	.2	24	.5	2.4	8.1	21	35	38
23	24	.2	.2	.1	.2	24	.5	2.6	7.5	21	35	34
24	31	.2	.2	.1	.2	24	.5	2.6	7.2	21	35	33
25	34	.2	.4	.1	.2	24	.4	1.8	6.9	20	36	36
26	35	.2	.2	.1	.2	24	.4	1.0	6.8	16	36	38
27	35	.2	.5	.1	.2	24	.4	.6	7.4	17	36	38
28	28	.3	.4	.1	.2	24	.4	.6	7.9	17	34	38
29	19	.2	.2	.1	-	28	.4	.7	8.1	16	32	38
30	4.7	.2	.2	.1	-	29	.4	.7	8.1	18	32	38
31	.2	-	.2	.1	-	29	-	.7	-	21	32	-
Month	Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet						
October.....	849.9		36	0.2	27.4	1,690						
November.....	6.1		.3	.2	.20	12						
December.....	7.8		.5	.2	.25	15						
Calendar year 1945	3,064.2		44	.1	8.40	6,080						
January.....	3.5		.2	.1	.11	6.9						
February.....	3.7		.2	.1	.13	7.3						
March.....	735.7		29	.2	23.7	1,460						
April.....	559.4		38	.4	18.6	1,110						
May.....	49.0		4.0	.2	1.58	97						
June.....	106.9		9.6	.5	3.56	212						
July.....	484.9		21	8.9	15.6	962						
August.....	931		36	22	30.0	1,850						
September.....	1,111		42	32	37.0	2,200						
Water year 1945-46	4,848.9		42	.1	13.3	9,620						

FEATHER RIVER BASIN

Middle Fork Feather River near Clito, Calif.

Location.- Water-stage recorder, lat. 39°45', long. 120°36', in E½ sec. 23, T. 22 N., R. 12 E., 0.3 mile upstream from Frazier Creek and 1.5 miles northwest of Clito. Altitude of gage, about 4,350 feet (from topographic map).

Drainage area.- 699 square miles.

Records available.- October 1925 to September 1946.

Average discharge.- 21 years, 259 second-feet.

Extremes.- Maximum discharge during year, 3,030 second-feet Dec. 29 (gage height, 8.58 feet); minimum not determined.

1925-46: Maximum discharge, 11,000 second-feet Mar. 26, 1928 (gage height, 12.0 feet), from rating curve extended above 7,000 second-feet; minimum, 4.3 second-feet Sept. 5, 1934.

Remarks.- Records good except those for period of doubtful gage-height record, which are fair. Many small diversions above station for irrigation.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 16					Apr. 17 to Sept. 30				
2.2	18	3.2	145	6.0	1,110	1.9	8.0	2.5	44
2.3	24	3.5	209	6.5	1,370	2.0	11	2.7	68
2.4	32	3.8	283	7.0	1,670	2.1	14	2.9	97
2.5	39	4.2	395	7.8	2,260	2.2	19	3.2	147
2.6	50	4.6	525	8.5	2,940	2.3	25	3.4	187
2.8	76	5.0	670						
3.0	109	5.5	875						

Note.- Same as preceding table above 3.4 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	109	202	1,380	138	592	1,100	501	116	31	17	10
2	20	82	209	1,090	132	628	1,120	467	115	29	16	11
3	20	66	219	974	132	585	1,160	447	115	31	15	12
4	20	66	205	920	123	498	1,200	438	111	32	14	17
5	20	95	180	956	122	435	1,260	416	108	30	14	16
6	21	113	153	714	138	444	1,330	395	102	26	15	16
7	22	107	157	651	138	460	1,190	362	92	23	14	16
8	23	92	145	582	120	467	1,060	331	86	21	14	15
9	23	81	141	474	132	461	920	312	82	24	14	15
10	24	94	136	407	129	542	810	223	79	24	15	15
11	28	99	123	320	125	582	910	223	74	21	15	15
12	27	102	111	267	100	567	852	231	68	20	14	15
13	24	100	92	260	114	752	942	221	65	18	14	15
14	24	99	94	228	104	694	920	207	60	18	13	16
15	23	161	87	221	113	778	978	196	58	18	13	16
16	24	187	76	214	114	866	1,070	189	56	18	13	24
17	24	226	72	209	120	766	1,090	175	54	18	13	20
18	24	172	72	209	134	702	1,080	167	52	19	14	20
19	24	191	73	198	147	694	1,080	169	47	18	13	20
20	23	221	75	187	161	730	965	169	46	17	12	20
21	23	245	562	185	205	798	920	163	44	16	12	20
22	23	219	1,240	198	243	952	888	147	44	16	12	20
23	23	185	898	209	283	978	862	138	43	16	12	20
24	23	183	1,510	228	383	898	814	133	42	16	12	20
25	24	205	1,970	257	508	762	746	131	38	19	12	20
26	24	185	1,870	235	546	682	702	153	37	21	12	19
27	23	176	1,700	191	678	730	655	138	37	18	12	19
28	23	252	2,000	196	625	722	618	126	35	17	11	19
29	45	315	2,910	174	-	730	578	119	34	16	11	19
30	218	235	2,440	153	-	906	550	118	33	15	11	20
31	176	-	1,920	140	-	1,100	-	118	-	17	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,080	216	19	34.8	2,140
November.....	4,663	315	66	155	9,250
December.....	21,642	2,910	72	698	42,930
Calendar year 1945.....	102,227	2,910	12	280	202,800
January.....	12,627	1,380	140	407	25,050
February.....	6,007	678	100	215	11,910
March.....	21,531	1,100	435	695	42,710
April.....	28,270	1,330	550	942	56,070
May.....	7,323	501	118	236	14,520
June.....	1,973	116	33	65.8	3,910
July.....	643	32	15	20.7	1,280
August.....	408	17	10	13.2	809
September.....	520	24	10	17.3	1,030
Water year 1945-46.....	106,687	2,910	10	292	211,600

Peak discharge.- Dec. 22 (3:30 a.m.) 1,530 sec.-ft.; Dec. 25 (6 to 7 p.m.) 2,080 sec.-ft.; Dec. 29 (12 m.) 3,030 sec.-ft.

Note.- Doubtful gage-height record Aug. 16 to Sept. 10; discharge computed on basis of records for station below Sloat.

Middle Fork Feather River below Sloat, Calif.

Location.- Water-stage recorder, lat. 39°52', long. 120°46', 0.5 mile west of Bells Bar, 1.2 miles downstream from Rattlesnake Creek, and 1.6 miles west of Sloat, Plumas County. County. Altitude of gage, about 4,050 feet (from topographic map).

Drainage area.- 835 square miles.

Records available.- December 1940 to September 1946. Records published for period November 1910 to February 1928 for Middle Fork Feather River at Sloat (at site 2.0 miles upstream) are not comparable.

Extremes.- Maximum discharge during year, 4,500 second-feet Dec. 29 (gage height, 7.25 feet), from rating curve extended above 2,000 feet; minimum, 1 second-feet Sept. 2, 1940-46; Maximum discharge, 12,400 second-feet Jan. 21, 1943 (gage height, 12.65 feet); minimum, 46 second-feet Sept. 8, 1944.
Maximum stage known, 13.2 feet, from floodmarks, probably in February 1940 (discharge, 13,300 second-feet, from rating curve extended above 9,000 second-feet).

Remarks.- Records good. Many small diversions above station for irrigation; small regulation by mill pond at Sloat.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28					Dec. 29 to Sept. 30						
0.7	53	2.0	268	4.0	1,240	0.4	45	1.6	240	4.0	1,420
.9	70	2.4	390	4.8	1,850	.6	62	2.0	355	5.0	2,190
1.1	95	2.8	550	5.6	2,580	.8	84	2.5	550	6.0	3,100
1.3	124	3.2	745			1.0	112	3.0	790	7.0	4,200
1.6	178	3.6	980			1.3	166	3.5	1,080		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	263	337	1,840	265	856	1,320	1,180	481	132	71	53
2	56	192	319	1,520	265	889	1,330	1,140	481	126	68	52
3	56	168	331	1,440	262	850	1,360	1,140	477	123	66	52
4	56	153	328	1,310	255	750	1,430	1,160	457	123	63	55
5	56	164	313	1,320	245	665	1,510	1,140	445	117	61	56
6	56	192	279	1,090	260	680	1,560	1,140	404	112	61	55
7	58	184	282	960	258	705	1,460	1,130	369	108	62	55
8	60	166	263	878	238	715	1,340	1,020	349	103	60	55
9	62	154	249	745	245	745	1,200	984	337	100	60	55
10	66	186	244	680	245	834	1,090	889	325	100	59	54
11	75	202	230	568	250	878	1,090	840	307	93	59	54
12	74	190	211	485	210	850	1,160	823	289	89	58	53
13	66	190	188	465	220	1,080	1,290	796	277	85	57	53
14	64	180	182	433	212	978	1,300	735	274	83	57	53
15	64	258	184	408	220	1,030	1,410	715	262	80	57	54
16	67	295	166	394	222	1,090	1,590	730	252	80	57	67
17	66	394	158	383	225	1,030	1,720	760	240	82	57	67
18	66	301	153	372	235	972	1,800	796	232	79	57	60
19	65	301	164	362	255	972	1,800	818	225	77	56	60
20	63	349	160	343	263	1,000	1,630	806	218	74	55	59
21	64	346	1,050	337	346	1,030	1,530	765	210	73	55	58
22	64	319	2,450	340	390	1,160	1,490	631	198	72	55	58
23	63	282	1,730	349	422	1,180	1,500	559	188	71	55	56
24	62	273	1,710	376	541	1,120	1,530	514	178	74	55	56
25	62	346	2,240	404	675	1,000	1,560	514	166	80	55	55
26	63	304	2,190	390	715	942	1,530	655	158	88	55	55
27	62	292	2,030	334	862	1,000	1,430	586	152	79	54	54
28	63	301	2,490	337	972	1,040	1,380	536	142	76	54	54
29	110	538	4,270	316	-	1,040	1,350	510	141	71	53	53
30	542	394	3,170	286	-	1,140	1,280	485	137	70	53	53
31	478	-	2,400	262	-	1,290	-	435	-	71	52	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,885	542	56	93.1	5,720
November.....	7,877	538	153	263	15,620
December.....	30,469	4,270	153	983	60,430
Calendar year 1945.....	185,464	4,270	49	508	367,900
January.....	19,727	1,840	262	636	39,130
February.....	9,793	972	210	350	19,420
March.....	29,511	1,290	665	952	58,530
April.....	42,970	1,800	1,090	1,432	85,230
May.....	25,022	1,180	485	807	49,630
June.....	8,371	481	137	279	16,600
July.....	2,791	132	70	90.0	5,540
August.....	1,797	71	52	58.0	3,560
September.....	1,874	67	52	55.8	3,520
Water year 1945-46.....	182,887	4,270	52	501	362,700

Peak discharge.- Dec. 22 (6 a.m.) 2,980 sec.-ft.; Dec. 25 (9 p.m.) 2,430 sec.-ft.; Dec. 29 (6 a.m.) 4,500 sec.-ft.

Middle Fork Feather River at Bidwell Bar, Calif.

Location.- Water-stage recorder, lat. 39°33', long. 121°26', in NW¹/₄ sec. 32, T. 20 N., R. 5 E., at highway bridge at Bidwell Bar, 2 miles upstream from confluence with North Fork and 7 miles northeast of Oroville. Altitude of gage, about 290 feet (from topographic map).

Drainage area.- 1,353 square miles.

Records available.- October 1911 to September 1946.

Average discharge.- 35 years, 1,810 second-feet.

Extremes.- Maximum discharge during year, 22,000 second-feet Dec. 29 (gage height, 13.96 feet); minimum, 162 second-feet Sept. 14.

1911-46: Maximum discharge, 93,000 second-feet Dec. 11, 1937 (gage height, 24.0 feet, from floodmarks), from rating curve extended above 25,000 second-feet on basis of velocity-area and AV^3 studies; minimum, 88 second-feet Jan. 8, 1937.

Remarks.- Records good. Storage and diversions above station are comparatively small.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

2.1	152	3.0	420	5.0	1,540	10.0	8,500
2.2	175	3.4	570	6.0	2,450	11.0	10,900
2.4	230	3.8	755	7.0	3,680	12.0	14,000
2.6	290	4.2	960	8.0	5,100	13.0	17,800
2.8	354	4.5	1,150	9.0	6,650	13.5	19,900

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	199	1,420	1,180	6,800	1,320	2,600	3,580	4,580	1,710	542	275	179
2	197	805	1,040	6,030	1,400	2,430	3,390	4,520	1,680	522	272	179
3	194	633	978	6,120	1,430	2,480	3,330	4,560	1,600	506	260	179
4	192	558	1,210	5,780	1,420	2,260	3,450	4,630	1,520	490	251	179
5	189	502	1,830	5,820	1,300	2,110	3,590	4,550	1,480	483	242	181
6	186	510	1,480	5,070	1,390	2,050	3,680	4,590	1,400	466	233	184
7	186	558	1,380	4,410	1,560	2,110	3,630	4,580	1,290	452	233	213
8	199	514	1,260	3,960	1,350	2,170	3,450	4,370	1,210	441	233	199
9	210	498	1,080	3,510	1,280	2,240	3,240	3,960	1,160	427	227	179
10	222	678	984	3,190	1,290	2,470	3,020	3,790	1,120	413	222	176
11	284	780	927	2,930	1,280	2,620	3,000	3,560	1,070	403	219	171
12	290	755	870	2,590	1,210	2,550	3,210	3,390	1,020	389	216	169
13	275	725	805	2,430	1,160	3,560	3,580	3,320	978	376	208	166
14	251	642	730	2,310	1,160	3,150	3,740	3,080	954	364	205	166
15	239	740	755	2,170	1,180	2,900	4,040	2,870	927	360	205	166
16	257	1,180	750	2,150	1,170	2,920	4,660	2,880	895	357	202	205
17	266	1,580	700	1,970	1,160	2,860	5,280	2,930	865	351	202	245
18	254	1,210	669	1,900	1,160	2,740	5,780	3,040	855	344	199	254
19	251	1,250	642	1,840	1,220	2,810	5,750	3,080	800	338	197	199
20	245	1,560	646	1,780	1,290	2,920	5,380	2,940	775	328	194	192
21	239	1,210	5,560	1,710	1,760	2,800	4,980	2,790	750	316	192	192
22	236	1,060	15,500	1,660	1,790	2,850	4,770	2,390	720	309	189	189
23	230	954	9,400	1,630	1,670	2,870	4,980	2,240	705	309	189	181
24	216	949	7,730	1,630	1,770	2,800	5,370	2,020	692	303	186	179
25	213	1,480	11,200	1,660	2,000	2,640	5,700	1,940	664	306	184	176
26	216	1,280	11,800	1,640	2,020	2,570	5,760	2,480	633	348	184	176
27	219	1,120	14,100	1,560	2,240	2,720	5,430	2,350	610	351	181	174
28	224	1,190	16,000	1,520	3,040	3,140	5,250	2,060	597	335	181	174
29	293	1,790	19,100	1,480	-	3,710	5,190	1,930	584	303	181	171
30	2,220	1,480	12,200	1,410	-	3,670	4,840	1,610	562	290	181	169
31	2,780	-	8,650	1,340	-	3,540	-	1,750	-	278	181	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	11,672	2,780	186	377	23,150
November.....	29,611	1,790	498	987	58,730
December.....	151,156	19,100	642	4,876	299,800
Calendar year 1945	739,407	21,500	184	2,026	1,467,000
January.....	90,000	6,800	1,340	2,903	178,500
February.....	42,020	3,040	1,160	1,501	83,350
March.....	85,250	3,710	2,050	2,750	169,100
April.....	131,060	5,780	3,000	4,369	260,000
May.....	98,980	4,630	1,750	3,193	196,300
June.....	29,786	1,710	562	993	59,080
July.....	11,800	542	278	381	23,400
August.....	6,524	275	181	210	12,940
September.....	5,532	245	166	184	10,970
Water year 1945-46	693,391	19,100	166	1,900	1,375,000

Peak discharge.- Dec. 22 (4 a.m.) 18,600 sec.-ft.; Dec. 29 (1 a.m.) 22,000 sec.-ft.

South Fork Feather River at Enterprise, Calif.

Location.—Water-stage recorder, lat. 39°32', long. 121°21', in SW¹/₄ sec. 6, T. 19 N., R. 6 E., 0.8 mile upstream from McCabe Creek and 1 mile upstream from highway bridge at Enterprise. Altitude of gage, about 550 feet (from topographic map).

Drainage area.—134 square miles.

Records available.—September 1930 to September 1946. October 1911 to September 1930 at site half a mile downstream.

Average discharge.—35 years, 304 second-feet.

Extremes.—Maximum discharge during year, 5,260 second-feet Dec. 29 (gage height, 12.05 feet); from rating curve extended above 4,000 second-feet; minimum, 3.0 second-feet Oct. 6-8.

1911-46: Maximum discharge, 17,300 second-feet Dec. 10, 1937 (gage height, 20.4 feet), from rating curve extended above 5,000 second-feet on basis of velocity-area studies; minimum, 0.2 second-foot Aug. 11, 1917.

Remarks.—Records excellent except those below 100 second-feet, which are good, and those for periods of no gage-height record, which are fair. Storage and diversions above station for irrigation. (See following page for records for Palermo Canal.)

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 25

Apr. 26 to Sept. 30

1.4	2.1	2.2	24	5.0	470	1.4	4.0	1.8	10.5	2.7	60
1.5	3.1	2.3	29	6.0	790	1.5	5.1	1.9	13.5	3.1	97
1.6	4.5	2.5	41	7.0	1,190	1.6	6.7	2.1	22	3.5	145
1.7	6.3	2.9	73	8.0	1,720	1.7	8.5	2.4	38		
1.8	8.6	3.1	93	9.0	2,380						
1.9	11.5	3.5	145	10.0	3,190						
2.0	19	4.0	234	11.0	4,110						
2.1	19	4.5	340								

Note.—Same as preceding table above 3.5 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	159	130	1,260	230	396	578	753	196	30	5.9	4.7
2	3.5	78	115	1,110	254	376	530	746	185	28	5.6	4.7
3	3.4	54	104	1,240	242	362	497	756	171	26	5.3	4.8
4	3.4	45	183	1,140	254	338	497	756	152	25	4.8	4.8
5	3.2	40	354	1,160	226	327	494	739	144	24	4.2	4.9
6	3.1	39	256	976	246	325	488	753	130	22	4.0	12
7	3.0	43	194	858	274	353	482	749	119	19	4.1	30
8	3.1	38	167	746	242	340	479	678	111	18	4.1	7.8
9	3.9	37	133	664	234	354	462	569	105	17	4.0	4.7
10	3.9	73	116	602	230	393	439	560	98	16	4.1	4.7
11	9.2	91	105	551	228	409	448	551	91	13	4.3	4.7
12	7.0	84	94	500	210	409	485	536	85	12	4.3	4.7
13	6.8	78	65	473	205	661	521	81	81	12	4.3	4.6
14	6.8	a70	74	442	203	533	560	479	76	a11	4.3	4.7
15	6.1	a90	79	411	212	464	608	442	72	a11	4.3	5.1
16	6.1	a140	77	361	205	436	702	428	67	a10	4.3	11
17	5.9	a210	72	364	203	414	801	431	64	a10	4.3	10
18	5.6	129	68	350	203	411	889	439	61	a9.0	4.3	9.1
19	5.4	130	64	353	216	445	877	439	57	a9.0	4.4	8.1
20	5.0	201	64	320	232	476	636	406	53	a8.0	4.4	7.6
21	4.9	136	1,110	307	368	436	783	359	49	a8.0	4.6	7.6
22	4.9	111	3,930	296	359	422	756	300	46	a7.0	4.6	6.9
23	4.2	98	2,580	285	309	401	783	287	44	a7.0	4.7	6.2
24	5.8	105	1,870	281	316	386	851	250	44	a15	4.7	6.5
25	5.8	a190	2,760	281	322	374	912	236	42	8.0	4.7	6.5
26	3.9	a170	2,580	270	305	361	923	333	37	8.7	4.7	6.5
27	3.8	a150	2,230	260	345	409	881	318	35	16	4.7	7.1
28	3.9	171	3,760	254	453	509	862	262	34	16	4.7	7.4
29	16	228	4,010	246	-	674	847	240	33	8.5	4.7	6.5
30	302	158	2,390	236	-	668	790	222	31	6.5	4.7	5.7
31	357	-	1,690	228	-	602	-	209	-	6.2	4.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	806.1	357	3.0	26.0	1,600
November	3,348	228	37	112	6,640
December	32,444	4,010	64	1,047	64,350
Calendar year 1945	128,374.2	5,570	3.0	352	254,600
January	16,825	1,260	228	543	33,370
February	7,328	453	203	262	14,530
March	15,462	674	325	434	26,700
April	20,073	923	439	669	39,810
May	14,747	756	209	476	29,250
June	2,512	196	31	83.7	4,980
July	436.9	30	6.2	14.1	867
August	140.8	5.9	4.0	4.54	279
September	219.6	30	4.6	7.32	436
Water year 1945-46	112,342.4	4,010	3.0	308	222,800

Peak discharge.—Dec. 22 (5 a.m.) 5,040 sec.-ft.; Dec. 29 (1:30 a.m.) 5,260 sec.-ft.

a No gage-height record; discharge computed on basis of 1 discharge measurement, recorded range in stage, record of diversion into Palermo Canal, and records for Middle Fork Feather River at Bidwell Bar.

FEATHER RIVER BASIN

Palermo Canal at Enterprise, Calif.

Location.- Water-stage recorder and Parshall flume, lat. 39°32', long. 121°21', in SW¹/₄ sec. 6, T. 19 N., R. 6 E., 400 feet downstream from intake at diversion dam on South Fork Feather River, 1 mile upstream from McCabe Creek, and 1 mile southeast of highway bridge at Enterprise. Altitude of gage, about 600 feet (from topographic map).

Records available.- October 1911 to September 1946.

Average discharge.- 35 years, 18.9 second-feet.

Extremes.- Maximum daily discharge during year, 35 second-feet July 26; minimum daily, 3.2 second-feet Sept. 7.

1911-46: Maximum discharge recorded, 43 second-feet July 25, 1927; no flow for periods in each year except 1939, 1941, 1942, 1944, 1945, 1946.

Remarks.- Records excellent. Canal diverts from left bank of South Fork Feather River 1 mile above Enterprise. Water is used for irrigation near Oroville.

Cooperation.- Gage-height record collected in cooperation with Oroville-Wyandotte Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	18	16	14	12	13	14	29	31	32	31	29
2	31	18	16	13	12	13	14	29	31	31	30	29
3	31	17	16	14	12	13	14	29	31	30	31	29
4	30	17	16	13	12	12	14	29	31	30	30	29
5	30	17	16	13	12	12	14	29	31	30	26	29
6	29	17	16	13	12	12	14	29	32	30		
7	29	17	16	13	12	13	14	29	33	31	28	24
8	30	17	16	13	a12	13	14	29	33	31	30	3.2
9	31	17	16	13	a12	13	14	a29	33	30	29	29
10	31	17	15	13	a12	13	14	a29	33	31	30	29
11	33	18	15	13	a12	13	14	a30	32	31	32	29
12	33	18	15	13	a13	13	14	a32	32	31	h32	30
13	33	17	15	13	a13	13	14	a32	32	30	h32	31
14	31	17	15	13	a13	13	14	a32	32	31	h32	31
15	28	17	15	13	a13	13	14	a31	32	31	31	30
16	28	17	15	12	a13	13	14	a31	32	31	32	33
17	28	18	15	12	13	13	14	31	31	31	32	31
18	28	17	15	12	13	13	15	31	31	30	31	30
19	27	17	15	12	13	13	15	31	31	31	31	30
20	27	17	15	12	12	13	15	31	31	31	31	30
21	26	17	16	12	12	13	15	31	31	31	31	30
22	26	17	19	12	12	13	15	31	31	31	30	30
23	26	16	17	12	12	13	15	30	31	31	30	31
24	25	16	17	12	12	13	20	31	31	31	30	30
25	25	16	17	12	12	13	29	31	30	31	30	30
26	25	16	17	12	12	13	29	32	31	35	29	30
27	25	16	17	12	12	13	29	31	31	34	29	29
28	25	16	16	12	13	14	29	31	31	32	29	29
29	28	16	16	12	-	14	29	31	30	31	29	30
30	26	16	14	12	-	14	29	31	31	31	29	30
31	19	-	14	12	-	14	-	31	-	31	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	875	33	19	28.2	1,740
November.....	507	18	16	16.9	1,010
December.....	489	19	14	15.8	970
Calendar year 1945.....	8,361.2	35	3.1	22.9	16,600
January.....	389	14	12	12.5	772
February.....	345	15	12	12.3	684
March.....	404	14	12	13.0	801
April.....	522	29	14	17.4	1,040
May.....	943	32	29	30.4	1,870
June.....	943	33	30	31.4	1,870
July.....	963	35	30	31.1	1,910
August.....	955	32	26	30.2	1,850
September.....	860.2	33	3.2	26.7	1,710
Water year 1945-46.....	8,175.2	35	3.2	22.4	16,230

a No gage-height record; discharge interpolated.

h Computed from staff-gage reading.

Middle Fork Yuba River at Milton, Calif.

Location.- Water-stage recorder and concrete spillway control, lat. 39°31'22", long. 120°35'01", in SW 1/4 sec. 12, T. 19 N., R. 12 E., at diversion dam of Nevada Irrigation District, at old town site of Milton, 8 miles upstream from South Fork of Middle Fork. Altitude of gage, about 5,700 feet (from topographic map).

Drainage area.- 41 square miles.

Records available.- October 1928 to September 1934, October 1935 to September 1946.

December 1925 to September 1928 at site 0.2 mile downstream.

Average discharge.- 16 years (1926-30, 1931-34, 1935-40, 1941-42, 1943-46), 104 second-feet (based on combined flow of Middle Fork at this station and Milton-Bowman tunnel at outlet).

Extremes.- Maximum discharge during year, 542 second-feet May 6 (gage height, 1.04 feet); no flow over dam for long periods.

1925-34, 1935-46: Maximum discharge, 6,800 second-feet Dec. 11, 1937 (gage height, 4.18 feet), from rating curve extended above 1,500 second-feet by weir formula; practically all low flow diverted after May 23, 1928.

Remarks.- Records fair. Milton-Bowman tunnel (see p. 341) diverts above station to Bowman Lake (see p. 348).

Cooperation.- Water-stage recorder graph furnished by Nevada Irrigation District.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)

0.00	0	0.25	50	0.60	240
.05	1.5	.30	78	.70	305
.10	9.0	.35	100	.80	370
.15	20	.40	125		
.20	38	.50	180		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	15			0	198				
2			0	1.1			0	231				
3			0	0			0	268				
4			0	0			0	290				
5			0	0			0	322				
6			0	0			0	364				
7			0	0			0	353				
8			0	0			0	292				
9			0	0			0	239				
10			0	0			0	210				
11			0	0			0	204				
12			0	0			0	155				
13			0	0			5.0	130				
14			0	0			32	74				
15			0	0			73	56				
16			0	0			136	109				
17			0	0			204	190				
18			0	0			170	248				
19			0	0			51	244				
20			0	0			15	244				
21			0	0			0	125				
22			95	0			0	7.3				
23			3.4	0			51	0				
24			0	0			141	0				
25			0	0			222	0				
26			0	0			222	2.1				
27			42	0			181	.6				
28			260	0			204	0				
29			147	0			222	0				
30			60	0			193	0				
31							-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	607.4	260	0	19.6	1,200
Calendar year 1945	9,432.0	902	0	25.8	18,700
January.....	16.1	15	0	.52	32
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	2,122.0	222	0	70.7	4,210
May.....	4,556.0	364	0	147	9,040
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46	7,301.5	364	0	20.0	14,480

Middle Fork Yuba River above Oregon Creek, Calif.

Location.- Water-stage recorder, lat. 39°23', long. 121°05', in SE¼ sec. 28, T. 18 N., R. 8 E., 500 feet upstream from Oregon Creek and 2 miles northeast of North San Juan. Altitude of gage, about 1,450 feet (from topographic map).

Drainage area.- 170 square miles.

Records available.- March 1941 to September 1946. July to October 1900 and October 1910 to February 1941 at site 1 mile below Oregon Creek (records not equivalent).

Extremes.- Maximum discharge during year, 4,850 second-feet Dec. 28 (gage height, 8.78 feet); minimum, 28 second-feet Oct. 5, 6.
1941-46: Maximum discharge, 14,200 second-feet Jan. 21, 1943 (gage height, 12.83 feet), from rating curve extended above 6,000 second-feet by logarithmic plotting; minimum, 25 second-feet Sept. 28, 1944.

Remarks.- Records excellent. Milton-Bowman tunnel (see p. 341), above station, has diverted to Bowman Lake since 1928. Some small diversions above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28					Dec. 29 to Sept. 30				
1.8	24	3.0	194	5.0	950	1.9	27	2.7	129
1.9	32	3.4	290	5.5	1,230	2.0	36	2.9	169
2.1	51	3.8	415	6.0	1,600	2.3	67	3.1	215
2.3	74	4.2	570	7.0	2,500	2.5	95	3.3	264
2.6	117	4.6	750	8.0	3,690	Note.- Same as preceding table above 3.5 feet.			

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	251	212	1,100	217	450	592	950	329	92	48	34
2	30	133	182	950	227	418	542	975	328	88	47	34
3	30	112	160	995	229	401	510	1,030	350	84	45	34
4	30	98	214	1,010	220	365	530	1,070	306	82	44	34
5	29	84	362	1,220	203	341	538	1,080	302	79	43	34
6	29	84	296	980	210	332	542	1,160	274	76	42	33
7	30	79	269	845	239	335	522	1,150	252	74	42	33
8	35	74	245	714	217	347	530	1,070	237	72	42	33
9	35	77	203	620	213	368	522	950	225	70	41	32
10	37	150	182	558	213	404	490	885	215	68	41	32
11	59	174	168	498	210	398	494	830	201	66	40	32
12	49	158	158	446	196	401	550	746	191	64	39	32
13	40	160	144	415	193	845	602	741	184	63	38	32
14	39	130	133	394	193	606	633	638	180	62	38	32
15	39	176	131	374	198	518	728	579	173	62	38	32
16	49	290	130	350	196	478	890	579	165	60	38	48
17	40	510	122	335	193	450	1,040	710	161	59	38	56
18	38	257	117	323	193	450	1,150	825	155	58	38	47
19	37	235	114	314	205	478	915	875	147	57	37	45
20	36	299	114	299	229	518	825	830	145	56	36	44
21	36	216	1,580	282	362	482	718	760	141	55	36	43
22	36	186	3,130	272	362	470	692	494	137	54	36	42
23	34	170	2,090	259	314	446	750	404	133	53	36	42
24	34	187	1,460	259	317	418	930	365	127	52	35	42
25	34	390	2,210	259	314	398	1,100	353	118	55	35	41
26	34	250	2,310	254	287	401	1,160	478	111	64	34	37
27	34	201	2,440	246	269	432	1,050	482	106	58	34	35
28	35	232	3,520	244	554	526	1,030	401	103	55	34	33
29	49	432	3,690	242	-	674	1,070	365	100	52	34	32
30	401	272	2,240	229	-	705	1,010	338	97	50	34	32
31	596	-	1,500	220	-	638	-	332	-	49	34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,065	596	29	66.6	4,100
November.....	6,067	510	74	202	12,030
December.....	29,826	3,690	114	962	59,160
Calendar year 1945.....	130,680	4,760	29	358	259,200
January.....	15,506	1,220	220	500	30,760
February.....	7,072	554	193	253	14,030
March.....	14,493	845	332	468	28,750
April.....	22,655	1,160	480	755	44,940
May.....	22,445	1,160	332	724	44,520
June.....	5,653	329	97	189	11,250
July.....	1,989	92	49	64.2	3,950
August.....	1,197	48	34	38.6	2,370
September.....	1,112	56	32	37.1	2,210
Water year 1945-46.....	130,090	3,690	29	356	258,000

Peak discharge.- Dec. 22 (4 a.m.) 4,250 sec.-ft.; Dec. 28 (12 p.m.) 4,850 sec.-ft.

Yuba River at Narrows Dam, Calif.

Location.- Water-stage recorder above spillway of Narrows Dam, flow meter in penstock and wattmeters in powerhouse just below dam, lat. 39°14', long. 121°16', near center of sec. 14, T. 16 N., R. 6 E., 1 mile upstream from Deer Creek and 2.5 miles northeast of Smartville. Datum of gage, 526.99 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 1,110 square miles.

Records available.- October 1941 to September 1946. June 1903 to September 1941 (including flow of Deer Creek) at site 2 miles downstream, published as Yuba River at Smartville.

Extremes.- Maximum discharge during year, 30,500 second-feet Dec. 29, including flow through powerhouse; minimum mean daily, 131 second-feet Oct. 26 (regulated). 1941-46: Maximum discharge, 81,100 second-feet Jan. 21, 1943, including flow through powerhouse, from rating curve extended above 25,000 second-feet on basis of computations of flow over spillway by Creager's method; no flow Nov. 8 to Dec. 2, 1941, water being stored at dam.

Remarks.- Records excellent above 1,000 second-feet and fair below. Diversions for power and irrigation above station. Storage above station at Lake Spaulding (capacity, 70,500 acre-feet), Upper Narrows Reservoir (capacity, 70,000 acre-feet), Bowman Lake (see p. 348), Fordyce Lake (capacity, 42,000 acre-feet), and many smaller reservoirs. Records given herein show total flow over Narrows Dam spillway and through and past power plant.

Discharge, in second-feet; water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	595	495	1,440	7,660	1,680	3,120	4,240	7,070	2,840	798	655	565
2	595	500	1,480	6,450	1,740	2,790	3,820	7,040	2,660	750	590	565
3	585	515	1,200	7,160	1,920	2,730	3,540	7,300	3,280	750	622	595
4	580	460	1,380	7,160	1,860	2,500	3,540	7,540	3,740	750	571	585
5	575	510	2,650	7,720	1,680	2,300	3,580	7,510	3,550	750	590	600
6	544	510	2,430	6,510	1,770	2,260	3,550	7,780	3,200	750	582	605
7	495	540	1,900	5,500	2,260	2,280	3,760	7,860	2,780	730	580	580
8	545	575	1,730	4,760	1,960	2,340	3,540	7,420	2,420	750	590	580
9	545	575	1,640	4,120	1,720	2,380	3,780	5,980	2,280	750	574	600
10	540	550	1,340	3,690	1,860	2,820	3,600	6,100	2,340	745	576	600
11	500	495	1,230	3,340	1,810	2,860	3,320	5,860	1,960	745	576	605
12	460	625	1,200	3,040	1,630	2,680	3,460	5,820	1,770	745	576	610
13	455	605	1,140	2,880	1,610	4,980	3,740	5,780	1,680	740	576	520
14	450	610	1,070	2,730	1,580	4,320	4,220	5,420	1,680	745	576	425
15	445	610	1,060	2,560	1,600	3,520	4,400	5,260	1,720	740	576	410
16	440	625	1,070	2,440	1,520	3,160	4,980	4,880	1,620	740	576	445
17	440	575	896	2,320	1,750	3,150	5,700	4,220	1,580	740	530	445
18	440	620	1,020	2,260	1,610	2,980	6,350	4,880	1,500	735	530	425
19	440	650	880	2,300	1,600	3,120	6,040	6,570	1,400	730	580	400
20	440	655	900	2,250	1,800	3,460	5,550	6,920	1,310	730	580	400
21	440	670	7,000	2,160	2,400	3,320	5,250	6,660	1,250	730	580	360
22	357	675	24,200	2,070	3,020	3,140	5,260	5,440	1,210	730	580	370
23	274	675	16,000	2,000	2,500	2,930	6,500	4,160	1,160	730	580	400
24	246	620	10,600	1,960	2,580	2,960	7,460	3,280	1,120	730	580	395
25	136	550	14,800	1,980	2,580	2,760	6,300	3,100	1,070	730	540	395
26	131	700	16,200	2,000	2,310	2,760	8,740	4,200	990	730	575	400
27	175	705	17,000	1,940	2,280	2,920	7,860	4,970	950	730	580	400
28	194	705	21,000	1,890	3,540	3,260	7,820	3,720	920	730	580	360
29	194	790	27,000	1,850	-	5,220	7,980	3,770	930	730	590	355
30	194	1,900	16,600	1,780	-	5,580	7,580	3,500	920	730	580	400
31	348	-	10,100	1,720	-	4,740	-	3,800	-	725	540	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	12,798	595	131	413	25,380
November.....	19,190	1,900	460	640	38,080
December.....	208,356	27,000	880	6,721	413,300
Calendar year 1945.....	950,959	31,800	131	2,605	1,886,000
January.....	108,200	7,720	1,720	3,490	214,600
February.....	56,150	3,540	1,520	2,005	111,400
March.....	99,320	5,580	2,660	3,204	197,000
April.....	157,460	8,740	3,320	5,249	312,300
May.....	173,830	7,860	3,100	5,607	344,800
June.....	55,830	3,740	920	1,861	110,700
July.....	22,938	798	725	740	45,500
August.....	17,921	655	530	578	35,550
September.....	14,395	610	355	480	28,550
Water year 1945-46.....	946,368	27,000	131	2,593	1,877,000

Yuba River at Marysville, Calif.

Location.- Water-stage recorder, lat. 39°08'40", long. 121°34'35", at Simpson Lane Bridge in Marysville, Yuba County, about 2 miles upstream from mouth. Zero of gage is set to datum of Corps of Engineers, War Department.

Records available.- October 1940 to September 1946 (1940-43, 1945, low-water periods only) in reports of Geological Survey. 1939-46 (1939-43, 1945, low-water periods only) in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum daily discharge during year, 26,000 second-feet Dec. 29; maximum gage height, 65.78 feet Dec. 29; minimum discharge, 144 second-feet Oct. 28; minimum gage height, 45.91 feet Sept. 23, 24.

1943-44, 1945-46: Maximum daily discharge, that of Dec. 29, 1945; maximum gage height, that of Dec. 29, 1945.

1940-46: Minimum discharge recorded, 64 second-feet Nov. 28, 29, 1941.

Remarks.- Records good except those for December to April and Aug. 2-21, which are fair. Storage and many diversions above station for power and irrigation.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	306	490	1,840	c11,000	2,390	3,870	5,190	7,290	3,000	629	497	344
2	384	455	1,430	c9,000	2,410	3,540	4,630	7,050	2,720	564	a400	344
3	392	440	1,430	c9,800	2,790	3,310	4,220	7,160	2,800	555	a420	344
4	388	402	1,400	c10,000	2,750	3,240	4,070	7,300	3,420	540	a360	352
5	388	415	3,110	c11,000	2,540	2,970	4,080	7,200	3,220	535	a330	352
6	384	440	3,500	c9,600	2,460	2,840	4,030	7,590	3,020	526	a330	359
7	354	450	2,380	c8,100	3,530	2,820	3,970	7,760	2,080	516	a330	359
8	370	576	2,180	c7,200	3,010	2,850	4,020	7,580	2,200	511	a330	352
9	388	642	1,810	c6,200	2,670	2,900	4,110	6,350	2,020	516	a320	352
10	392	669	1,720	c5,500	2,410	3,020	4,040	6,130	1,980	511	a320	363
11	401	592	1,540	5,160	2,650	3,390	3,660	6,000	1,750	502	a320	371
12	354	636	1,440	4,630	2,400	3,220	3,600	5,650	1,490	506	a320	390
13	345	647	1,330	4,320	2,280	4,720	3,890	5,750	1,400	506	a320	386
14	337	614	1,210	4,070	2,220	5,160	4,010	5,460	1,350	497	a320	279
15	333	636	1,060	3,860	2,210	4,240	4,450	5,250	1,370	497	a320	243
16	291	680	905	3,680	2,230	3,800	4,710	5,040	1,420	497	a320	246
17	271	824	1,140	3,480	2,080	3,540	5,400	4,450	1,350	502	a280	248
18	261	630	977	3,360	2,280	3,490	4,740	4,030	1,280	502	a290	256
19	249	630	958	3,360	2,160	3,550	6,140	5,610	1,210	497	a330	230
20	237	674	899	3,290	2,410	3,920	5,890	6,320	1,130	502	a330	215
21	228	680	2,620	3,140	2,720	4,070	5,270	6,240	1,040	511	a330	208
22	215	680	c22,000	3,020	3,870	3,730	5,190	5,720	989	516	326	187
23	207	680	c21,000	2,910	3,330	3,510	5,870	4,390	926	508	333	187
24	195	806	c16,000	2,840	3,040	3,330	6,590	3,540	897	502	337	196
25	188	842	c18,000	2,820	3,280	3,310	7,360	3,210	845	506	330	199
26	179	860	c19,000	2,820	3,020	3,170	7,940	3,610	765	511	319	215
27	162	860	c19,600	2,730	2,820	3,240	8,310	4,900	706	506	330	218
28	148	880	c23,000	2,680	3,720	3,470	7,860	3,850	680	511	333	215
29	152	1,610	c26,000	2,630	-	5,780	8,020	3,740	675	502	344	187
30	168	1,760	c22,000	2,540	-	7,120	7,760	3,460	670	497	348	208
31	302	-	c14,000	2,460	-	5,820	-	3,510	-	497	344	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,969	401	148	289	17,830
November.....	21,200	1,760	402	707	42,050
December.....	235,459	26,000	899	7,595	467,000
Calendar year	-	-	-	-	-
January.....	157,200	11,000	2,460	5,071	311,800
February.....	75,660	3,870	2,060	2,702	150,100
March.....	116,920	7,120	2,820	3,772	231,900
April.....	160,310	8,310	3,600	5,344	318,000
May.....	171,930	7,760	3,210	5,546	341,000
June.....	48,403	3,420	670	1,613	96,010
July.....	15,976	629	497	515	31,690
August.....	10,471	497	290	338	20,770
September.....	8,406	390	187	280	16,670
Water year 1945-46	1,030,904	26,000	148	2,824	2,045,000

a No gage-height record; discharge computed on basis of 1 discharge measurement and records for station at Narrows Dam.

c Backwater from Feather River; discharge computed on basis of 1 discharge measurements and records for station at Narrows Dam.

Milton-Bowman tunnel at outlet, Calif.

Location.- Water-stage recorder and concrete control, lat. 39°28', long. 120°37', in sec. 3, T. 18 N., R. 12 E., near upper end of Bowman Lake. Altitude of gage, about 5,600 feet (from topographic map).

Records available.- May 1928 to September 1930, October 1931 to September 1946.

Average discharge.- 17 years (1928-30, 1931-46), 72.4 second-feet.

Extremes.- Maximum daily discharge during year, 440 second-feet Apr. 29 to May 1; minimum daily, 0.6 second-foot Sept. 24, 25.

1928-30, 1931-46: Maximum daily discharge, 492 second-feet Feb. 11, 1941; minimum daily, 0.4 second-foot Oct. 7, 1944.

Remarks.- Records good except those above 300 second-feet, which are fair. Tunnel diverts from Middle Fork Yuba River at Milton, in sec. 12, T. 19 N., R. 12 E., and discharges into Bowman Lake. During low and medium stages practically entire flow of Middle Fork Yuba River is diverted.

Cooperation.- Water-stage recorder graph and three discharge measurements furnished by Nevada Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	69	26	150	47	79	93	440	300	48	9.1	1.4
2	3.0	45	26	148	48	73	85	435	315	46	8.7	.9
3	2.4	47	26	144	44	71	81	430	305	44	8.3	.9
4	2.4	46	25	126	48	65	81	430	289	40	8	2.1
5	2.6	40	24	116	46	63	83	425	300	37	7.2	2.1
6	2.8	37	26	102	46	62	86	425	275	34	6.6	2.1
7	2.8	29	26	92	44	68	85	425	223	32	6.6	2.2
8	3.0	25	24	84	44	77	83	425	209	30	6.3	2.2
9	2.8	22	23	77	43	85	79	420	206	27	6.3	2.2
10	3.0	25	24	74	40	98	79	420	198	25	6.3	2.4
11	2.8	25	23	71	44	103	87	420	177	23	5.8	2.4
12	2.8	24	22	65	41	102	108	420	163	21	4.9	2.4
13	3.0	24	21	66	41	119	138	420	154	19	4.3	2.4
14	3.0	25	21	64	40	119	144	420	148	17	3.9	2.4
15	3.2	30	22	62	42	109	146	420	138	15	3.7	1.9
16	3.2	28	22	60	40	100	152	425	126	14	2.6	1.8
17	3.0	28	21	58	39	95	154	430	114	14	1.9	1.1
18	3.0	28	21	58	40	91	275	435	108	13	1.8	1.8
19	2.6	28	21	57	40	89	430	430	103	12	1.5	1.4
20	2.4	34	22	56	40	86	430	430	98	11	1.5	1.2
21	2.2	34	76	54	40	81	430	430	97	11	1.5	.9
22	17	32	152	54	40	71	430	430	90	10	1.5	.9
23	10	30	144	53	40	74	430	370	93	10	1.8	.7
24	5.5	31	125	53	42	72	435	300	74	9.9	1.8	.8
25	4.6	30	103	52	42	73	435	315	50	11	1.9	.8
26	4.1	30	89	50	40	81	435	400	16	13	1.8	.8
27	3.9	29	79	50	48	97	435	400	41	13	1.8	.8
28	3.9	29	117	50	83	110	435	340	52	12	1.6	.8
29	6.4	30	157	50	-	108	440	289	52	11	1.8	.8
30	95	27	154	49	-	106	440	279	49	9.9	1.8	1.4
31	97	-	152	45	-	98	-	289	-	9.5	1.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	308.4	97	2.2	9.95	612
November.....	959	69	22	32.0	1,900
December.....	1,814	157	21	58.5	3,600
Calendar year 1945.....	32,136.3	465	2.2	88.0	63,750
January.....	2,289	150	45	73.8	4,540
February.....	1,232	83	39	44.0	2,440
March.....	2,729	119	62	88.0	5,410
April.....	7,244	440	79	241	14,370
May.....	12,367	440	279	399	24,530
June.....	4,563	315	16	152	9,050
July.....	842.3	48	9.5	20.7	1,270
August.....	123.6	9.1	1.5	5.99	245
September.....	45.6	2.4	.6	1.52	90
Water year 1945-46.....	34,315.9	440	.6	94.0	68,060

Note.- Stage-discharge relation indefinite Apr. 18 to May 29, June 1-3, 5; discharge computed on basis of 2 discharge measurements and records for Middle Fork Yuba River at Milton and above Oregon Creek.

Oregon Creek near North San Juan, Calif.

Location.- Water-stage recorder, lat. 39°24', long. 121°05', in SW $\frac{1}{4}$ sec. 22, T. 18 N., R. 8 E., 1 mile upstream from mouth and 3 miles northeast of North San Juan. Altitude of gage, about 1,500 feet (from topographic map).

Drainage area.- 35.1 square miles.

Records available.- October 1933 to September 1946. October 1910 to September 1933 at site 0.7 mile downstream.

Average discharge.- 35 years (1911-46), 75.1 second-feet.

Extremes.- Maximum discharge during year, 1,920 second-feet Dec. 28 (gage height, 8.10 feet); minimum, 2.2 second-feet Sept. 14 (gage height, 1.54 feet).
1910-46: Maximum discharge observed, about 4,000 second-feet Mar. 25, 1928 (gage height, 9.5 feet, site and datum then in use), from rating curve extended above 600 second-feet; minimum, 0.7 second-foot several days in July, August 1931, September 1934.

Remarks.- Records excellent. Small diversions above station for irrigation and mining.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.5	1.6	2.4	32	4.4	254
1.6	3.2	2.6	41	4.8	342
1.7	5.5	2.8	52	5.4	511
1.8	8.5	3.0	67	5.8	650
1.9	12	3.3	94	6.2	815
2.0	16	3.6	128	6.8	1,110
2.2	24	4.0	185	7.5	1,520

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	36	58	340	46	149	174	87	22	8.2	3.8	3.4
2	2.8	18	46	281	48	133	164	83	22	8.2	3.6	3.4
3	2.8	15	39	307	51	122	152	80	20	8.2	3.6	3.2
4	2.8	10	55	337	49	112	154	77	19	8.5	3.4	3.2
5	2.7	9.2	103	479	45	104	156	73	19	6.6	3.2	3.0
6	2.7	8.5	85	344	50	100	158	69	19	6.6	3.0	2.8
7	2.7	8.5	94	278	60	95	155	64	17	6.6	3.2	2.8
8	3.0	8.5	83	235	50	92	160	58	17	6.3	3.0	2.8
9	3.4	9.8	63	196	48	90	166	54	16	6.3	3.0	2.7
10	3.9	38	50	172	48	94	151	51	16	6.3	3.0	2.5
11	5.8	36	44	151	47	97	147	47	16	5.8	3.2	2.7
12	5.2	34	40	133	44	104	147	44	16	5.8	3.0	2.5
13	4.3	36	36	122	44	264	147	42	14	5.5	2.8	2.5
14	4.0	24	32	114	44	190	145	38	14	5.5	2.8	2.3
15	4.3	31	31	105	46	154	142	35	14	5.8	3.0	2.5
16	4.3	69	30	97	45	138	145	35	14	5.8	2.8	3.8
17	4.3	168	28	90	44	129	149	33	13	5.5	2.8	4.3
18	4.3	68	26	84	44	126	154	31	12	5.5	2.8	3.4
19	4.3	64	25	80	49	133	148	29	12	5.2	2.8	3.2
20	5.8	73	25	76	57	142	138	28	11	5.2	3.0	3.2
21	3.8	47	483	72	129	134	129	26	11	5.0	2.8	3.2
22	3.8	37	1,050	68	122	133	122	27	11	4.8	3.0	3.0
23	3.8	32	758	65	101	127	120	28	11	4.8	3.2	3.0
24	3.6	37	545	62	105	121	120	26	10	4.8	3.2	3.0
25	3.6	133	1,010	61	106	113	120	25	9.8	5.5	3.0	3.0
26	3.8	71	1,360	59	97	106	117	44	8.8	6.6	2.8	3.2
27	3.8	51	1,170	57	139	104	110	37	9.5	6.0	3.0	3.2
28	3.8	63	1,510	55	187	131	104	30	9.5	5.5	3.0	3.4
29	7.1	130	1,330	53	-	201	98	26	9.5	5.2	3.2	3.2
30	51	80	730	49	-	206	93	24	9.2	5.0	3.2	3.2
31	77	-	452	47	-	187	-	23	-	4.8	3.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	239.2	77	2.7	7.72	474
November	1,443.5	168	8.5	48.1	2,860
December	11,391	1,510	25	367	22,590
Calendar year 1945	35,430.7	1,510	2.7	91.6	66,500
January	4,669	479	47	151	9,260
February	1,945	187	44	69.5	3,860
March	4,131	264	90	133	8,190
April	4,185	174	93	140	8,300
May	1,374	87	23	44.3	2,730
June	422.3	22	8.8	14.1	838
July	185.4	8.5	4.8	5.98	368
August	95.4	3.8	2.8	3.08	189
September	91.6	4.3	2.3	3.05	182
Water year 1945-46	30,172.4	1,510	2.3	82.7	59,840

Peak discharge.- Dec. 22 (12:30 a.m.) 1,320 sec.-ft.; Dec. 26 (2 a.m.) 1,880 sec.-ft.; Dec. 28 (11 p.m.) 1,920 sec.-ft.; Jan. 5 (9 a.m.) 535 sec.-ft.

North Fork Yuba River below Goodyears Bar, Calif.

Location.- Water-stage recorder, lat. 39°32', long. 120°56', in SW $\frac{1}{4}$ sec. 11, T. 19 N., R. 9 E., 3.5 miles downstream from Goodyears Creek and 4 miles southwest of Goodyears Bar. Altitude of gage, about 2,450 feet (from topographic map).

Drainage area.- 244 square miles.

Records available.- December 1930 to November 1937, December 1938 to September 1946.

Average discharge.- 13 years (1931-37, 1939-46), 733 second-feet.

Extremes.- Maximum discharge during year, 7,280 second-feet Dec. 29 (gage height, 10.95 feet); minimum, 121 second-feet Oct. 5, 6.

1930-46: Maximum discharge, 26,000 second-feet Dec. 11, 1937 (gage height, 19.0 feet, from floodmarks), from rating curve extended above 6,000 second-feet on basis of drift-velocity measurement at 18,000 second-feet; minimum, 69 second-feet Aug. 26, 1931.

Remarks.- Records excellent. Several small diversions above station for irrigation and mining.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.6	119	3.0	334	6.0	1,650
1.7	129	3.5	456	7.0	2,450
1.9	152	4.0	610	8.0	3,450
2.1	177	4.5	808	9.0	4,600
2.4	222	5.0	1,040	9.9	5,760

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	127	486	407	1,770	462	739	839	2,360	1,420	436	217	157
2	126	334	369	1,590	480	714	804	2,430	1,440	423	209	156
3	131	358	345	1,570	477	686	782	2,560	1,420	405	204	157
4	128	318	405	1,430	456	641	821	2,630	1,400	390	202	158
5	123	286	537	1,550	436	617	852	2,690	1,360	380	198	157
6	123	284	483	1,350	450	624	866	2,810	1,230	367	196	154
7	130	251	483	1,220	465	659	857	2,790	1,130	354	194	153
8	132	227	434	1,080	431	698	857	2,620	1,070	345	192	152
9	130	232	388	982	420	760	830	2,420	1,030	334	190	150
10	150	324	360	907	420	861	817	2,360	982	324	188	148
11	203	330	343	859	410	817	875	2,230	930	312	185	147
12	159	306	324	786	397	843	1,010	2,160	898	304	181	145
13	142	298	300	747	392	1,160	1,140	2,090	870	294	180	145
14	136	280	294	718	390	343	1,200	1,940	857	288	180	144
15	140	374	298	686	397	861	1,390	1,910	817	284	177	145
16	144	453	290	655	390	812	1,720	2,010	773	280	174	181
17	141	634	280	634	385	795	2,020	2,200	735	274	173	188
18	139	439	270	620	385	808	2,210	2,380	702	265	170	154
19	136	468	257	607	402	826	2,180	2,420	682	260	168	151
20	133	543	272	588	423	850	2,000	2,420	671	252	167	150
21	134	418	2,690	568	578	782	1,830	2,160	652	247	165	147
22	133	374	4,240	552	559	764	1,840	1,760	624	243	165	145
23	131	349	2,700	540	522	739	2,080	1,540	604	240	164	142
24	131	417	1,920	543	546	714	2,390	1,450	572	236	163	141
25	131	556	2,500	543	537	706	2,700	1,450	546	256	163	142
26	131	465	2,780	534	513	764	2,680	1,820	522	274	162	141
27	130	402	2,900	522	668	843	2,510	1,560	507	251	159	138
28	131	440	4,410	519	666	939	2,550	1,480	489	235	158	137
29	252	610	5,730	501	-	968	2,580	1,410	474	227	156	137
30	1,040	489	3,340	480	-	939	2,420	1,390	453	224	157	137
31	907	-	2,300	468	-	870	-	1,420	-	220	158	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,024	1,040	123	194	11,950
November.....	11,745	634	227	392	23,300
December.....	42,659	5,730	267	1,376	84,610
Calendar year 1945	280,078	6,670	123	767	555,500
January.....	26,099	1,770	468	842	51,770
February.....	13,257	866	385	473	26,290
March.....	24,728	1,160	617	798	49,050
April.....	47,650	2,700	782	1,588	94,510
May.....	64,690	2,610	1,390	2,093	128,700
June.....	25,860	1,440	453	862	51,290
July.....	9,224	436	220	298	18,300
August.....	5,515	217	156	178	10,940
September.....	4,479	181	137	149	8,880
Water year 1945-46	282,130	5,730	123	773	559,600

Peak discharge.- Dec. 22 (3:30 a.m.) 5,340 sec.-ft.; Dec. 29 (12:30 a.m.) 7,280 sec.-ft.

North Fork Yuba River at Colgate diversion dam, Calif.

Location.- Water-stage recorders, lat. 39°23', long. 121°09', near center of sec. 25, T. 18 N., R. 7 E.; one recorder 200 feet upstream from Colgate diversion dam, another at intake of Colgate tunnel; both 1.5 miles upstream from Middle Fork Yuba River and 1.5 miles downstream from Bullards Bar Dam. Altitude of gages, about 1,250 feet (from topographic map).

Drainage area.- 484 square miles.

Records available.- December 1940 to September 1946.

Extremes.- Maximum discharge during year, 20,000 second-feet Dec. 21; minimum daily, 63 second-feet Sept. 15.
1940-46: Maximum discharge, 44,200 second-feet Jan. 21, 1943; minimum daily, 50 second-feet Oct. 8, 1944.

Remarks.- Records good. Discharge is combined flow of spill over Colgate diversion dam and diversion through Colgate tunnel. Storage and small diversions above station.

Cooperation.- Discharge for Colgate tunnel furnished by Pacific Gas & Electric Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210	312	661	4,420	948	1,890	2,130	3,890	1,930	512	403	217
2	210	440	752	3,760	984	1,730	2,010	3,930	1,930	574	403	217
3	210	535	692	4,130	1,010	1,670	1,910	4,070	1,930	576	403	299
4	214	508	869	3,750	984	1,570	1,940	4,070	1,850	539	403	302
5	214	444	1,390	4,060	912	1,470	2,030	4,220	1,840	516	403	294
6	212	434	1,320	3,580	936	1,450	2,030	4,350	1,690	516	403	297
7	212	431	1,140	3,110	1,030	1,490	2,010	4,310	1,550	486	403	224
8	212	393	1,100	2,720	936	1,570	1,970	4,130	1,470	479	403	214
9	210	379	916	2,400	900	1,680	2,110	3,760	1,390	447	400	295
10	180	494	804	2,200	898	1,860	1,920	3,590	1,330	434	400	297
11	68	749	746	2,020	898	1,900	1,930	3,330	1,260	434	400	299
12	67	562	700	1,830	832	1,820	2,150	3,350	1,200	431	380	258
13	70	637	624	1,740	843	2,210	2,350	3,190	1,140	417	304	236
14	115	562	564	1,650	832	2,520	2,680	2,970	1,140	403	304	91
15	241	647	570	1,560	854	2,110	2,860	2,790	1,110	393	304	63
16	243	1,010	569	1,470	843	1,970	3,340	2,830	1,060	396	290	136
17	284	1,640	532	1,400	832	1,870	3,940	3,040	1,010	401	204	192
18	264	1,140	514	1,370	832	1,850	4,430	3,120	976	403	204	194
19	236	903	502	1,320	865	1,950	4,330	3,480	939	405	512	207
20	230	1,250	501	1,270	934	1,990	3,910	3,320	903	404	349	223
21	230	938	5,510	1,200	1,240	1,850	3,690	3,190	880	404	294	223
22	230	754	12,700	1,160	1,470	1,810	3,470	2,630	847	404	300	223
23	230	673	8,600	1,130	1,300	1,730	3,710	2,300	814	403	292	226
24	228	673	6,110	1,110	1,280	1,690	4,200	2,110	796	403	208	250
25	228	1,320	8,280	1,130	1,340	1,630	4,670	1,900	783	401	141	234
26	228	1,120	9,050	1,120	1,270	1,670	4,860	2,590	735	401	294	238
27	226	891	9,830	1,090	1,380	1,870	4,330	2,420	700	401	304	236
28	228	809	12,200	1,070	2,130	2,090	4,400	2,130	691	400	304	236
29	230	1,310	15,300	1,040	-	2,560	4,400	2,030	683	400	288	234
30	254	1,090	8,770	1,010	-	2,450	4,130	1,930	657	401	280	234
31	297	-	5,360	972	-	2,230	-	1,920	-	401	217	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,491	297	67	209	12,870
November.....	23,148	1,640	312	772	45,910
December.....	117,376	15,300	501	3,786	232,800
Calendar year 1945.....	591,851	18,600	67	1,622	1,174,000
January.....	61,792	4,420	972	1,993	122,600
February.....	29,513	2,130	832	1,054	58,540
March.....	58,850	2,910	1,450	1,898	116,700
April.....	93,840	4,860	1,910	3,128	186,100
May.....	96,890	4,350	1,900	3,125	192,200
June.....	35,214	1,930	657	1,174	69,850
July.....	13,585	576	393	438	26,950
August.....	9,997	403	141	322	19,830
September.....	6,859	302	63	229	13,600
Water year 1945-46.....	553,555	15,300	63	1,517	1,098,000

Peak discharge.- Dec. 21 (10:30 p.m.) 20,000 sec.-ft.; Dec. 29 (3 a.m.) 19,300 sec.-ft.

South Fork Yuba River near Cisco, Calif.

Location.- Water-stage recorder, lat. 39°19', long. 120°33', in sec. 19, T. 17 N., R. 13 E., 0.5 mile downstream from Rattlesnake Creek, 1 mile west of Cisco Grove, and 1.2 miles northwest of Cisco. Recorder moved 200 feet downstream in October 1945. Altitude of gage, about 5,500 feet (from topographic map).

Drainage area.- 50.2 square miles.

Records available.- April 1942 to September 1946.

Extremes.- Maximum discharge during year, 1,770 second-feet May 5 (gage height, 7.23 feet); minimum, 0.8 second-foot Oct. 5-8.

1942-46: Maximum discharge, 6,080 second-feet Jan. 21, 1943 (gage height, 12.35 feet, former site), from rating curve extended above 2,100 second-feet by logarithmic plotting; minimum, that of Oct. 5-8, 1945.

Remarks.- Records excellent. Low flow regulated by Lake Van Norden.

Rating tables, water year 1945-46, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Oct. 23				Oct. 24 to Sept. 30			
1.7	0.1	1.6	1.0	2.0	8.6	2.6	41
1.8	1.0	1.7	1.6	2.1	12	2.9	74
1.9	2.5	1.8	3.4	2.3	20	3.2	122
2.0	4.6	1.9	5.7	2.4	26	3.5	189
							4.0 322
							4.7 557
							5.5 870
							6.3 1,250

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	56	b44	254	60	203	128	1,000	482	43	27	27
2	1.0	89	*45	206	60	184	114	1,070	587	54	26	27
3	.9	147	42	170	60	167	107	1,120	598	50	25	27
4	.9	92	43	143	56	132	126	1,140	579	30	24	26
5	.8	70	45	126	54	122	156	1,200	458	26	23	26
6	.8	59	44	107	52	150	161	1,240	400	97	22	26
7	.8	38	43	100	52	194	139	1,160	358	98	22	22
8	1.0	34	b39	89	b51	241	126	1,050	346	98	20	20
9	1.6	32	39	84	48	266	116	1,010	325	97	20	20
10	3.1	44	39	82	b50	310	128	978	295	93	29	20
11	6.3	39	39	75	b49	238	199	888	254	92	30	20
12	4.2	43	37	74	b48	228	365	879	243	89	30	20
13	3.3	47	b56	74	b44	259	441	830	226	86	30	20
14	2.7	53	36	77	45	191	471	746	220	83	30	20
15	2.7	67	35	*78	46	152	628	778	194	82	30	20
16	2.7	51	35	75	b46	137	806	892	170	79	29	24
17	2.5	47	34	77	b44	139	915	1,010	152	77	24	22
18	2.4	45	b54	80	43	147	953	1,090	143	74	24	20
19	2.2	60	33	77	44	139	910	1,030	132	70	24	20
20	2.2	74	37	72	44	130	790	1,010	124	63	23	20
21	2.2	60	520	68	46	118	702	782	114	61	23	20
22	2.2	55	441	68	44	109	806	521	98	60	23	20
23	2.0	54	201	64	49	100	974	437	86	56	23	19
24	2.0	59	135	70	63	98	1,110	478	74	53	23	19
25	2.0	60	126	74	64	114	1,220	514	67	54	23	19
26	1.8	55	107	73	61	194	1,120	758	61	51	23	19
27	1.5	53	118	72	157	272	1,040	507	58	44	24	19
28	1.4	51	595	72	319	256	1,100	448	50	35	26	19
29	30	52	*1,130	67	-	218	1,060	510	45	32	27	19
30	367	b44	651	b63	-	179	974	564	40	30	27	20
31	143	-	371	b60	-	147	-	576	-	28	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	598.5	367	0.8	19.3	1,190
November.....	1,730	147	32	57.7	3,430
December.....	5,170	1,130	33	167	10,250
Calendar year 1945.....	71,324.3	2,060	.8	195	141,300
January.....	2,869	254	60	92.5	5,690
February.....	1,799	319	43	64.2	3,570
March.....	5,554	310	98	179	11,020
April.....	17,865	1,220	107	596	35,430
May.....	26,198	1,240	437	845	51,960
June.....	6,979	598	40	233	13,840
July.....	1,945	98	26	62.7	3,860
August.....	781	30	20	25.2	1,550
September.....	640	27	19	21.3	1,270
Water year 1945-46.....	72,126.5	1,240	.8	198	143,100

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

South Fork Yuba River near Washington, Calif.

Location.- Water-stage, lat. 39°22', long. 120°46', in sec. 8, T. 17 N., R. 11 E., 1 mile downstream from Canyon Creek and 1.7 miles east of Washington. Altitude of gage, about 2,750 feet (from topographic map).

Drainage area.- 198 square miles.

Records available.- March 1942 to September 1946.

Extremes.- Maximum discharge during year, 4,090 second-feet May 20 (gage height, 8.00 feet); minimum, 17 second-feet Oct. 1, 2, 6, 7, 1942-46; Maximum discharge, 20,300 second-feet Jan. 21, 1943 (gage height, 13.8 feet), from rating curve extended above 6,600 second-feet by logarithmic plotting; minimum observed, 17 second-feet Aug. 18, 23, 25-27, 1942; Sept. 19, 28-30, Oct. 1, 2, 6, 7, 1945.

Remarks.- Records good. Diversion for power and irrigation above station. Flow regulated by Lake Spaulding (capacity, 70,500 acre-feet), Bowman Lake (see p. 348), and by many smaller reservoirs.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)
(Shifting-control method used Oct. 1-29,
Aug. 14 to Sept. 30)

0.5	15	1.6	77	3.5	416	5.5	1,350
.8	24	2.0	120	4.0	595	6.0	1,710
1.0	33	2.5	190	4.5	805	6.8	2,470
1.3	52	3.0	286	5.0	1,060	7.6	3,500

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	115	112	760	266	195	290	1,900	230	51	26	20
2	17	60	94	611	268	180	260	1,900	376	75	26	19
3	18	45	85	579	277	152	273	2,070	1,270	41	24	19
4	18	39	119	507	266	140	299	2,120	1,350	26	24	20
5	18	36	154	507	264	147	306	1,890	1,290	24	24	20
6	17	38	130	a400	268	156	295	2,130	841	24	23	19
7	18	43	141	a340	284	163	395	2,190	706	24	24	20
8	19	40	128	a300	273	163	493	1,550	526	24	22	20
9	20	45	106	a275	273	170	533	1,140	595	23	22	20
10	23	112	157	a250	273	185	432	1,460	506	23	22	20
11	38	120	176	a225	268	176	422	1,450	147	23	22	20
12	24	104	203	a200	262	247	340	1,480	154	23	22	19
13	21	106	193	a180	254	493	332	1,580	142	23	22	19
14	20	85	188	a165	258	327	322	1,630	146	23	22	20
15	21	140	157	153	258	295	337	1,630	208	22	22	20
16	22	158	115	147	250	279	375	906	290	22	22	28
17	22	252	110	149	248	271	369	520	277	22	22	23
18	21	140	108	304	250	277	335	1,200	240	22	22	21
19	20	160	142	301	254	295	348	2,280	213	22	22	21
20	20	157	206	295	277	297	327	2,590	147	21	22	20
21	20	112	1,400	290	364	284	260	2,650	132	23	21	20
22	20	96	1,760	286	330	282	1,260	1,680	104	24	20	20
23	20	67	955	284	310	268	1,880	968	94	22	21	20
24	39	149	707	284	318	258	2,240	611	62	22	20	21
25	26	249	1,060	288	284	256	2,520	707	44	28	20	21
26	19	142	905	282	152	277	2,540	1,480	32	33	20	21
27	19	113	970	277	241	299	2,240	1,330	30	27	20	20
28	18	123	1,590	277	264	360	2,280	1,070	28	26	20	20
29	60	224	3,390	273	-	348	2,270	1,100	27	26	20	20
30	292	143	2,080	273	-	313	2,060	1,160	34	26	20	20
31	413	-	1,120	271	-	308	-	1,030	-	25	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,560	413	17	43.9	2,700
November.....	3,430	252	36	114	6,800
December.....	18,758	3,390	83	605	37,210
Calendar year 1945.....	108,363	3,390	17	297	214,900
January.....	9,733	760	147	314	19,310
February.....	7,554	364	152	270	14,980
March.....	7,861	493	140	254	15,590
April.....	26,613	2,540	260	887	52,790
May.....	47,382	2,850	520	1,528	93,980
June.....	10,271	1,360	27	342	20,370
July.....	840	75	21	27.1	1,670
August.....	679	28	20	21.9	1,350
September.....	611	28	19	20.4	1,210
Water year 1945-46.....	135,092	3,390	17	370	268,000

a No gage-height record; discharge computed on basis of recorded range in stage and records for stations on nearby streams.

South Fork Yuba River at Jones Bar, Calif.

Location.- Water-stage recorder, lat. 39°18', long. 121°07', near center of west side of sec. 32, T. 17 N., R. 8 E., at Jones Bar Bridge, 250 feet upstream from Rush Creek and 5 miles northwest of Nevada City. Altitude of gage, about 1,050 feet (from topographic map).

Drainage area.- 340 square miles.

Records available.- October 1940 to September 1946.

Extremes.- Maximum discharge during year, 7,660 second-feet Dec. 22 (gage height, 12.37 feet); minimum, 3.3 second-feet Oct. 1.

1940-46: Maximum discharge, 16,500 second-feet Jan. 22, 1943 (gage height, 17.60 feet); minimum, 1.0 second-foot Sept. 10-13, 1944.

Remarks.- Records good except those for periods of no gage-height record, which are fair.

Storage and diversion above station for power and irrigation. See "Remarks" for South Fork Yuba River near Washington.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 3

Dec. 4 to Sept. 30

1.8	3.5	2.7	72
1.9	7.0	3.0	121
2.0	11	3.4	202
2.1	16	3.8	302
2.3	29	4.2	416
2.5	48	4.9	650

1.9	6.5	2.4	37	3.8	290	7.0	1,560
2.0	10	2.5	47	4.2	394	8.0	2,300
2.1	15	2.7	72	4.8	572	9.0	3,200
2.2	21	3.0	121	5.4	780	10.0	4,300
2.3	28	3.4	200	6.0	1,020	10.7	5,230

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	347	250	1,800	439	459	832	2,180	400	51	22	8.6
2	3.5	142	204	1,300	450	419	726	2,180	500	74	22	8.2
3	3.5	98	176	1,300	465	388	698	2,320	1,500	80	20	7.9
4	3.5	78	317	1,400	447	353	719	2,430	1,600	45	19	8.2
5	3.5	68	616	1,500	425	350	715	2,290	1,500	35	17	8.6
6	3.5	66	436	1,300	442	350	694	2,370	1,100	35	16	9.0
7	3.5	69	353	1,100	513	353	740	2,500	800	34	16	7.6
8	4.2	72	324	950	465	348	798	2,020	650	34	16	9.3
9	9.8	71	259	800	459	340	872	1,400	700	32	15	9.3
10	10	150	264	700	459	358	812	1,600	600	29	14	9.3
11	34	271	276	600	453	361	623	1,600	300	28	13	9.3
12	36	198	319	550	430	361	664	1,600	250	27	13	9.0
13	20	209	295	500	419	1,020	667	1,700	250	26	11	8.6
14	16	158	285	463	425	674	640	1,800	250	26	11	8.6
15	15	201	280	459	436	566	643	1,900	280	26	12	9.0
16	24	330	211	436	425	534	674	1,200	327	24	12	17
17	18	618	202	416	414	516	674	750	335	23	12	30
18	16	338	196	516	422	519	677	1,400	290	22	12	18
19	15	248	192	556	439	569	626	2,500	250	21	12	14
20	14	327	278	546	489	643	626	2,700	220	20	12	14
21	14	221	2,860	528	719	620	569	2,900	180	20	11	14
22	14	180	4,920	516	671	599	1,260	2,200	150	21	10	13
23	13	160	2,890	504	589	569	2,130	1,300	130	22	9.0	12
24	12	168	2,020	498	579	540	2,540	800	110	19	9.3	12
25	30	584	3,120	498	566	519	2,810	900	80	22	9.0	12
26	18	316	2,570	489	414	519	2,910	1,600	59	44	8.2	12
27	13	231	2,760	474	428	531	2,540	1,500	52	34	7.6	12
28	12	258	3,460	468	603	634	2,540	1,200	49	27	8.2	12
29	16	594	5,150	459	-	960	2,600	1,250	45	25	8.2	12
30	504	341	3,570	444	-	989	2,400	1,300	45	23	7.9	12
31	711	-	2,400	442	-	864	-	1,200	-	22	8.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,613.3	711	3.3	52.0	3,200
November.....	7,112	618	66	14,110	
December.....	41,453	5,150	176	1,337	82,220
Calendar year 1945	180,482.0	5,390	3.3	494	358,000
January.....	22,532	1,800	416	727	44,690
February.....	13,485	719	414	482	26,750
March.....	16,845	1,020	340	545	35,410
April.....	36,419	2,910	569	1,214	72,240
May.....	54,490	2,900	750	1,758	108,100
June.....	13,002	1,600	45	433	25,790
July.....	971	80	19	31.3	1,930
August.....	394.0	22	7.6	12.7	781
September.....	346.5	30	7.6	11.6	687
Water year 1945-46	208,662.8	5,150	3.3	572	413,900

Peak discharge.- Dec. 22 (4 a.m.) 7,660 sec.-ft.; Dec. 29 (11 a.m.) 5,550 sec.-ft.

Note.- No gage-height record Dec. 31 to Jan. 13, May 9 to June 15, June 18-25, Sept. 28-30; discharge computed on basis of records for South Fork Yuba River near Washington and Middle Fork Yuba River above Oregon Creek.

FEATHER RIVER BASIN

Bowman Lake near Graniteville, Calif.

Location.- Staff gage, lat. 39°27', long. 120°39', in SW¹ sec. 5, T. 18 N., R. 12 E., at Bowman Dam on Canyon Creek, 4 miles east of Graniteville. Datum of gage is 5,000.0 feet above mean sea level (levels by Nevada Irrigation District); gage readings have been reduced to elevations above mean sea level.

Drainage area.- 30 square miles.

Records available.- December 1926 to September 1946.

Extremes.- Maximum contents observed during year, 70,400 acre-feet June 15, 16 (elevation, 5,565.8 feet); minimum observed, 14,700 acre-feet Apr. 12 (elevation, 5,481.2 feet). 1926-46: Maximum contents observed, 70,500 acre-feet June 16, 17, 1937, June 1, 1943 (elevation, 5,565.9 feet); contents less than 1,000 acre-feet and, therefore, doubtful, at times during 1926, 1928-31, 1933-35, 1937, 1939, 1944.

Remarks.- Lake is formed by one rock-fill and one concrete-arch dam; completed and storage began in November 1926. Usable capacity, 68,200 acre-feet between elevations 5,400 feet (bottom of outlet tunnel) and 5,565 feet (crest of concrete-arch dam) above mean sea level. Flashboards are occasionally added, increasing elevation to 5,564.5 feet and capacity to 69,400 acre-feet. Lake receives water from Middle Fork Yuba River through Milton-Bowman tunnel (see p. 341), and releases it through Bowman-Spaulding Canal (see p. 350) which conveys it to reservoirs of Pacific Gas & Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Record of daily contents, computed from gage readings made at odd times, shows total contents, all of which is available for release.

Cooperation.- Record of daily gage heights furnished by Nevada Irrigation District.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46,200	36,400	29,000	28,800	26,500	18,600	-	38,500	67,400	70,200	-	-
2	-	36,100	28,800	29,300	-	18,400	-	-	68,200	70,300	61,000	47,400
3	45,300	36,000	28,500	-	-	18,400	-	41,800	68,800	70,100	60,600	46,900
4	44,800	35,700	-	-	-	18,200	-	43,900	68,700	-	60,200	46,300
5	-	35,400	-	-	-	-	-	45,600	68,700	69,500	59,600	-
6	-	-	-	30,000	-	17,900	-	47,400	68,700	-	59,200	45,500
7	43,500	35,200	27,100	30,000	-	17,700	-	49,400	68,500	68,800	59,200	45,000
8	-	34,900	26,700	-	-	17,600	-	51,100	68,500	68,600	-	-
9	42,700	34,600	26,400	30,000	24,000	-	15,300	52,800	68,500	-	57,800	44,200
10	-	-	26,000	-	-	-	14,800	54,200	68,200	67,900	-	43,900
11	42,100	-	25,600	-	23,200	-	-	56,000	68,800	67,700	-	-
12	-	34,100	25,100	-	-	-	14,700	57,400	69,400	67,500	56,400	-
13	40,700	33,700	-	-	22,700	-	14,800	59,100	69,800	67,200	-	43,000
14	40,600	33,500	24,300	29,400	22,400	-	15,000	60,700	70,200	-	55,600	-
15	-	-	24,000	-	-	-	15,200	-	70,400	66,500	-	-
16	39,600	-	-	29,500	-	-	-	63,400	70,400	-	54,600	41,800
17	39,200	-	23,000	29,300	21,400	18,100	16,400	64,600	-	65,700	-	41,300
18	-	32,600	-	29,200	-	18,000	-	65,600	70,300	-	-	40,700
19	38,200	32,500	22,400	-	-	-	18,900	66,200	70,300	64,900	53,300	-
20	-	32,300	22,000	-	-	-	20,200	66,200	70,300	64,800	-	39,700
21	37,300	-	22,100	28,800	-	-	-	66,200	70,200	64,900	52,500	-
22	-	31,800	23,200	28,700	-	17,700	22,400	65,800	70,200	64,200	52,000	-
23	36,600	31,600	-	28,400	-	17,600	24,000	65,600	70,000	64,000	51,400	38,200
24	36,500	31,200	-	-	-	17,400	25,900	65,700	70,000	63,700	50,800	37,900
25	-	-	-	28,100	-	17,200	28,100	65,800	70,000	63,400	-	-
26	36,500	30,800	-	27,900	18,900	-	30,100	66,000	69,900	63,300	50,200	-
27	-	30,500	-	27,800	18,700	17,000	-	66,200	70,000	-	49,700	-
28	36,300	30,000	25,200	27,500	18,600	16,900	33,600	66,000	70,000	62,600	49,200	36,300
29	36,000	-	26,700	-	-	-	35,300	66,000	70,200	62,400	-	35,900
30	-	29,600	27,700	27,000	-	-	36,700	65,900	70,100	62,300	-	35,800
31	36,500	-	28,400	26,800	-	16,600	-	65,900	-	61,800	46,400	-

a No gage-height record; contents interpolated.

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	5,535.4	46,600	-
Oct. 31.....	5,520.9	36,500	-10,100
Nov. 30.....	5,509.4	29,600	-6,900
Dec. 31.....	5,507.3	28,400	-1,200
Calendar year 1945....	-	-	-
Jan. 31.....	5,504.6	26,800	-1,800
Feb. 28.....	-	18,600	-8,200
Mar. 31.....	-	16,600	-2,000
Apr. 30.....	5,521.1	36,700	+20,100
May 31.....	5,580.1	65,900	+29,200
June 30.....	5,565.4	70,100	+4,200
July 31.....	5,555.0	61,800	-8,300
Aug. 31.....	5,538.0	49,400	-13,400
Sept. 30.....	5,519.6	35,800	-12,800
Water year 1945-46....	-	-	-10,800

a Contents interpolated.

Canyon Creek below Bowman Lake, Calif.

Location.- Water-stage recorder and concrete control, lat. 39°26', long. 120°40', in SE $\frac{1}{4}$ sec. 7, T. 18 N., R. 12 E., 1 mile downstream from Bowman Lake and 3 miles upstream from Texas Creek. Altitude of gage, about 5,100 feet (from topographic map).

Drainage area.- 31.7 square miles.

Records available.- January 1927 to September 1946.

Average discharge.- 19 years, 34.9 second-feet.

Extremes.- Maximum discharge during year, 1,090 second-feet (regulated) May 20 (gage height, 5.07 feet); minimum, 0.1 second-foot July 24, 1927-46; Maximum discharge, 2,030 second-feet June 1, 1943 (gage height, 5.84 feet). foot); maximum gage height, 5.98 feet June 6, 1936; no flow at times when there is no leakage from dams above station.

Remarks.- Records good. Storage in Bowman Lake (see p. 348) and diversion into Bowman-Spaulding Canal (see p. 350). Bowman Lake receives water from Middle Fork Yuba River through Milton-Bowman tunnel (see p. 341).

Cooperation.- Water-stage recorder graph furnished by Nevada Irrigation District.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)
(Shifting-control method used May 19 to June 5)

1.0	0.05	1.7	7.8	2.4	76	3.8	435
1.1	.7	1.8	10	2.7	128	4.0	520
1.3	2.7	1.9	17	3.0	194	4.3	665
1.5	4.9	2.0	26	3.4	302	4.6	835
1.6	6.2	2.2	49	3.6	360	4.8	960

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	2.1	1.3	2.2	0.9	2.4	1.7	3.5	27	26	2.9	0.4
2	.2	1.3	1.1	2.5	1.0	2.1	1.6	4.0	129	44	2.9	.4
3	.2	.9	.9	2.8	1.0	1.9	1.6	4.8	496	4.3	2.9	.4
4	.2	.7	.9	2.1	1.0	1.4	1.8	4.3	590	1.3	2.8	.4
5	.2	.6	1.2	2.3	.9	1.4	2.1	8.8	580	1.1	2.8	.6
6	.3	.6	1.2	1.6	.9	2.2	31	8.8	524	1.1	2.7	3.6
7	.3	.6	1.6	1.5	.9	2.6	180	12	399	.8	2.0	2.9
8	.3	.6	1.4	1.4	.9	2.7	212	12	333	.6	.5	2.7
9	.4	.7	1.1	1.3	.8	2.9	233	13	498	.4	.4	2.7
10	.4	2.4	1.0	1.3	.8	2.8	121	11	248	.4	.4	2.7
11	.6	1.7	1.0	1.3	.8	2.3	2.9	21	43	.4	.4	2.7
12	.4	1.8	1.0	1.2	.8	3.8	4.2	17	54	.4	.4	2.6
13	.4	1.8	.9	1.2	.8	3.4	3.7	29	69	.4	3.1	2.6
14	.4	2.1	.8	1.2	.8	2.1	3.9	22	82	.4	3.4	2.5
15	.4	2.6	.8	1.2	.9	1.8	4.7	24	177	.4	3.4	2.5
16	.4	1.9	.7	1.2	.8	1.8	5.2	21	236	.3	3.4	2.9
17	.4	1.9	.7	1.2	.8	1.8	5.4	165	210	.3	3.4	2.7
18	.4	1.7	.7	1.2	.8	1.9	4.2	443	187	.3	3.4	2.7
19	.4	3.6	.6	1.1	.8	1.9	3.9	709	134	.3	3.4	2.8
20	.3	2.8	.9	1.0	.8	1.8	3.7	718	87	.3	2.4	2.8
21	.3	2.1	30	.9	1.0	1.7	3.9	934	65	.2	.6	2.8
22	.3	1.9	15	.9	1.2	1.6	3.6	742	54	.2	.5	2.8
23	.4	1.7	4.1	1.0	1.2	1.5	3.7	552	48	.2	.5	2.8
24	.4	2.0	2.7	1.2	1.4	1.5	3.8	487	25	.8	.5	2.7
25	.4	2.0	4.9	1.5	1.5	2.0	4.2	502	3.6	6.3	.4	2.7
26	.9	1.6	4.2	1.2	1.2	2.7	3.2	630	2.5	2.7	.4	2.7
27	1.5	1.5	6.7	1.1	5.2	2.8	2.7	682	2.0	3.1	.4	2.7
28	1.6	1.4	35	1.1	3.6	2.6	2.7	610	.4	3.1	.4	2.7
29	5.4	1.5	10	1.1	-	2.6	2.5	547	5.0	3.0	.4	2.7
30	11	1.5	3.6	1.0	-	2.2	2.3	502	5.0	5.0	.4	2.6
31	10	-	2.6	.9	-	1.7	-	246	-	2.9	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	37.0	11	0.2	1.19	73
November.....	49.6	3.6	.6	1.65	98
December.....	138.6	35	.6	4.47	275
Calendar year 1945	12,012.8	781	.1	32.9	23,870
January.....	42.7	2.8	.9	1.38	85
February.....	33.5	5.2	.8	1.20	66
March.....	67.9	3.8	1.4	2.19	135
April.....	860.2	233	1.6	28.7	1,710
May.....	8,665.2	934	3.5	280	17,190
June.....	5,313.5	590	.4	177	10,540
July.....	109.0	44	.2	3.52	216
August.....	51.9	3.4	.4	1.67	103
September.....	70.8	3.6	.4	2.36	140
Water year 1945-46	15,439.9	934	.2	42.3	30,630

FEATHER RIVER BASIN

Bowman-Spaulding Canal at intake, Calif.

Location.- Water-stage recorder, lat. 39°27', long. 120°39', in sec. 8, T. 18 N., R. 12 E., 150 feet downstream from intake and 0.2 mile downstream from Bowman Dam. Altitude of gage, about 5,400 feet (from topographic map).

Records available.- October 1927 to September 1946.

Average discharge.- 19 years, 145 second-feet.

Extremes.- Maximum daily discharge during year, 246 second-feet Sept. 1; no flow many days during April, May, June, July.

1927-46: Maximum daily discharge, 262 second-feet Aug. 2-9, 29, 10-13, 1928; no flow at times during each year except 1943, 1944, 1945.

Remarks.- Records excellent except those for periods of doubtful or no gage-height record, which are fair. Canal diverts from left bank of Canyon Creek below Bowman Lake. Water is delivered to Lake Spaulding and, after passing through several powerhouses, is used for irrigation in Nevada irrigation district.

Cooperation.- Water-stage recorder graph and several discharge measurements furnished by Nevada Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.
1		230	205	228	159	222	221	202	8.2	0	237	246
2		231	226	228	165	222	222	208	a3	0	56	238
3		231	228	227	169	222	212	a7	.4	235	237	244
4		230	229	227	184	222	225	211	3.6	1.4	235	236
5		230	230	228	179	222	230	222	.3	0	237	236
6		230	231	227	185	226	233	204	1.2	0	240	236
7		230	233	224	194	225	228	202	.2	0	240	236
8		230	232	225	202	225	214	219	.2	0	240	236
9		231	232	227	210	d226	214	225	.2	0	241	236
10		232	232	227	212	d228	206	210	2.6	0	241	236
11		231	232	228	221	229	206	218	.2	0	238	237
12		230	232	230	222	d230	181	210	.1	0	236	237
13		230	232	230	221	d230	160	189	0	0	239	237
14		230	222	230	221	d230	195	177	0	0	239	238
15		230	226	230	221	231	206	146	0	0	239	239
16		231	229	229	221	229	209	95	0	0	238	240
17		231	226	229	221	229	213	57	0	0	239	240
18		231	226	230	220	229	206	1.7	0	0	238	240
19		230	226	230	220	230	206	1.7	0	18	238	241
20		229	224	229	219	232	223	.8	0	58	236	243
21		230	224	79	222	235	223	4.2	0	182	240	245
22		229	223	48	222	235	223	5.1	0	115	240	244
23		229	224	141	222	233	222	0	0	131	240	242
24		a50	226	177	219	232	227	6.3	0	100	239	240
25		a1.0	225	170	214	231	228	9.6	0	128	234	240
26		.9	225	165	213	233	212	6.3	0	62	237	241
27		.6	227	178	212	225	203	9.8	0	25	236	241
28		57	229	77	214	213	210	6.9	0	25	239	241
29		188	228	11	223	-	198	9.4	0	70	240	240
30		167	228	46	223	-	194	12	0	124	237	240
31		178	-	110	222	-	195	-	0	-	239	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,938.5	232	0.6	192	11,780
November.....	6,811	233	205	227	13,510
December.....	5,765	230	11	186	11,430
Calendar year 1945.....	59,166.8	236	.1	162	117,400
January.....	6,472	223	159	209	12,840
February.....	6,376	235	213	228	12,650
March.....	6,565	233	160	211	13,000
April.....	3,280.8	225	.8	109	6,510
May.....	26.8	8.2	0	.86	53
June.....	1,039.8	182	0	34.7	2,060
July.....	6,968	241	0	225	13,820
August.....	7,413	245	236	239	14,700
September.....	7,200	246	236	240	14,280
Water year 1945-46.....	63,845.9	246	0	175	126,600

a No gage-height record; discharge estimated.

d Doubtful gage-height record; discharge interpolated.

Deer Creek near Smartville, Calif.

Location. - Water-stage recorder, lat. 39°13'20", long. 121°16'00", in sec. 23, T. 16 N., R. 8 E., 1 mile upstream from mouth and 2 miles northeast of Smartville. Altitude of gage, about 500 feet (from topographic map).
Drainage area. - 83.5 square miles.

Records available. - June 1935 to September 1946.

Average discharge. - 11 years, 166 second-feet.

Extremes. - Maximum discharge during year, 5,030 second-feet Dec. 21 (gage height, 9.57 feet); minimum 1.8 second-feet Oct. 2.

1935-46: Maximum discharge, 11,300 second-feet Mar. 9, 1943 (gage height, 13.62 feet), from rating curve extended above 5,200 second-feet by logarithmic plotting; minimum, 0.1 second-foot Aug. 4-6, 15, 1940.

Remarks. - Records good except those for period of no gage-height record, which are poor.

Storage and diversions above station: maximum amount diverted, about 40 second-feet. At times water from South Fork Yuba River is diverted into Deer Creek above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 28						Mar. 29 to Sept. 30					
1.2	1.5	2.0	43	5.0	790	1.2	3.0	1.5	10	1.8	28
1.3	2.5	2.4	91	5.5	1,050	1.3	4.6	1.6	14	2.0	46
1.4	4.0	2.8	146	6.0	1,380	1.4	7.0	1.7	20	2.4	91
1.5	6.3	3.2	218	7.0	2,240						
1.6	9.6	3.5	310	7.6	2,840						
1.7	15	4.0	415								
1.8	23	4.5	580								

Note. - Same as preceding table above 2.4 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	91	a80	503	146	227	313	78	52	4.0	5.6	3.8
2	2.1	43	a60	558	189	214	242	64	45	6.3	4.3	3.3
3	2.2	32	a45	634	214	208	204	57	43	7.3	4.0	3.2
4	2.4	26	a100	920	182	202	191	51	42	7.9	4.3	3.3
5	2.3	23	a230	676	162	194	180	43	41	7.3	4.6	3.2
6	2.4	24	a190	503	217	187	167	40	41	5.8	4.8	3.2
7	2.5	36	152	454	359	184	157	34	42	6.5	5.1	3.5
8	3.0	173	173	402	216	176	152	33	38	7.9	4.8	3.5
9	2.6	136	138	362	185	173	156	27	37	7.0	3.8	3.5
10	2.5	149	104	333	180	171	144	24	39	7.6	3.8	3.8
11	3.0	134	60	308	194	175	136	24	41	7.0	3.5	3.6
12	3.6	101	47	288	162	178	136	25	36	6.8	2.3	3.5
13	3.8	68	43	269	157	166	142	28	34	7.0	2.3	3.3
14	3.1	52	34	251	154	258	136	32	35	5.1	6.3	3.5
15	3.1	67	32	236	156	191	127	38	35	5.3	6.3	3.5
16	3.7	88	59	222	154	167	121	39	31	7.0	6.3	5.1
17	5.6	180	90	212	151	152	109	52	32	7.0	6.5	8.2
18	7.3	54	99	204	149	146	98	52	32	5.8	7.0	7.6
19	7.6	42	96	200	160	160	79	36	28	5.8	5.8	5.3
20	7.0	39	48	202	193	289	79	34	19	6.0	3.0	4.1
21	6.6	29	1,920	189	365	251	79	32	18	6.0	2.8	4.4
22	7.0	25	2,760	184	295	189	72	43	14	5.3	2.9	4.3
23	6.6	51	1,470	176	231	169	69	55	14	4.0	3.0	6.0
24	5.4	181	1,060	175	227	154	66	54	14	4.4	3.2	7.0
25	5.2	263	2,270	171	222	146	69	53	12	6.5	3.0	6.5
26	6.3	a120	1,450	166	204	138	83	74	11	7.3	2.8	5.8
27	7.0	a50	1,910	160	225	136	75	65	11	6.5	3.5	6.5
28	7.6	a80	2,000	157	240	210	83	60	10	6.5	4.1	6.5
29	11	a260	1,860	154	-	1,080	67	63	3.5	6.8	5.1	5.3
30	166	a150	865	151	-	879	89	56	3.0	7.3	5.6	6.0
31	217	-	620	149	-	391	-	53	-	6.8	4.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	517.6	217	2.1	16.7	1,030
November.....	2,757	263	32	91.9	5,470
December.....	19,865	2,760	32	641	39,400
Calendar year 1945.....	67,871.8	3,350	-	186	134,600
January.....	9,549	920	149	308	18,940
February.....	5,690	365	146	203	11,270
March.....	7,961	1,080	136	257	15,790
April.....	3,821	313	66	127	7,580
May.....	1,420	78	24	45.8	2,820
June.....	853.5	52	3.0	28.4	1,690
July.....	197.8	7.9	4.0	6.38	392
August.....	134.7	7.0	2.3	4.35	267
September.....	140.3	8.2	3.2	4.68	278
Water year 1945-46.....	52,896.9	2,760	2.1	145	104,900

Peak discharge. - Dec. 21 (6 p.m.) 5,030 sec.-ft.; Dec. 25 (4 a.m.) 2,720 sec.-ft.; Dec. 28 (10 p.m.) 2,730 sec.-ft.

a No gage-height record; discharge computed on basis of records for South Fork Yuba River at Jones Bar and Oregon Creek near North San Juan.

FEATHER RIVER BASIN

Bear River near Auburn, Calif.

Location.- Water-stage recorder, lat. 39°01', long. 121°05', near south line of sec. 33, T. 14 N., R. 8 E., 300 feet upstream from bridge on State Highway 49, 3.5 miles upstream from Wolf Creek, and 8 miles north of Auburn. Altitude of gage, about 1,300 feet (from topographic map). Prior to July 14, 1946, at datum 3.40 feet higher.

Drainage area.- 140 square miles.

Records available.- December 1940 to September 1946 in reports of Geological Survey, 1922, 1925-28, 1929-33, incomplete (gage heights for high-water periods only), in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 7,210 second-feet Dec. 22 (gage height, 7.93 feet); minimum, 0.5 second-foot (regulated) July 14.
1940-46: Maximum discharge, 20,600 second-feet Jan. 21, 1943 (gage height, 13.05 feet), from rating curve extended above 5,000 second-feet by logarithmic plotting and on basis of computed flow over Combie Dam, 3 miles above station; minimum, that of July, 14 1946.

Remarks.- Records good except those for period of doubtful gage-height record, which are poor. River receives inflow from Yuba River Basin above station; storage and diversion above station for irrigation and power development.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.5	9.8	472	1,170	665	789	1,190	333	260	4.8	1.3	2.0
2	6.8	11	385	1,020	650	696	1,150	356	262	3.0	1.5	2.5
3	7.4	100	176	1,180	680	650	1,070	309	296	2.5	1.6	2.8
4	8.1	514	158	1,480	645	610	1,020	347	275	2.2	2.0	2.6
5	8.6	468	290	1,880	615	660	998	410	272	2.1	2.3	2.0
6	9.0	382	338	1,410	640	512	959	211	278	2.1	2.6	2.2
7	9.0	19	320	1,220	778	630	890	416	255	2.0	3.0	1.9
8	9.0	9.4	302	1,150	767	640	806	432	242	2.0	2.2	2.1
9	9.0	9.8	250	1,040	712	605	690	420	272	2.0	2.0	2.3
10	9.0	72	94	959	701	448	586	399	268	2.0	6.2	2.5
11	9.0	170	135	860	718	402	572	344	275	1.2	6.8	3.5
12	9.0	72	112	830	685	436	545	332	252	1.0	5.4	5.7
13	9.0	74	24	706	665	1,230	545	332	198	.8	7.3	5.1
14	8.6	56	30	696	680	1,020	504	337	164	.6	4.0	5.7
15	9.0	55	80	756	650	824	468	323	116	.6	4.3	5.7
16	9.0	170	128	723	650	784	492	392	87	.7	2.8	6.8
17	9.4	232	151	696	615	685	595	317	25	.8	3.8	5.7
18	10	137	128	665	545	474	308	59		.8	4.3	5.7
19	11	74	148	806	680	410	275	305	32	.8	6.0	5.7
20	11	52	185	812	701	558	272	305	36	1.0	4.3	5.7
21	9.4	26	815	812	818	527	272	302	50	1.0	4.6	5.7
22	10	21	5,360	784	890	476	195	299	21	1.2	4.3	6.0
23	9.4	13	2,980	767	615	456	124	317	12	1.4	3.8	6.0
24	9.8	20	2,100	750	586	368	119	311	3.3	1.4	4.0	6.2
25	9.0	223	3,370	754	772	350	85	323	2.8	1.8	5.7	6.5
26	8.6	104	3,460	696	723	388	206	428	2.8	2.0	2.2	6.8
27	7.4	68	3,180	690	718	310	308	382	2.6	2.0	2.6	6.8
28	7.1	14	3,870	706	684	347	326	332	2.8	2.0	2.8	6.8
29	9.8	25	3,670	685	-	1,330	281	320	3.0	1.9	5.2	6.2
30	13	130	2,130	680	-	1,770	329	357	26	1.4	5.8	6.2
31	16	-	1,480	665	-	1,320	-	296	-	1.2	1.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	286.9	16	6.5	9.25	569
November	3,337.0	514	9.4	111	6,620
December	36,301	5,360	24	1,171	72,000
Calendar year 1945	139,335.0	5,860	2.0	382	276,400
January	28,135	1,880	665	908	55,800
February	19,528	890	615	697	38,730
March	20,596	1,770	310	664	40,850
April	16,346	1,190	85	545	32,420
May	10,615	432	211	342	21,050
June	4,050.3	296	2.8	135	8,030
July	50.4	4.8	.6	1.63	100
August	116.5	7.3	1.3	3.76	231
September	141.4	6.8	1.9	4.71	280
Water year 1945-46	139,503.5	5,360	.6	382	276,700

Peak discharge.- Dec. 22 (6 a.m.) 7,210 sec.-ft.; Dec. 25 (12 p.m.) 4,010 sec.-ft.; Dec. 29 (3 a.m.) 4,580 sec.-ft.

Note.- Doubtful gage-height record Nov. 17 to Dec. 8; discharge computed on basis of graph corrected according to outside-staff-gage readings.

Bear River near Wheatland, Calif.

Location.- Water-stage recorder, lat. 39°00', long. 121°25', in sec. 3, T. 13-N., R. 6 E., on downstream side of bridge on U. S. Highway 99E, 1 mile southeast of Wheatland and 6.5 miles downstream from Rock Creek. Altitude of gage, about 85 feet (from topographic map).

Drainage area.- 295 square miles.

Records available.- October 1928 to September 1946.

Average discharge.- 17 years (1929-46), 438 second-feet.

Extremes.- Maximum discharge during year, 12,400 second-feet Dec. 22 (gage height, 14.73 feet); minimum, 0.8 second-foot (regulated) July 16.

1928-46: Maximum discharge, 31,300 second-feet Jan. 21, 1943 (gage height, 16.95 feet, site and datum then in use), of which 25,600 second-feet was in main channel and 5,700 second-feet through levee break 0.5 mile upstream (determined by contracted-opening method and other data); no flow May 8, Sept. 18-25, 1939.

Remarks.- Records good. River receives inflow from Yuba River Basin above gage; storage and many diversions above station for irrigation and power development.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	134	500	1,630	767	932	1,570	323	312	18	7.3	6.3
2	47	77	470	1,380	772	860	1,360	347	280	15	5.7	5.0
3	47	66	303	1,580	932	772	1,210	327	280	14	5.3	2.2
4	49	495	258	2,270	878	750	1,140	339	275	15	5.3	1.7
5	49	535	1,070	2,750	800	745	1,080	355	270	13	4.7	2.0
6	49	475	700	2,090	812	679	1,020	375	266	16	6.6	3.9
7	57	189	515	1,590	1,140	696	974	347	262	19	5.0	5.3
8	108	64	465	1,500	1,060	734	878	395	252	18	7.0	7.0
9	102	55	376	1,270	956	740	800	391	252	15	4.7	6.6
10	95	110	178	1,150	908	615	690	379	252	11	3.6	5.3
11	80	287	165	1,080	938	520	652	339	273	8.0	3.3	2.8
12	64	166	192	1,020	890	515	625	339	248	6.0	3.9	3.0
13	51	187	81	938	848	1,580	605	315	230	3.9	3.6	3.3
14	33	134	70	866	830	1,230	570	335	178	6.0	2.8	1.4
15	33	102	70	914	806	968	432	323	121	10	2.5	1.2
16	29	254	144	884	789	872	211	347	74	5.7	3.6	2.0
17	30	624	144	860	772	812	54	339	47	6.6	3.9	1.5
18	25	422	144	872	772	570	37	298	28	10	3.3	1.2
19	20	138	138	932	778	515	68	298	21	7.3	4.7	1.2
20	20	185	184	938	836	789	247	298	15	8.7	7.0	1.0
21	20	136	1,660	920	950	884	308	294	21	12	3.3	1.7
22	22	102	9,630	896	1,110	706	298	294	19	9.6	4.7	1.7
23	25	76	5,830	872	824	630	180	319	19	8.3	3.3	1.7
24	22	71	3,110	866	745	570	150	331	19	10	5.0	2.0
25	22	485	5,170	830	872	505	142	331	14	13	3.0	2.2
26	19	292	4,780	824	860	490	117	472	13	11	2.8	2.5
27	17	195	4,480	806	824	490	270	444	14	9.1	2.8	2.8
28	17	118	5,640	800	1,000	440	335	391	13	7.3	3.0	2.2
29	20	618	5,460	789	-	2,020	290	355	14	7.3	3.0	2.5
30	141	168	3,040	778	-	3,220	304	363	20	6.0	3.3	8.2
31	250	-	2,030	784	-	2,010	-	331	-	7.0	4.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,611	250	17	52.0	3,200
November.....	6,958	624	55	232	13,800
December.....	56,997	9,630	70	1,839	113,100
Calendar year 1945.....	200,325.9	9,630	6.7	549	397,400
January.....	35,779	2,750	778	1,154	70,970
February.....	24,469	1,140	745	874	48,530
March.....	27,859	3,220	440	899	55,260
April.....	16,597	1,570	34	553	32,920
May.....	10,734	472	294	346	21,290
June.....	4,100	312	13	137	8,130
July.....	326.8	19	3.9	10.5	648
August.....	130.4	7.3	2.5	4.21	259
September.....	91.4	8.2	1.0	3.05	181
Water year 1945-46.....	185,652.6	9,630	1.0	509	368,300

Peak discharge.- Dec. 5 (6 p.m.) 1,220 sec.-ft.; Dec. 22 (8 a.m.) 12,400 sec.-ft.; Dec. 26 (1 a.m.) 5,620 sec.-ft.; Dec. 29 (3 a.m.) 6,770 sec.-ft.; Jan. 4 (8 p.m.) 3,390 sec.-ft.; Mar. 30 (3 a.m.) 4,210 sec.-ft.

FEATHER RIVER BASIN

Bear River Canal near Colfax, Calif.

Location.- Water-stage recorder, lat. 39°08', long. 120°57', in SE $\frac{1}{4}$ sec. 22, T. 15 N., R. 9 E., about 500 feet downstream from diversion dam on Bear River and 2 miles north of Colfax. Altitude of gage, about 1,980 feet (from topographic map). Prior to Mar. 25, 1946, at site 1.5 miles downstream.

Records available.- January 1912 to September 1946.

Average discharge.- 32 years (1914-46), 246 second-feet.

Extremes.- Maximum daily discharge during year, 489 second-feet July 9; no flow many days December to April.

1912-46: Maximum daily discharge recorded, 498 second-feet May 11, 1945; no flow at times.

Remarks.- Canal diverts from left bank of Bear River in sec. 22, T. 15 N., R. 9 E. Water is first used to develop power at Halsey and Wise powerhouses; part of it is then distributed for irrigation and part is eventually spilled into North Fork American River.

Cooperation.- Records of daily discharge furnished by Pacific Gas & Electric Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	412	409	441	130	0	0	50	308	306	423	410	480
2	437	377	353	95	35	0	1	308	303	454	409	472
3	427	290	388	43	64	0	1	308	308	458	405	436
4	425	370	372	0	64	0	1	306	314	394	409	436
5	328	353	368	0	66	0	1	308	307	441	407	435
6	328	370	437	0	48	0	0	300	306	462	410	402
7	266	411	446	0	8	0	0	308	307	384	423	422
8	338	384	452	0	0	0	34	305	307	419	428	457
9	351	396	391	0	0	0	257	306	302	489	426	483
10	403	432	395	0	0	100	325	310	305	477	481	463
11	415	449	425	0	0	252	350	306	312	473	457	467
12	390	407	432	0	0	152	353	307	309	473	432	462
13	346	425	372	0	0	100	350	302	306	475	439	465
14	318	400	314	0	0	87	355	306	309	419	439	463
15	300	380	309	0	0	56	355	304	315	416	434	468
16	9	408	309	0	0	65	348	304	347	470	435	465
17	8	449	86	0	0	135	315	304	339	476	430	472
18	50	413	9	0	0	402	303	308	337	460	431	467
19	214	413	13	0	0	400	302	306	352	466	427	471
20	302	405	15	0	0	363	306	308	355	474	439	466
21	360	392	14	0	0	400	308	306	363	476	439	472
22	371	279	0	0	38	402	309	306	407	454	437	480
23	400	346	0	0	211	400	306	306	365	461	437	486
24	398	338	0	0	209	402	305	306	424	456	432	478
25	441	442	0	0	36	439	311	308	475	483	431	468
26	390	390	90	0	0	313	302	303	467	479	444	475
27	358	359	130	0	0	412	308	304	479	475	437	450
28	283	287	75	0	0	424	308	306	440	431	441	422
29	384	433	0	0	-	250	303	306	462	439	439	377
30	441	469	0	0	-	42	304	314	427	443	437	421
31	441	-	110	0	-	114	-	306	-	421	454	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	10,334	441	8	333	20,500
November.....	11,656	469	267	389	23,120
December.....	6,746	452	0	218	15,580
Calendar year 1945.....	123,450	498	0	338	244,900
January.....	268	130	0	8.6	532
February.....	779	211	0	27.8	1,550
March.....	5,710	439	0	184	11,530
April.....	7,071	355	0	236	14,030
May.....	9,491	314	300	306	18,850
June.....	10,553	479	302	355	21,130
July.....	14,021	489	384	452	27,810
August.....	13,399	481	405	432	26,580
September.....	13,661	486	377	455	27,100
Water year 1945-46.....	103,789	489	0	284	205,900

Note.- Discharge Feb. 2 to Mar. 24 based on record at an auxiliary gage.

North Fork American River at North Fork Dam, Calif.

Location.- Water-stage recorder above spillway of North Fork Dam, lat. 38°56', long. 121°07', in SE $\frac{1}{4}$ sec. 30, T. 13 N., R. 9 E., 2 miles upstream from Middle Fork and 4 miles northeast of Auburn. Datum of gage is 715.0 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 343 square miles.

Records available.- October 1941 to September 1946.

Extremes.- Maximum discharge during year, 10,600 second-feet Dec. 29 (gage height, 5.04 feet); minimum, 28 second-feet Oct. 5.
1941-46: Maximum discharge, 42,600 second-feet Jan. 21, 1943 (gage height, 9.53 feet), from rating curve extended above 22,000 second-feet on basis of computed flow over spillway of dam; no flow Aug. 27-30, Sept. 2-11, 1944 (result of regulation).

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Some storage and a few diversions above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Backwater corrections applied Oct. 1-30, Aug. 16 to Sept. 30)

0.2	40	0.9	460	3.0	3,080
.3	75	1.3	840	3.4	4,040
.4	120	1.7	1,270	3.8	5,280
.5	175	2.1	1,740	4.2	6,760
.7	310	2.5	2,280	4.7	8,900

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	775	532	2,340	452	1,160	1,840	2,200	1,080	214	72	47
2	32	345	444	1,950	460	1,010	1,610	2,270	1,080	214	72	47
3	32	366	398	2,040	505	840	1,450	2,300	1,080	208	68	47
4	32	359	452	2,100	487	850	1,430	2,360	1,040	182	64	47
5	32	261	1,070	2,600	452	790	1,440	2,360	1,020	175	64	47
6	32	220	880	2,100	452	770	1,420	2,550	850	164	64	47
7	35	214	660	1,780	550	820	1,350	2,500	760	153	61	47
8	38	182	595	1,570	532	870	1,270	2,310	700	153	61	47
9	38	164	496	1,380	496	820	1,250	2,080	660	148	61	47
10	38	240	444	1,260	478	1,020	1,190	2,010	640	136	61	44
11	44	428	412	1,130	496	984	1,220	1,870	595	131	58	44
12	58	435	396	1,020	460	900	1,380	1,740	550	120	58	44
13	54	366	366	951	444	2,040	1,620	1,750	523	a115	58	44
14	44	358	331	880	428	1,610	1,560	1,610	505	a110	58	44
15	40	380	324	840	444	1,500	1,730	1,510	487	a105	58	44
16	44	622	324	790	436	1,150	2,060	1,620	444	a100	54	61
17	44	780	303	750	420	1,080	2,360	1,740	412	a96	54	72
18	40	577	296	720	412	1,070	2,580	1,900	388	a93	50	61
19	44	469	275	690	420	1,090	2,460	1,940	380	a90	50	50
20	40	650	275	660	460	1,180	2,240	1,860	366	a88	50	47
21	40	532	2,450	622	640	1,200	1,920	1,740	359	a85	50	47
22	38	420	7,630	595	860	1,170	1,900	1,300	338	a85	47	47
23	38	380	4,970	568	730	1,090	2,130	1,140	317	a82	47	47
24	38	380	3,310	568	700	1,030	2,420	1,070	296	a80	47	47
25	38	1,020	5,280	568	730	984	2,680	1,070	275	a80	47	47
26	38	700	4,940	559	660	1,010	2,710	1,440	261	a82	47	47
27	38	532	4,290	541	690	1,150	2,400	1,560	254	a85	47	47
28	38	436	6,760	532	1,510	1,260	2,370	1,140	247	a82	47	47
29	47	1,050	8,400	514	-	2,100	2,490	1,070	234	a78	47	44
30	1,140	700	4,680	487	-	2,640	2,310	1,050	227	75	47	44
31	1,280	-	3,100	460	-	2,200	-	1,070	-	72	47	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,568	1,280	32	115	7,070
November.....	14,291	1,050	164	476	28,350
December.....	65,073	8,400	275	2,099	129,100
Calendar year 1945	314,752	15,400	32	862	624,300
January.....	33,565	2,600	460	1,083	66,580
February.....	15,804	1,510	412	564	31,350
March.....	37,388	2,640	770	1,206	74,160
April.....	56,790	2,710	1,190	1,693	112,600
May.....	53,930	2,550	1,050	1,740	107,000
June.....	16,369	1,080	227	546	32,470
July.....	3,681	214	72	119	7,300
August.....	1,716	72	47	55.4	3,400
September.....	1,442	72	47	48.1	2,860
Water year 1945-46	303,614	8,400	32	832	602,200

Peak discharge.- Dec. 22 (5 a.m.) 9,660 sec.-ft.; Dec. 25 (8:30 p.m.) 6,190 sec.-ft.; Dec. 29 (5 a.m.) 10,600 sec.-ft.

a No gage-height record; discharge computed on basis of records for Middle Fork American River near Auburn.

North Fork American River at Rattlesnake Bridge, Calif.

Location.- Water-stage recorder, lat. 38°49', long. 121°06', in SW¹ sec. 9, T. 11 N., R. 8 E., 800 feet downstream from Rattlesnake Bridge, 3 miles downstream from Pilot Creek, and 6 miles south of Auburn. Datum of gage is 343.65 feet above mean sea level (river-profile survey).

Drainage area.- 999 square miles.

Records available.- November 1930 to September 1937, December 1938 to September 1946.

Average discharge.- 13 years (1931-37, 1939-46), 2,412 second-feet.

Extremes.- Maximum discharge during year, 27,900 second-feet Dec. 29 (gage height, 12.88 feet); minimum, 89 second-feet (regulated) Aug. 25, 27, 30, Sept. 13.

1930-46: Maximum discharge, 95,000 second-feet Jan. 21, 1943 (gage height, 26.5 feet), from rating curve extended above 27,000 second-feet; minimum, 6.5 second-feet (regulated) Aug. 15, 1931.

Remarks.- Records good except those for period of no gage-height record, which are fair. Storage, diversions, and regulation above station; low flow greatly affected by diversions into North Fork ditch and inflow from Bear and Yuba River Basins through South Canal of Pacific Gas & Electric Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	2,840	1,800	6,960	1,290	3,550	4,680	6,730	3,420	818	171	166
2	248	1,460	1,520	5,780	1,310	2,980	4,080	6,990	3,460	802	174	173
3	243	1,420	1,360	5,680	1,480	2,800	3,670	7,200	3,640	810	156	159
4	230	1,460	1,460	5,740	1,430	2,550	3,590	7,600	3,550	722	159	188
5	255	1,080	2,790	7,020	1,330	2,320	3,640	7,520	3,480	666	142	145
6	256	950	2,480	5,860	1,310	2,220	3,650	8,040	2,890	610	165	179
7	156	952	1,950	4,950	1,480	2,370	3,500	7,940	2,510	597	162	197
8	322	g1,850	4,400	1,430	2,550	3,370	7,260	2,330	571	155	147	
9	220	768	g1,650	3,840	1,330	2,760	3,470	6,630	2,240	552	187	208
10	220	942	g1,370	3,470	1,290	3,070	3,390	6,330	2,220	533	254	202
11	294	1,530	g1,270	3,120	1,360	3,210	3,430	5,700	2,040	474	178	226
12	250	1,320	g1,170	2,770	1,290	2,890	4,020	5,390	1,870	463	194	224
13	287	1,350	g1,080	2,600	1,260	5,900	4,330	5,410	1,800	452	188	213
14	253	1,230	g910	2,470	1,220	4,830	4,850	4,960	1,730	395	170	208
15	229	1,250	g840	2,360	1,200	3,860	5,250	4,710	1,660	405	176	206
16	182	2,040	g880	2,220	1,190	3,370	6,300	4,960	1,560	420	209	259
17	175	2,470	g910	2,080	1,150	3,240	7,240	5,370	1,450	430	138	305
18	168	2,050	g840	2,020	1,130	3,450	8,040	5,730	1,370	425	180	315
19	156	1,620	g780	1,940	1,170	3,570	7,800	6,010	1,350	362	161	290
20	175	2,110	g720	1,680	1,300	3,770	7,300	5,660	1,310	344	172	279
21	232	1,840	g4,860	1,780	1,640	3,640	7,240	5,590	1,330	317	160	322
22	334	1,480	g21,200	1,680	2,410	3,540	6,000	4,080	1,290	326	165	312
23	327	1,250	g13,800	1,620	2,140	3,320	6,680	3,440	1,210	304	160	274
24	310	1,200	g9,060	1,590	2,090	3,130	7,640	3,230	1,140	299	197	267
25	303	3,070	g13,000	1,610	2,030	2,960	8,300	3,200	1,060	299	105	264
26	338	2,450	g12,700	1,610	1,860	3,080	8,640	4,360	1,060	299	152	308
27	349	1,820	10,600	1,570	1,870	3,520	7,640	4,450	1,040	340	141	308
28	307	1,610	16,900	1,530	4,240	3,860	7,540	3,470	948	308	170	241
29	294	2,840	24,100	1,500	-	5,860	7,720	3,260	840	240	162	215
30	3,880	2,260	15,000	1,430	-	6,700	7,340	3,170	780	208	114	285
31	4,390	-	9,220	1,350	-	5,660	-	3,230	-	187	165	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	15,414	4,390	156	497	30,570
November.....	49,514	3,070	768	1,650	98,210
December.....	178,070	24,100	720	5,744	355,200
Calendar year 1945.....	970,983	48,200	115	2,660	1,926,000
January.....	94,440	7,020	1,350	3,046	187,300
February.....	44,230	4,240	1,130	1,580	87,730
March.....	110,550	6,700	2,220	3,566	219,300
April.....	170,940	8,640	3,370	5,698	339,100
May.....	167,640	8,040	3,170	5,408	332,500
June.....	86,578	3,640	780	1,886	112,200
July.....	13,978	818	187	451	27,720
August.....	5,182	254	114	167	10,280
September.....	7,085	322	145	236	14,050
Water year 1945-46.....	913,621	24,100	114	2,503	1,812,000

a No gage-height record; discharge interpolated.
g Computed from graph based on radio-gage readings.

American River at Fair Oaks, Calif.

Location.- Water-stage recorder, lat. 38°38'15", long. 121°15'55", just upstream from highway bridge at Fair Oaks, Sacramento County, and 10 miles downstream from South Fork. Altitude of gage, about 72 feet (from topographic map).

Drainage area.- 1,921 square miles.

Records available.- November 1904 to September 1946 (at several sites near highway bridge).

Average discharge.- 41 years (1905-46), 3,740 second-feet.

Extremes.- Maximum discharge during year, 42,200 second-feet Dec. 22 (gage height, 15.85 feet); minimum, 164 second-feet (regulated) Aug. 27.

1904-46: Maximum discharge, 140,000 second-feet Mar. 25, 1928 (gage height, 31.45 feet, (present datum), from rating curve extended above 75,000 second-feet; flood of Mar. 19, 1907, reached a stage of 31.4 feet, present datum (discharge probably about same as that of Mar. 25, 1928), minimum, 3.6 second-feet (regulated) Aug. 16, 1924.

Remarks.- Records good. Storage, many diversions, and power plants above station. Some inflow from Bear and Yuba River Basins.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	372	4,600	2,830	10,900	2,300	5,700	7,590	10,300	5,520	1,390	324	278
2	310	2,490	2,420	9,080	2,350	4,770	6,530	11,000	5,580	1,410	316	288
3	360	2,320	2,210	8,700	2,750	4,470	5,800	11,500	5,890	1,400	320	294
4	350	2,440	2,230	8,230	2,690	4,180	5,520	12,100	5,890	1,260	298	278
5	372	2,040	2,930	10,700	2,510	3,780	5,540	12,000	5,780	1,160	280	294
6	422	1,700	4,010	9,610	2,400	3,580	5,540	12,600	5,090	1,080	290	304
7	300	1,680	3,120	7,920	2,640	3,700	5,360	12,600	4,440	1,010	305	291
8	284	1,530	2,670	7,060	2,720	3,970	5,110	11,700	4,160	954	298	304
9	350	1,590	2,130	6,130	2,480	4,260	5,180	10,900	3,960	916	298	300
10	377	1,500	2,260	5,700	2,420	4,530	5,080	10,300	3,800	898	354	324
11	464	2,200	2,220	5,130	2,480	4,930	5,150	9,380	3,550	767	342	337
12	416	2,200	2,110	4,680	2,400	4,550	5,660	8,830	3,250	734	329	333
13	604	2,090	2,050	4,420	2,280	7,920	6,870	8,700	3,170	734	309	355
14	476	2,070	1,820	4,180	2,230	8,000	7,110	8,130	3,040	718	316	390
15	410	1,980	1,750	4,020	2,220	6,110	7,610	7,660	2,960	639	276	409
16	394	2,960	1,730	3,860	2,230	5,360	9,040	7,820	2,820	639	299	430
17	335	3,530	1,710	3,700	2,130	5,000	10,400	8,520	2,650	685	309	463
18	274	3,320	1,490	3,480	2,080	5,150	11,600	9,220	2,470	839	273	488
19	216	2,540	1,450	3,320	2,130	5,360	11,600	9,710	2,350	802	294	455
20	199	2,780	1,390	3,250	2,300	5,560	11,100	9,270	2,280	548	283	434
21	240	2,750	3,460	3,180	2,620	5,800	9,610	9,040	2,290	516	263	461
22	366	2,310	32,400	3,040	3,910	5,400	9,220	6,890	2,290	522	294	449
23	422	2,040	24,900	2,900	3,460	5,080	10,000	5,720	2,160	498	276	428
24	377	1,960	15,200	2,760	3,370	4,790	11,400	5,260	2,030	473	273	409
25	355	4,060	21,200	2,760	3,360	4,540	12,600	5,150	1,850	450	280	405
26	394	3,750	22,200	2,760	3,150	4,550	13,300	6,460	1,760	467	238	449
27	416	3,780	18,300	2,760	3,040	5,090	12,000	7,470	1,740	528	229	500
28	404	2,430	22,400	2,690	5,600	5,460	11,700	5,580	1,630	510	250	387
29	305	4,190	32,200	2,610	-	9,580	11,900	5,260	1,500	479	276	365
30	3,090	3,590	22,000	2,510	-	12,000	11,500	5,130	1,410	373	260	391
31	6,920	-	14,200	2,360	-	9,530	-	5,240	-	342	238	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	20,554	6,920	199	663	40,770
November.....	77,220	4,600	1,390	2,574	153,200
December.....	272,550	32,400	1,390	8,792	540,600
Calendar year 1945.....	1,512,007	70,900	149	4,142	2,999,000
January.....	154,410	10,900	2,360	4,981	306,300
February.....	76,230	5,600	2,080	2,722	151,200
March.....	172,800	12,000	3,580	5,574	342,700
April.....	256,620	13,300	5,080	8,554	509,000
May.....	269,440	12,600	5,130	8,692	534,400
June.....	97,290	5,890	1,410	3,243	195,000
July.....	23,341	1,354	342	753	46,300
August.....	8,989	229	290	17,830	
September.....	11,293	500	278	376	22,400
Water year 1945-46.....	1,440,737	32,400	199	3,947	2,858,000

Peak discharge.- Dec. 22 (8:30 a.m.) 42,200 sec.-ft.; Dec. 26 (2 a.m.) 26,800 sec.-ft.; Dec. 29 (11 a.m.) 36,200 sec.-ft.

American River at Sacramento, Calif.

Location.- Water-stage recorder, lat. 38°34'05", long. 121°25'20", at H Street Bridge, just east of Sacramento, Sacramento County, 6.5 miles upstream from mouth. Zero of gage is set to datum of Corps of Engineers, War Department.

Records available.- July to October 1921, October 1929 to October 1932, and May 1934 to December 1942 (low-water periods only), May 1943 to September 1946.

Extremes.- Maximum discharge during year, about 38,700 second-feet Dec. 29 (gage height, 35.15 feet, from constructed graph); minimum discharge, 135 second-feet (regulated) Aug. 28 (gage height, 18.37 feet).
1921, 1929-32, 1934-46: Maximum discharge unknown; minimum discharge recorded, 21 second-feet Aug. 14, 1931.

Remarks.- Records good. Flow regulated by reservoirs, many diversions, and power plants above station. Some inflow from Bear and Yuba River Basins.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	385	5,480	2,760	12,000	2,350	6,090	7,730	11,000	5,810	1,430	358	286
2	365	2,690	2,300	10,000	2,350	4,900	6,650	11,300	5,790	1,470	358	302
3	380	1,910	2,070	9,000	2,660	4,500	5,900	11,700	6,220	1,460	358	270
4	385	2,270	2,100	8,500	2,680	4,180	5,580	12,300	6,220	1,340	310	270
5	390	1,990	5,480	9,500	2,540	3,700	5,540	12,400	6,180	1,210	310	318
6	446	1,610	4,190	10,500	2,350	3,430	5,580	13,100	5,450	1,120	310	278
7	380	1,560	2,990	8,500	2,490	3,450	5,410	13,100	4,720	1,060	334	302
8	340	1,440	2,120	7,500	2,730	3,720	5,100	12,200	4,280	1,010	310	334
9	330	1,280	2,580	6,500	2,450	4,080	5,120	11,200	4,190	963	302	286
10	429	1,320	2,080	6,000	2,370	4,470	5,030	10,700	3,850	941	350	342
11	429	1,940	2,040	5,500	2,420	4,940	5,050	9,720	3,690	860	406	334
12	446	2,140	1,950	5,000	2,410	4,550	5,580	9,150	3,320	794	334	358
13	535	1,940	1,900	4,700	2,260	6,930	6,690	9,060	3,160	776	334	358
14	476	1,980	1,670	4,400	2,230	8,440	7,070	8,530	3,140	767	358	350
15	452	1,610	1,570	4,200	2,160	6,210	7,410	7,960	3,020	686	286	342
16	424	2,630	1,580	4,000	2,230	5,450	8,660	8,070	2,900	677	318	374
17	385	3,280	1,510	3,800	2,140	4,960	10,200	8,780	2,760	715	358	422
18	345	3,580	1,320	3,600	2,070	5,080	11,500	9,410	2,570	704	270	479
19	315	2,480	1,260	3,500	2,100	5,340	12,200	9,880	2,410	659	310	454
20	280	2,490	1,210	3,410	2,230	5,520	11,800	9,440	2,310	587	270	430
21	300	2,680	1,730	3,200	2,440	5,830	10,100	9,330	2,310	587	278	422
22	390	2,200	27,300	3,050	3,700	5,390	9,520	7,330	2,370	533	310	454
23	440	1,910	28,300	2,870	3,490	5,070	10,200	6,140	2,270	524	310	454
24	407	1,850	14,600	2,800	3,290	4,800	11,800	5,560	2,110	515	286	430
25	385	3,350	20,100	2,800	3,260	4,450	13,100	5,430	1,950	497	326	430
26	402	3,930	23,800	2,830	3,060	4,420	13,600	6,320	1,850	524	231	422
27	418	2,760	14,800	2,790	2,900	4,850	12,300	7,980	1,840	560	247	497
28	476	2,300	21,600	2,680	4,870	5,430	11,900	5,980	1,720	587	231	479
29	375	3,830	33,700	2,630	-	8,950	12,300	5,520	1,590	524	263	390
30	900	3,620	23,000	2,550	-	11,600	12,000	5,410	1,490	414	278	366
31	8,090	-	14,000	2,450	-	9,870	-	5,470	-	406	224	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	20,500	8,090	280	661	40,660
November	74,040	5,480	1,280	2,468	146,900
December	266,010	33,700	1,210	8,580	527,600
Calendar year 1945	1,510,741	50,000	200	4,139	2,996,000
January	160,760	12,000	2,450	5,186	318,900
February	74,230	4,870	2,070	2,651	147,200
March	170,600	11,600	5,430	5,503	339,400
April	260,620	13,600	5,030	9,667	516,900
May	279,470	13,100	5,410	9,015	554,300
June	101,490	6,220	1,490	3,383	201,300
July	24,898	1,470	406	803	49,380
August	9,528	406	224	307	18,900
September	11,233	497	270	374	22,280
Water year 1945-46	1,453,379	33,700	224	3,982	2,883,000

Middle Fork American River near Auburn, Calif.

Location.- Water-stage recorder, lat. 38°55', long. 121°00', in NW $\frac{1}{4}$ sec. 5, T. 12 N., R. 9 E., at Mountain Quarry Co.'s plant, 1.7 miles upstream from mouth and 3.5 miles northeast of Auburn. Datum of gage is 568.5 feet above mean sea level (from river-profile survey).

Drainage area.- 619 square miles.

Records available.- December 1930 to September 1946. October 1911 to December 1930 at site half a mile downstream.

Average discharge.- 35 years, 1,380 second-feet.

Extremes.- Maximum discharge during year, 16,300 second-feet Dec. 29 (gage height, 16.18 feet); minimum, 49 second-feet Oct. 5.

1911-46: Maximum discharge, about 62,000 second-feet Mar. 25, 1928 (gage height, 35.6 feet, former site and datum; 33.4 feet, present site and datum, from floodmarks); minimum, 20 second-feet Sept. 6, 1931, Sept. 19, 1934.

Remarks.- Records good except those for period affected by mining debris, which are fair. Small storage and diversions above station.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	.Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	1,360	900	3,980	706	2,150	2,590	4,550	2,330	570	135	83
2	63	731	700	3,240	710	1,870	2,330	4,800	2,330	566	129	83
3	61	871	550	3,180	790	1,800	2,150	5,070	2,440	546	124	83
4	60	851	650	3,180	750	1,600	2,140	5,320	2,430	498	119	85
5	58	600	1,200	3,990	682	1,440	2,240	5,380	2,430	458	114	85
6	57	527	1,050	3,330	686	1,420	2,280	5,660	1,980	438	112	83
7	58	497	900	2,860	782	1,550	2,180	5,450	1,710	406	109	82
8	66	434	800	2,520	710	1,710	2,100	5,060	1,620	374	106	81
9	71	386	700	2,190	686	1,900	2,050	4,580	1,560	357	104	80
10	73	456	650	1,980	670	2,180	2,020	4,250	1,590	336	103	78
11	76	751	600	1,790	710	2,140	2,100	3,770	1,450	311	100	76
12	96	607	550	1,610	660	1,960	2,470	3,530	1,320	296	98	75
13	105	651	530	1,540	649	4,000	3,100	3,580	1,290	287	95	74
14	96	593	500	1,450	624	2,870	3,040	3,260	1,240	272	94	73
15	90	671	480	1,360	632	2,370	3,440	3,100	1,200	249	93	72
16	101	1,020	480	1,270	628	2,120	4,170	3,360	1,140	235	94	84
17	102	1,350	460	1,200	607	2,010	4,830	3,740	1,040	220	93	115
18	94	1,100	440	1,160	600	2,030	5,440	3,960	990	210	92	108
19	96	900	430	1,140	618	2,040	5,260	4,080	975	198	91	90
20	92	1,100	420	1,050	674	2,110	4,830	3,800	960	190	90	84
21	88	900	2,800	960	960	1,980	4,080	3,660	965	186	87	81
22	86	750	11,000	910	1,430	1,870	3,930	2,640	929	184	86	79
23	80	650	6,840	884	1,180	1,780	4,500	2,270	864	179	85	78
24	73	800	4,520	862	1,120	1,680	5,250	2,120	815	173	84	77
25	70	1,600	7,320	892	1,180	1,620	5,630	2,100	730	170	82	75
26	69	1,300	6,810	902	1,080	1,720	6,020	3,140	712	177	80	73
27	69	900	5,710	862	1,120	2,080	5,320	2,790	694	168	81	71
28	68	800	9,960	838	2,850	2,330	5,300	2,280	662	170	83	70
29	77	1,400	13,600	810	-	3,340	5,320	2,130	630	157	83	69
30	3,000	1,100	8,250	758	-	3,610	5,000	2,090	594	146	83	68
31	2,520	-	5,390	718	-	2,970	-	2,190	-	142	83	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,779	3,000	57	251	15,430
November.....	25,436	1,600	386	848	50,450
December.....	95,190	13,600	420	3,071	188,800
Calendar year 1945.....	577,376	26,300	57	1,582	1,145,000
January.....	53,416	3,990	718	1,723	105,900
February.....	24,494	2,850	600	875	48,580
March.....	66,250	4,000	1,420	2,137	131,400
April.....	111,310	6,020	2,020	3,710	220,800
May.....	113,710	5,660	2,090	3,668	225,500
June.....	39,619	2,440	594	1,321	78,580
July.....	8,889	570	142	287	17,630
August.....	3,012	135	80	97.2	5,970
September.....	2,415	115	68	80.5	4,790
Water year 1945-46.....	551,520	13,600	57	1,511	1,094,000

Peak discharge.- Dec. 22 (2:30 a.m.) 15,200 sec.-ft.; Dec. 29 (4:30 a.m.) 16,300 sec.-ft.

Note.- Stage-discharge relation affected by mining debris Nov. 18 to Dec. 27; discharge computed on basis of 3 discharge measurements and records for stations on North Fork American River.

Rubicon River near Georgetown, Calif.

Location.- Water-stage recorder, lat. 38°58', long. 120°29', in SE $\frac{1}{4}$ sec. 23, T. 13 N., R. 13 E., 1 mile downstream from Little South Fork Rubicon River and 20 miles east of Georgetown. Altitude of gage, about 3,500 feet (from topographic map).

Drainage area.- 198 square miles (by Bureau of Reclamation).

Records available.- May 1943 to September 1946. November 1909 to June 1914 (published as Rubicon River near Quintette).

Extremes.- Maximum discharge during year, 4,540 second-feet Dec. 29 (gage height, 9.83 feet, from rating curve extended above 2,100 second-feet by logarithmic plotting); minimum, 8.8 second-feet Oct. 6, 7.
1943-46: Maximum discharge, 9,620 second-feet Feb. 2, 1945 (gage height, 13.25 feet), from rating curve extended above 2,100 second-feet by logarithmic plotting; minimum, 5.4 second-feet Oct. 28, 1944.

Remarks.- Records good. Flow partly regulated by Loon Lake (capacity, 11,000 acre-feet) on Gêrle Creek, where most of stored water is diverted out of the watershed in Georgetown Divide Water Co.'s canal.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.2	7.5	1.7	25	3.0	130	5.0	610
1.3	9.7	1.9	35	3.5	206	6.0	1,080
1.4	12	2.2	54	4.0	308	7.5	2,160
1.5	16	2.6	87	4.5	438	9.0	3,580

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	474	256	1,070	299	775	548	2,380	1,450	342	44	21
2	9.7	432	236	905	301	674	510	2,560	1,520	349	40	20
3	9.5	670	226	830	299	622	507	2,730	1,590	306	37	19
4	9.3	487	226	802	295	514	556	2,820	1,600	268	35	20
5	9.3	351	234	865	282	465	634	2,930	1,470	254	33	20
6	8.8	322	246	674	279	503	650	2,960	1,150	234	30	19
7	9.0	260	256	614	282	598	586	2,860	995	215	28	18
8	10	219	234	548	268	694	559	2,690	980	202	26	17
9	11	202	213	510	266	762	545	2,500	970	183	26	17
10	12	299	211	487	258	865	570	2,280	980	167	24	16
11	18	299	204	447	258	766	686	2,060	860	161	24	16
12	20	284	193	430	248	769	995	2,020	798	161	22	15
13	18	318	185	421	242	1,410	1,270	1,980	798	153	22	14
14	17	284	183	416	242	870	1,220	1,810	775	138	23	14
15	21	404	183	410	250	722	1,530	1,820	744	124	23	14
16	25	337	180	396	238	654	1,980	1,990	702	112	22	19
17	30	374	172	390	236	650	2,300	2,220	630	103	21	21
18	26	306	167	396	236	674	2,510	2,390	622	98	21	17
19	21	369	166	382	246	662	2,490	2,400	618	93	20	15
20	19	450	169	366	256	614	2,100	2,300	630	91	20	14
21	16	332	2,050	351	332	563	1,820	1,960	638	89	19	14
22	14	297	2,620	339	344	534	1,900	1,370	582	86	18	14
23	12	275	1,340	337	325	510	2,330	1,180	538	84	17	14
24	11	343	850	354	354	490	2,670	1,150	471	79	17	13
25	11	520	1,110	382	344	497	2,890	1,210	424	77	21	12
26	11	369	1,000	379	320	634	2,800	2,090	435	85	23	12
27	11	315	1,060	364	545	811	2,560	1,400	404	74	23	12
28	11	304	2,860	351	1,160	806	2,650	1,230	396	66	22	12
29	205	416	3,980	337	-	748	2,640	1,190	364	58	22	11
30	2,370	313	2,520	310	-	678	2,440	1,240	344	53	21	11
31	945	-	1,460	301	-	594	-	1,370	-	48	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,930.6	2,370	8.8	127	7,800
November.....	10,825	670	202	354	21,070
December.....	24,990	3,980	166	806	49,570
Calendar year 1945.....	226,146.6	5,910	8.8	620	448,600
January.....	15,164	1,070	301	489	30,080
February.....	9,005	1,160	236	322	17,860
March.....	21,128	1,410	465	682	41,910
April.....	47,446	2,890	507	1,582	94,110
May.....	63,090	2,960	1,150	2,035	125,100
June.....	24,478	1,600	344	816	48,550
July.....	4,553	349	48	147	9,030
August.....	765	44	17	24.7	1,520
September.....	471	21	11	15.7	934
Water year 1945-46.....	225,645.6	3,980	8.8	618	447,500

Peak discharge.- Oct. 30 (9 a.m.) 3,800 sec.-ft.; Dec. 21 (12 p.m.) 3,820 sec.-ft.; Dec. 29 (2:30 a.m.) 4,540 sec.-ft.

South Fork American River near Kyburz, Calif.

Location.- Water-stage recorder, lat. $38^{\circ}46'$, long. $120^{\circ}19'$, in $\frac{1}{2}$ sec. 29, T. 11 N., R. 15 E., beside Lincoln Highway, 0.7 mile downstream from Silver Fork of South Fork and 2 miles west of Kyburz. Altitude of gage, about 4,030 feet (from topographic map).

Drainage area.- 196 square miles.

Records available.- August to December 1907, October 1922 to September 1946.

Average discharge.- 24 years (1922-46), 377 second-feet, combined flow of South Fork American River near Kyburz and El Dorado Canal.

Extremes.- Maximum discharge during year, 2,860 second-feet May 5 (gage height, 6.09 feet); minimum, 0.7 second-foot Oct. 17.

1922-46: Maximum discharge, 9,700 second-feet Dec. 11, 1937 (gage height, 8.55 feet), from rating curve extended above 4,000 second-feet on basis of velocity-area studies; minimum, 0.3 second-foot Nov. 9-11, 1929.

Remarks.- Records excellent above 400 second-feet, good between 10 and 400 second-feet, and fair below 10 second-feet. Flow regulated by four reservoirs, and by diversions above station. (See records for El Dorado Canal, which diverts 0.5 mile above station.)

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.1	1.0	1.8	29	3.6	444
1.2	1.9	2.0	48	4.0	635
1.3	3.6	2.3	87	4.5	975
1.4	6.2	2.6	140	5.0	1,420
1.5	10	2.9	208	5.5	1,980
1.6	15	3.2	296	6.0	2,710

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	184	134	473	112	231	284	1,730	1,110	231	5.4	8.5
2	3.1	180	140	416	110	240	323	1,820	1,180	213	5.7	8.5
3	3.1	234	139	377	115	231	359	1,920	1,280	160	5.7	8.5
4	3.3	189	136	377	117	198	374	2,020	1,310	138	6.2	10
5	4.4	149	120	366	120	158	404	2,140	1,270	126	6.2	10
6	3.6	140	195	306	105	166	404	2,210	1,120	115	5.9	17
7	4.6	124	218	286	103	203	385	2,070	1,010	97	9.2	14
8	5.6	110	116	259	97	255	377	1,940	886	86	7.0	10
9	3.9	84	77	237	95	306	370	1,860	774	56	5.7	8.5
10	4.6	98	80	221	90	366	381	1,920	695	33	5.7	8.1
11	13	112	60	196	95	337	457	1,620	647	26	5.9	6.1
12	3.1	134	33	189	110	325	596	1,600	624	23	5.7	6.5
13	2.4	164	17	189	83	523	728	1,580	618	16	5.9	6.5
14	1.9	164	39	182	81	381	747	1,470	596	6.6	5.7	6.9
15	4.0	189	64	175	81	354	922	1,390	566	5.4	5.7	8.5
16	1.4	177	35	171	79	303	1,180	1,440	542	21	5.7	17
17	g17	196	23	164	77	303	1,390	1,540	500	5.9	5.7	19
18	35	173	18	162	79	303	1,520	1,660	428	8.4	5.7	15
19	32	175	9.5	158	81	283	1,530	1,700	393	6.2	5.7	14
20	29	180	7.3	147	84	274	1,320	1,740	404	5.9	5.7	12
21	27	164	579	136	95	249	1,180	1,480	452	5.9	5.7	9.6
22	23	158	898	138	92	231	1,220	1,200	416	6.6	5.7	8.5
23	16	153	478	130	92	226	1,450	999	404	5.9	5.7	8.5
24	15	160	355	140	105	218	1,700	968	320	7.7	5.7	16
25	14	189	362	149	103	226	1,850	960	290	24	5.7	63
26	14	171	320	138	100	303	1,790	1,280	258	20	5.7	8.9
27	14	162	350	136	163	381	1,670	983	234	5.9	5.9	8.1
28	15	182	832	132	327	393	1,753	960	231	5.7	5.9	7.7
29	57	164	1,090	122	-	366	1,760	930	211	5.4	5.9	8.1
30	849	147	781	110	-	337	1,710	952	237	6.6	6.2	8.9
31	299	-	566	118	-	299	-	1,090	-	5.7	7.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,519.1	849	1.4	49.0	3,010
November.....	4,786	234	84	160	9,490
December.....	8,259.8	1,090	7.3	266	16,380
Calendar year 1945.....	159,460.8	2,840	1.1	382	276,600
January.....	6,497	473	110	210	12,890
February.....	2,989	327	77	107	5,930
March.....	8,959	523	158	289	17,770
April.....	30,111	1,850	264	1,004	59,720
May.....	47,032	2,210	930	1,517	93,290
June.....	19,006	1,310	211	634	37,700
July.....	1,478.8	233	5.4	47.7	2,930
August.....	186.3	9.2	5.4	6.01	370
September.....	369.9	63	7.7	12.3	734
Water year 1945-46.....	131,193.9	2,210	1.4	359	260,200

g Computed from graph based on recorded range in stage or trend of snow runoff fluctuation.

AMERICAN RIVER BASIN

South Fork American River near Camino, Calif.

Location.- Water-stage recorder, lat. 38°46', long. 120°42', in SW $\frac{1}{4}$ sec. 25, T. 11 N., R. 11 E., 300 feet upstream from Iowa Canyon Creek, 1 mile downstream from intake of American River flume, and 3 miles northwest of Camino. Altitude of gage, about 1,640 feet (from topographic map).

Drainage area.- 497 square miles.

Records available.- October 1922 to September 1946.

Average discharge.- 24 years, 892 second-feet, combined flow of South Fork American River near Camino and American River flume.

Extremes.- Maximum discharge during year, 7,110 second-feet Dec. 22 (gage height, 12.43 feet); minimum, 9.7 second-feet (regulated) Oct. 28, 29.

1922-46: Maximum discharge, 34,400 second-feet Dec. 11, 1937 (gage height, 25.5 feet); from floodmarks in gage house), from rating curve extended above 14,000 second-feet on basis of velocity-area studies; minimum, 1.2 second-feet Aug. 24, 1931.

Remarks.- Records good. Flow regulated by four reservoirs. Two diversions above station; American River flume (see p. 371) and El Dorado Canal (see p. 366).

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	506	302	2,230	545	1,570	1,300	3,720	2,210	458	29	20
2	33	298	276	1,840	522	1,380	1,200	4,050	2,190	413	32	21
3	31	546	278	1,770	512	1,340	1,180	4,210	2,410	353	20	21
4	32	432	298	1,870	572	1,220	1,220	4,420	2,450	309	30	22
5	31	270	427	2,080	472	1,120	1,280	4,540	2,430	274	31	24
6	36	236	400	1,730	509	1,080	1,290	4,640	1,990	255	23	31
7	28	209	446	1,540	528	1,140	1,240	4,460	1,760	228	23	21
8	83	155	367	1,380	481	1,240	1,220	4,060	1,690	214	21	31
9	47	139	254	1,210	478	1,360	1,220	3,870	1,490	195	27	23
10	51	282	298	1,150	446	1,500	1,200	3,750	1,460	145	31	20
11	70	340	284	1,040	506	1,480	1,320	3,380	1,320	126	24	18
12	65	296	274	951	392	1,350	1,530	3,260	1,230	121	26	18
13	50	336	220	742	463	2,590	2,010	3,270	1,220	128	20	19
14	59	278	186	870	438	1,900	1,970	3,030	1,160	69	20	19
15	20	376	260	828	458	1,680	2,280	2,840	1,120	111	22	19
16	19	421	251	790	427	1,520	2,860	2,960	1,080	70	21	31
17	17	650	229	766	418	1,480	3,300	3,280	996	81	23	54
18	14	460	234	730	525	1,470	3,680	3,520	920	62	20	34
19	13	379	196	710	614	1,450	3,640	3,470	820	50	25	30
20	13	430	201	650	672	1,420	3,360	3,420	811	44	20	30
21	12	340	1,800	506	820	1,350	2,930	3,170	853	56	22	37
22	12	298	5,220	555	910	1,300	2,900	2,370	807	39	20	32
23	11	266	3,870	555	824	1,230	3,420	1,960	746	37	18	31
24	11	304	2,570	576	845	1,180	4,000	1,890	650	42	19	26
25	11	841	4,150	600	857	1,110	4,340	1,980	545	31	21	65
26	11	493	3,660	668	824	1,200	4,370	2,950	528	78	19	77
27	10	379	2,970	603	951	1,580	3,950	2,220	475	65	18	44
28	10	342	4,450	582	1,840	1,450	4,060	1,950	458	31	19	40
29	12	512	5,750	552	-	1,620	4,060	1,850	427	35	19	43
30	1,610	407	4,220	535	-	1,610	3,870	1,940	405	21	19	40
31	1,200	-	2,880	515	-	1,400	-	2,110	-	39	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,653	1,810	10	124	7,640
November	11,211	841	139	374	22,240
December	47,221	5,750	186	1,523	93,660
Calendar year 1945	376,259	11,900	10	1,031	746,300
January	31,324	2,230	506	1,010	62,130
February	17,849	1,840	392	637	35,400
March	44,100	2,590	1,080	1,423	87,470
April	76,300	4,370	1,180	2,543	151,300
May	98,540	4,640	1,850	3,179	195,500
June	36,651	2,450	405	1,222	72,700
July	4,180	458	21	135	8,290
August	701	32	18	22.6	1,390
September	941	77	18	31.4	1,870
Water year 1945-46	372,871	5,750	10	1,022	739,600

f Fragmentary gage-height record; discharge computed on basis of partial gage-height record and records of power-plant operation.

Echo Lake conduit near Vade, Calif.

Location.- Water-stage recorder, lat. 38°50', long. 120°02', in NW $\frac{1}{4}$ sec. 6, T. 11 N., R. 18 E., 0.5 mile downstream from intake and 2 miles northeast of Vade post office.

Altitude of gage, about 7,500 feet (from topographic map).

Records available.- August 1923 to October 1946.

Extremes.- Maximum daily discharge during season, 25 second feet Sept. 11-14, 16-18; no flow during most of year.

1923-46: Maximum daily discharge, 27 second-feet Sept. 13-15, 19, 1938; no flow during most of each year.

Remarks.- Records good. No flow except during periods for which discharge is published.

Conduit diverts from Echo Lake in Truckee River Basin into basin of South Fork American River for power and irrigation.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, of Echo Lake conduit near Vade, Calif., September to October 1946

Day	Sept.	Oct.	Day	Sept.	Oct.	Day	Sept.	Oct.	Day	Sept.	Oct.
1	0	18	9	7.2	h13	17	25	h6.5	25	24	h3.9
2	0	19	10	23	h11	18	25	h5.9	26	23	h1.9
3	0	18	11	25	h10	19	24	a5.5	27	22	0
4	0	h17	12	25	a9	20	24	a5.0	28	21	0
5	0	a16	13	25	a8	21	24	h4.6	29	20	0
6	0	a14	14	25	h7.5	22	24	h4.4	30	18	0
7	0	h13	15	24	h6.8	23	24	h4.3	31	-	0
8	0	h13	16	25	h6.8	24	24	h4.2			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
September.....	501.2	25	0	16.7	994
October.....	250.1	19	0	8.07	496
The period.....	-	-	-	-	1,490

a No gage-height record; discharge interpolated.

h Computed from staff-gage reading.

Medley Lakes Outlet near Vade, Calif.

Location.- Water-stage recorder, lat. 38°51', long. 120°08', in SW 1/4 sec. 29, T. 12 N., R. 17 E., 1 mile downstream from main dam at Medley Lakes and 5 miles northwest of Vade post office. Altitude of gage, about 8,100 feet (from topographic map).

Drainage area.- 6.2 square miles.

Records available.- September 1922 to September 1946.

Average discharge.- 24 years, 17.0 second-feet.

Extremes.- Maximum discharge during year, 72 second-feet July 23 (gage height, 2.06 feet); minimum, 0.8 second-foot Oct. 28, 29.

1922-46: Maximum discharge, 202 second-feet June 15, 16, 1929 (gage height, 3.42 feet); no flow at times in some years.

Remarks.- Records good except those for period of ice effect, which are fair. Practically no available contents in Medley Lakes, above station, on Sept. 30, 1945, and about 200 acre-feet on Sept. 30, 1946.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	24							13	47	50	42
2	7.5	24							14	49	48	43
3	7.0	25							15	50	43	46
4	7.0	24							17	45	39	46
5	6.8	24							17	35	39	46
6	6.5	23							17	32	36	50
7	6.2	22							16	35	33	58
8	6.5	22							20	34	32	58
9	6.2	22					3		27	36	30	58
10	6.2	24							26	21	30	58
11	6.2	23							26	3.8	31	57
12	5.8	22							25	4.0	31	56
13	5.6	22							25	4.0	30	56
14	5.3	22							26	6.0	24	56
15	5.6	23							26	8.2	20	55
16	5.1	23	12	6	5	3		4	28	7.5	18	55
17	4.2	24						4	34	7.0	16	54
18	3.2	22						5	47	7.5	17	53
19	2.4	22						6	45	7.5	24	53
20	2.0	22						6	47	7.8	35	53
21	1.8	22						5	42	7.8	31	53
22	1.6	22						5	41	15	34	52
23	1.5	21						6	39	29	48	51
24	1.4	21						7	40	31	58	51
25	1.3	22						8	42	37	58	51
26	1.2	20						10	44	42	53	50
27	1.0	20						10	40	44	44	50
28	.9	20						12	41	44	44	49
29	8.4	20						12	42	43	43	48
30	32	16						13	44	45	43	48
31	26	-						47	-	-	43	47

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	190.4	32	0.9	6.14	378
November.....	663	25	16	22.1	1,320
December.....	372	-	-	12	758
Calendar year 1945.....	7,593.9	72	.9	20.8	15,050
January.....	186	-	-	6	369
February.....	140	-	-	5	278
March.....	93	-	-	3	184
April.....	158	13	-	5.3	313
May.....	973	47	13	31.4	1,850
June.....	783.1	50	3.8	26.1	1,550
July.....	1,125	58	16	36.3	2,250
August.....	1,603	58	42	51.7	3,180
September.....	464.3	47	3.5	15.5	921
Water year 1945-46.....	6,750.8	58	.9	18.5	13,390

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 30 to May 18 (no gage-height record Dec. 1 to Apr. 11).

AMERICAN RIVER BASIN

Silver Lake Outlet near Kirkwood, Calif.

Location.- Water-stage recorder, lat. 38°40', long. 120°08', in SW¹ sec. 32, T. 10 N., R. 17 E., 1,000 feet downstream from Silver Lake Dam and 3 miles southwest of Kirkwood. Altitude of gage, about 7,200 feet (from topographic map).

Drainage area.- 14.9 square miles.

Records available.- September 1922 to September 1946.

Average discharge.- 24 years, 32.8 second-feet.

Extremes (regulated).- Maximum discharge during year, 290 second-feet May 6 (gage height, 3.70 feet); minimum, 0.1 second-foot Oct. 16-26, 28.

1922-46: Maximum discharge, 504 second-feet Dec. 11, 1937 (gage height, 5.10 feet), from rating curve extended above 190 second-feet; minimum, 0.1 second-foot during periods when reservoir gate was closed.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are fair. Contents in Silver Lake was 3,500 acre-feet on Sept. 30, 1945, and 4,800 acre-feet on Sept. 30, 1946. In addition to water released through dam and over spillway some escapes from Silver Lake through porous rock formation.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 1-15)

0.4	0.1	0.9	9.0	1.8	75	2.8	173
.5	.2	1.0	14	2.0	93	3.0	196
.6	1.0	1.2	26	2.2	111	3.4	248
.7	2.5	1.4	41	2.4	131	3.8	304
.8	5.0	1.6	57	2.6	151		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	0.2	a19	57	13	16	27	209	62	3.5	0.8	0.4
2	52	.3	20	49	b13	16	23	224	73	3.5	.8	.3
3	51	.2	20	46	b13	17	21	237	92	3.2	.8	.3
4	51	.5	22	42	b13	15	19	255	123	2.8	.7	.3
5	49	.5	30	39	b13	14	20	268	145	2.5	.6	.3
6	47	.6	27	32	b12	14	21	280	137	2.4	.5	.3
7	45	.6	25	29	b12	15	21	273	107	2.4	.4	.3
8	43	.8	22	27	a11	18	21	254	62	2.4	.4	.3
9	42	1.6	21	22	a11	22	19	242	17	2.4	.5	.3
10	41	4.2	19	21	a10	27	17	231	5.4	2.4	.5	.3
11	40	16	19	19	a10	30	19	204	9.5	2.4	.4	.3
12	39	24	18	16	a10	29	27	201	17	2.4	.4	.3
13	39	24	18	a15	a10	38	42	207	30	2.4	.4	.3
14	27	23	16	a15	a10	33	50	130	39	1.8	.4	.3
15	.2	23	16	a15	a9	28	67	69	48	1.0	.4	.3
16	.1	29	16	a14	a9	24	96	70	53	1.0	.4	.4
17	.1	30	16	a14	a9	22	127	71	51	1.2	.4	.3
18	.1	33	16	a14	a9	21	168	77	36	1.2	.4	.2
19	.1	29	16	a14	a9	21	185	104	31	1.3	.4	.2
20	.1	25	15	a14	a9	22	169	119	27	1.0	.4	.2
21	.1	24	30	a14	a10	20	145	105	28	1.0	.4	.2
22	.1	22	51	a13	a10	18	142	103	27	1.0	.4	.2
23	.1	21	55	a13	a10	16	159	102	26	1.0	.4	.2
24	.1	19	46	a13	10	15	196	100	18	1.0	.4	.3
25	.1	19	46	14	9.5	14	220	76	7.4	1.0	.4	79
26	.3	23	40	14	8.6	16	241	46	9.5	.9	.4	78
27	.2	21	35	14	9.5	23	220	47	12	.8	.4	77
28	.1	19	35	14	15	28	226	48	3.8	.8	.4	75
29	.6	19	55	14	-	36	226	54	3.8	.8	.4	74
30	.9	19	74	14	-	39	213	59	3.8	.8	.4	73
31	.2	-	70	13	-	32	-	60	-	.8	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	623.5	54	0.1	20.1	1,240
November	469.5	33	.2	15.6	931
December	928	74	15	29.9	1,240
Calendar year 1945	15,920.1	319	.1	43.6	31,580
January	653	57	13	21.4	1,320
February	297.6	15	8.6	10.6	590
March	699	39	14	22.5	1,390
April	3,147	241	17	105	6,240
May	4,525	280	46	146	8,980
June	1,308.2	145	3.8	43.5	2,590
July	53.1	3.5	.8	1.71	105
August	14.4	.8	.4	.46	29
September	500.5	79	.2	16.7	993
Water year 1945-46	13,226.8	280	.1	36.2	26,250

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

b Stage-discharge relation affected by ice.

Twin Lakes Outlet near Kirkwood, Calif.

Location.- Water-stage recorder and concrete control, lat. 38°42', long. 120°03', in SW¹/₄ sec. 18, T. 10 N., R. 18 E., 500 feet downstream from main dam and outlet gate of Twin Lakes and 1 mile east of Kirkwood. Altitude of gage, about 7,900 feet (from topographic map).

Drainage area.- 12.4 square miles.

Records available.- September 1922 to September 1946 (October 1934 to September 1946, except May and June 1945, include flow over Twin Lakes spillway).

Average discharge.- 23 years (1922-44, 1945-46), 33.6 second-feet (including flow over Twin Lakes spillway).

Extremes (regulated).- Maximum combined daily discharge during year for outlet and spillway, 189 second-feet June 5; minimum, 0.2 second-foot Oct. 24-26.

1922-46: Maximum combined daily discharge for outlet and spillway, 310 second-feet June 1, 1943 (possibly exceeded in May 1945); minimum, 0.1 second-foot Mar. 25-31, 1944.

Remarks.- Records excellent except those for Feb. 1 to Apr. 10, June 3-21, which are good. No diversion. Contents in Twin Lakes was 16,600 acre-feet on Sept. 30, 1945, and 11,900 acre-feet on Sept. 30, 1946. Discharge over Twin Lakes spillway, occurring June 3-7, 10-15, 20, 21, based on once-daily readings on staff gage below spillway.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	1.9	1.0	53	52	h52	4.8	106	107	90	53	78
2	51	1.9	1.0	53	52	52	4.8	107	117	59	55	80
3	50	1.9	1.0	53	52	52	4.8	107	145	44	60	85
4	57	1.9	1.7	53	52	h40	4.8	109	177	44	59	85
5	62	1.9	46	53	52	4.8	4.8	109	189	44	59	94
6	62	1.9	106	53	52	h4.8	4.8	109	184	44	58	118
7	60	1.9	89	53	52	4.8	4.8	109	167	44	56	117
8	60	1.9	52	53	52	4.8	4.8	109	102	41	55	116
9	60	1.9	52	53	h52	h4.8	4.8	109	75	13	55	107
10	60	2.1	52	53	52	4.8	4.8	109	97	13	55	90
11	60	2.1	52	52	52	4.8	4.8	109	119	13	55	89
12	60	2.1	52	52	h52	4.8	4.8	109	119	14	57	89
13	59	2.1	52	52	h52	4.8	4.8	109	118	14	62	90
14	39	2.1	52	52	h52	4.8	5.1	109	117	14	62	95
15	.3	1.9	52	52	52	4.8	5.1	109	110	30	62	95
16	.3	1.9	52	52	h52	4.8	4.8	68	104	34	62	95
17	.3	1.9	53	52	h52	4.8	4.8	52	94	14	64	98
18	.3	1.9	53	52	h52	4.8	5.1	52	55	19	67	102
19	.3	1.9	53	52	52	4.8	5.1	88	56	19	67	105
20	.3	1.9	53	52	h52	4.8	5.1	106	86	19	67	102
21	.3	1.9	53	52	52	4.8	4.8	106	134	19	67	102
22	.3	2.1	53	52	52	4.8	5.1	83	127	19	68	100
23	.3	2.5	53	52	h52	4.8	5.5	24	106	19	72	100
24	.3	2.5	53	52	52	4.8	5.5	24	78	19	72	93
25	.2	2.7	53	51	52	4.8	5.9	24	68	20	72	40
26	.4	1.5	53	51	h52	4.8	5.5	24	41	20	74	19
27	1.1	1.1	53	51	52	4.8	5.9	73	42	25	78	26
28	1.1	1.1	53	51	52	4.8	5.9	106	43	35	78	31
29	1.7	1.1	53	51	-	4.8	63	106	69	42	78	31
30	2.1	1.0	53	51	-	4.8	106	106	90	54	78	35
31	1.9	-	53	51	-	4.8	-	106	-	53	78	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	797.5	62	0.2	25.7	1,580
November.....	56.5	2.7	1.0	1.88	112
December.....	1,508.7	106	1.0	48.7	2,990
Calendar year.....	-	-	-	-	-
January.....	1,615	53	51	52.1	3,200
February.....	1,456	52	52	52.0	2,890
March.....	325.6	52	4.8	10.5	646
April.....	310.6	106	4.8	10.4	616
May.....	2,776	109	24	89.5	5,510
June.....	3,136	189	41	105	6,220
July.....	951	90	13	30.7	1,890
August.....	2,005	78	53	64.7	3,980
September.....	2,505	118	19	83.5	4,970
Water year 1945-46.....	17,442.9	189	.2	47.8	34,600

h Computed from staff-gage reading.

Note.- No gage-height record Feb. 1 to Apr. 10 except on days when staff-gage reading was obtained; discharge computed on basis of record of gate changes at Twin Lakes Dam.

El Dorado Canal near Kyburz, Calif.

Location.- Water-stage recorder, lat. 38°46', long. 120°19', in SE $\frac{1}{4}$ sec. 29, T. 11 N., R. 15 E., 400 feet downstream from intake and 2 miles west of Kyburz. Altitude of gage, about 4,100 feet (from topographic map).

Records available.- October 1922 to September 1946.

Average discharge.- 24 years, 101 second-feet.

Extremes.- Maximum daily discharge during year, 162 second-feet Oct. 11; no flow parts of October and April.

1922-46: Maximum daily discharge, 165 second-feet June 24, 27, 28, 30, 1938, July 2, 1945; no flow at times.

Remarks.- Records good. Canal diverts from left bank of South Fork American River just below Silver Fork of South Fork; water used for power and irrigation.

Cooperation.- Water-stage recorder graph, furnished by the Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	6.6	7.8	125	144	144	131	144	143	158	154	148
2	150	6.6	7.8	125	144	144	38	146	144	158	149	147
3	149	6.6	7.6	125	146	144	0	144	144	158	155	152
4	146	6.6	7.6	125	147	144	0	146	143	157	153	153
5	153	6.6	7.6	125	146	143	0	145	143	157	153	154
6	149	7.0	17	124	143	142	0	144	142	157	152	154
7	153	7.0	40	124	144	142	0	145	141	158	156	155
8	151	7.0	77	124	144	143	2.9	146	142	158	157	155
9	149	32	101	124	144	142	0	146	142	157	155	154
10	148	50	104	127	144	143	0	146	143	157	155	141
11	162	50	122	134	146	142	0	144	142	158	155	147
12	153	31	138	135	146	142	0	144	143	158	152	149
13	141	7.8	b138	139	146	136	0	145	143	158	154	150
14	137	7.8	b125	141	144	132	0	144	143	157	155	152
15	88	7.8	122	142	144	132	0	144	146	151	154	154
16	52	7.8	138	141	144	131	0	146	150	157	153	153
17	21	7.8	138	146	144	132	19	146	153	137	151	153
18	0	7.8	139	149	144	132	58	146	153	149	153	154
19	0	7.8	144	149	144	132	98	146	153	141	153	155
20	0	7.8	149	149	144	132	128	146	153	146	152	155
21	0	7.8	135	149	145	132	138	144	156	143	152	154
22	2.6	7.8	125	149	145	132	142	145	158	144	151	153
23	8.6	7.8	123	149	145	131	144	145	158	141	153	152
24	7.8	7.8	124	149	146	131	143	145	158	156	153	152
25	7.8	7.8	125	149	145	132	143	146	158	158	152	153
26	7.8	7.8	125	149	145	132	143	144	158	158	150	149
27	7.8	7.8	125	149	146	132	143	141	158	146	153	143
28	7.8	7.8	127	149	145	132	143	143	158	145	154	147
29	7.2	7.8	125	149	-	132	141	143	157	145	153	144
30	6.8	7.8	123	146	-	131	143	144	158	154	152	142
31	6.6	-	124	145	-	130	-	144	-	157	150	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,319.8	162	0	74.8	4,600
November.....	357.6	50	6.6	11.9	709
December.....	3,111.4	149	7.6	100	6,170
Calendar year 1945	37,687.4	165	0	103	74,750
January.....	4,305	149	124	139	8,540
February.....	4,054	147	143	145	8,040
March.....	4,221	144	130	136	8,370
April.....	1,897.9	144	0	63.3	3,760
May.....	4,487	146	141	145	8,900
June.....	4,483	158	141	149	8,890
July.....	4,733	158	137	153	9,390
August.....	4,747	157	149	153	9,420
September.....	4,524	155	141	151	8,970
Water year 1945-46	43,240.7	162	0	118	85,760

b Stage-discharge relation affected by ice.

Alder Creek near Whitehall, Calif.

Location.- Water-stage recorder, lat. 38°45', long. 120°22', in SW $\frac{1}{4}$ sec. 36, T. 11 N., R. 14 E., three-quarters of a mile upstream from mouth and 2 miles southeast of Whitehall. Altitude of gage, about 4,000 feet (from topographic map).

Drainage area.- 22.8 square miles.

Records available.- October 1922 to September 1946 (include diversions by pipe line).

Average discharge.- 24 years, 34.1 second-feet.

Extremes.- Maximum discharge during year, 501 second-feet Dec. 22 (gage height, 3.65 feet); minimum, 0.6 second-foot Oct. 1-6, Aug. 24 to Sept. 15, Sept. 22-30.

1922-46: Maximum discharge, about 1,760 second-feet Mar. 25, 1928 (gage height, 7.1 feet, from floodmarks), from rating curve extended above 240 second-feet; minimum, 0.1 second-foot at times in 1924, 1926, 1931, 1933-45.

Extremes do not include flow in feeder pipe line.

Remarks.- Records good except those above 200 second-feet, which are fair. Records (except extremes) include computed flow in feeder pipe line that diverted just above station into El Dorado Canal Oct. 2 to Apr. 2, Apr. 19 to June 14.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	ho.6	25	26	146	33	59	81	142	30	5.4	1.6	a0.6
2	a.8	16	21	126	29	59	64	144	28	5.4	1.6	h.6
3	a.9	13	19	114	28	58	61	144	27	5.0	1.5	a.6
4	a.9	10	20	121	31	52	64	142	26	5.0	1.4	h.6
5	a.9	8.7	18	117	31	51	66	138	24	4.3	1.3	a.6
6	a.9	8.5	16	101	27	52	67	134	22	4.3	1.3	a.6
7	al.0	8.2	15	92	26	55	66	128	20	4.0	1.2	a.6
8	1.1	7.4	15	86	26	62	66	119	18	4.0	1.2	a.6
9	1.2	7.7	14	81	24	72	70	108	16	4.0	1.1	h.6
10	1.2	16	14	72	26	83	77	103	15	3.6	1.1	a.6
11	1.2	18	14	64	24	83	86	92	14	3.6	1.0	a.6
12	1.2	18	14	58	28	89	81	14	14	3.6	1.0	a.6
13	1.2	20	11	58	25	134	108	76	14	3.3	1.0	a.6
14	1.2	17	12	54	24	112	117	73	12	3.3	.9	a.6
15	1.3	22	13	51	22	103	128	68	12	3.0	.9	a.6
16	1.3	20	11	48	21	98	148	65	12	3.0	.9	h.9
17	1.2	25	11	47	21	96	171	64	11	3.0	.9	a.9
18	1.2	22	10	47	21	91	190	64	10	2.8	.8	a.8
19	al.2	21	10	45	21	91	192	61	9.7	2.5	.8	a.8
20	al.2	23	11	44	22	86	177	55	9.1	2.5	.8	a.7
21	al.2	22	298	40	26	78	161	48	8.6	2.3	.7	a.7
22	hl.2	22	370	36	a29	70	154	45	8.6	2.3	a.7	a.6
23	al.2	22	222	33	a30	67	165	41	7.6	2.3	a.7	h.6
24	al.2	25	163	33	a31	64	179	39	7.6	2.1	a.6	a.6
25	al.2	39	189	34	31	64	196	38	7.6	2.1	a.6	a.6
26	al.2	32	163	34	32	68	189	58	7.2	2.1	h.6	a.6
27	al.2	a29	168	34	41	75	179	50	7.2	2.1	a.6	a.6
28	al.2	26	217	34	61	84	174	45	6.2	1.9	a.6	a.6
29	4.4	27	259	33	-	89	163	39	6.2	1.9	a.6	a.6
30	65	32	209	35	-	86	153	36	5.8	1.9	a.6	h.6
31	59	168	36	36	-	86	-	32	-	1.8	a.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	159.7	65	0.6	5.15	317
November	602.5	39	7.4	20.1	1,200
December	2,721	370	10	87.8	5,400
Calendar year 1945	19,927.8	745	.4	54.6	39,550
January	1,954	146	33	63.0	3,880
February	791	61	21	28.2	1,570
March	2,417	134	51	78.0	4,790
April	3,811	196	61	127	7,560
May	2,472	144	32	79.7	4,900
June	416.4	30	5.8	13.9	826
July	98.4	5.4	1.8	3.17	195
August	29.2	1.8	.6	.94	58
September	19.2	.9	.6	.64	38
Water year 1945-46	15,491.4	370	.6	42.4	30,730

a No gage-height record; discharge interpolated.

h Computed from staff-gage reading.

Silver Creek at Union Valley, Calif.

Location.- Water-stage recorder, lat. 38°52', long. 120°26', in SE $\frac{1}{4}$ sec. 20, T. 12 N., R. 14 E., 1 mile downstream from confluence of North and Middle Forks, near lower end of Union Valley. Altitude of gage, about 4,530 feet (from topographic map).

Drainage area.- 82.7 square miles.

Records available.- October 1924 to September 1946.

Average discharge.- 21 years (1924-27, 1928-46), 201 second-feet.

Extremes.- Maximum discharge during year, 1,840 second-feet May 5 (gage height, 6.47 feet); minimum, 4.0 second-feet Oct. 5, 6.

1924-46: Maximum discharge, 8,560 second-feet Dec. 11, 1937 (gage height, 15.28 feet), from rating curve extended above 2,200 second-feet on basis of velocity-area studies; minimum, 1.9 second-feet Aug. 27, 28, 1931.

Remarks.- Records excellent except those for periods of no gage-height record, which are poor. No storage or diversion above station.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.4	2.8	1.4	68	3.2	410
.5	5.1	1.6	91	3.6	534
.6	8.4	1.8	117	4.0	668
.8	18	2.0	144	4.5	856
1.0	31	2.4	216	5.0	1,070
1.2	48	2.8	304	5.5	1,310

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	117	74	350	140	518	224	1,020	563	89	13	6.4
2	4.6	172	68	320	140	276	210	1,100	576	85	12	6.4
3	4.4	263	60	300	120	254	208	1,150	603	76	11	6.4
4	4.4	155	55	280	120	212	220	1,180	597	69	11	6.4
5	4.2	109	50	300	120	198	240	1,200	496	65	11	6.8
6	4.0	99	55	250	120	212	243	1,180	399	60	10	6.4
7	4.9	79	60	220	120	247	230	1,090	368	56	10	6.1
8	7.7	67	60	190	120	297	224	1,020	368	52	9.7	6.1
9	8.1	65	58	200	120	333	224	951	360	48	9.3	6.1
10	8.8	101	55	180	120	376	234	898	346	44	9.3	5.8
11	19	90	52	170	120	314	287	836	297	41	9.3	5.8
12	14	87	49	180	120	315	431	832	287	39	8.8	5.8
13	11	99	46	160	120	550	531	801	280	37	8.4	5.4
14	9.3	98	60	160	120	346	528	755	265	35	8.4	5.4
15	11	110	80	155	115	292	648	736	249	33	8.4	5.1
16	16	95	65	155	110	265	840	872	228	30	8.1	11
17	12	105	65	150	105	265	972	934	202	28	8.1	10
18	11	94	60	150	100	271	972	1,010	200	25	7.7	8.1
19	8.8	103	55	150	110	258	951	900	194	24	7.4	8.1
20	8.4	121	52	150	115	238	844	876	191	22	7.4	7.7
21	8.1	100	650	145	120	224	744	690	180	21	7.1	7.4
22	8.1	91	500	145	120	214	812	496	164	20	7.1	7.1
23	8.1	85	350	145	125	210	998	446	149	20	7.1	6.8
24	7.7	104	230	149	125	208	1,160	458	131	19	6.8	6.4
25	7.7	140	270	154	120	218	1,240	521	121	19	6.8	6.1
26	7.4	109	250	152	120	282	1,160	946	121	20	6.8	6.1
27	7.4	99	350	150	223	351	1,100	550	113	20	6.4	6.1
28	7.4	98	600	147	499	346	1,110	473	108	17	6.4	5.8
29	56	113	1,000	145	-	311	1,080	464	100	16	6.4	5.8
30	619	87	1,100	135	-	269	984	515	92	15	6.4	6.1
31	240	-	600	145	-	243	-	583	-	14	6.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,153.1	619	4.0	37.2	2,290
November.....	3,255	263	65	108	6,460
December.....	7,079	1,100	46	228	14,040
Calendar year 1945	84,766.0	2,640	4.0	232	168,100
January.....	5,782	350	135	187	11,470
February.....	3,827	499	100	137	7,590
March.....	8,713	550	198	281	17,280
April.....	19,649	1,240	208	655	38,970
May.....	25,473	1,200	446	822	50,520
June.....	8,348	603	92	278	16,650
July.....	1,159	89	14	37.4	2,300
August.....	262.0	13	6.4	8.45	520
September.....	199.0	11	5.1	6.63	395
Water year 1945-46	84,899.1	1,240	4.0	233	168,400

Note.- No gage-height record Dec. 2 to Jan. 23, Jan. 29 to Feb. 26; discharge computed on basis of records for stations on nearby streams.

Silver Creek near Placerville, Calif.

Location.- Water-stage recorder, lat. 38°47', long. 120°35', in SW $\frac{1}{4}$ sec. 13, T. 11 N., R. 12 E., 0.2 mile upstream from mouth and 12 miles northeast of Placerville. Altitude of gage, about 2,250 feet (from topographic map).

Drainage area.- 176 square miles.

Records available.- December 1921 to September 1946.

Average discharge.- 24 years (1922-46), 392 second-feet.

Extremes.- Maximum discharge during year, 3,180 second-feet Dec. 29 (gage height, 7.40 feet); minimum, 28 second-feet Oct. 6, Sept. 12-16, 28-30.
1921-46: Maximum discharge, 14,600 second-feet Dec. 11, 1937 (gage height, 13.8 feet), from rating curve extended above 3,800 second-feet on basis of velocity-area studies; minimum, 5.5 second-feet Sept. 18, 1934.

Remarks.- Records good. No storage or diversion above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29						Dec. 30 to Sept. 30					
1.6	27	2.8	188	4.2	648	6.0	1,780	1.6	22	2.5	125
1.9	51	3.1	262	4.6	846	6.5	2,220	1.9	46	2.8	186
2.2	84	3.4	348	5.0	1,080	7.0	2,730	2.2	79	3.1	262
2.5	128	3.8	484	5.5	1,410	7.5	3,300				

Note.- Same as preceding table above 3.1 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	312	210	1,080	298	728	566	1,620	996	218	56	32
2	30	207	198	895	301	622	534	1,780	942	213	54	32
3	30	421	202	814	298	587	518	1,840	1,040	198	52	32
4	29	333	202	846	296	518	534	1,890	1,040	182	50	32
5	29	217	226	912	276	484	566	1,910	960	168	48	32
6	29	193	217	772	287	488	570	1,920	752	160	46	32
7	31	175	217	699	293	514	558	1,850	668	152	45	31
8	36	133	198	617	270	575	550	1,680	668	142	44	31
9	40	137	168	550	273	626	554	1,580	648	136	44	30
10	39	229	188	526	270	694	554	1,520	648	127	43	29
11	53	239	175	488	276	648	613	1,410	575	120	43	29
12	59	210	158	448	254	617	782	1,360	534	116	42	28
13	46	224	141	448	262	1,160	966	1,370	550	115	41	28
14	41	198	132	431	257	814	948	1,280	507	110	40	28
15	42	246	166	421	262	708	1,120	1,240	488	104	39	28
16	53	241	173	400	259	644	1,400	1,340	466	98	38	41
17	50	327	154	390	254	630	1,570	1,530	424	92	37	50
18	45	257	141	387	257	630	1,640	1,610	407	87	37	40
19	43	252	142	374	262	613	1,580	1,540	404	83	36	35
20	40	287	150	358	276	579	1,480	1,470	397	80	35	34
21	40	231	930	351	342	554	1,300	1,320	390	78	35	33
22	38	205	2,240	342	358	530	1,320	954	367	77	34	32
23	37	188	1,590	333	336	522	1,580	803	359	74	33	31
24	36	213	1,060	333	348	514	1,810	797	310	72	32	30
25	36	459	1,670	342	345	499	1,940	873	279	72	32	29
26	36	307	1,620	333	330	570	1,910	1,440	279	73	32	29
27	35	254	1,410	336	467	676	1,770	1,010	265	72	31	29
28	36	231	2,200	330	990	713	1,800	835	257	68	31	28
29	59	318	3,080	315	-	704	1,790	797	244	64	31	28
30	966	257	2,220	293	-	666	1,640	851	228	60	31	28
31	648	-	1,460	293	-	604	-	960	-	58	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,762	966	29	89.1	5,480
November.....	7,501	459	133	250	14,880
December.....	23,058	3,080	132	745	45,700
Calendar year 1945.....	174,766	5,600	29	479	346,700
January.....	15,457	1,080	293	499	30,660
February.....	8,997	990	254	321	17,850
March.....	19,431	1,160	484	627	38,540
April.....	34,465	1,940	516	1,148	68,360
May.....	42,560	1,920	797	1,366	84,020
June.....	16,048	1,040	228	535	31,830
July.....	3,469	218	58	112	6,880
August.....	1,224	56	31	39.5	2,430
September.....	951	50	28	31.7	1,890
Water year 1945-46.....	175,701	3,080	28	481	348,500

Peak discharge.- Dec. 22 (4 a.m.) 3,060 sec.-ft.; Dec. 29 (12 m.) 3,180 sec.-ft.

South Fork Silver Creek near Ice House, Calif.

Location.- Water-stage recorder, lat. 38°49', long. 120°22', in SW $\frac{1}{4}$ sec. 1, T. 11 N., R. 14 E., 0.5 mile upstream from Peavine Creek, 1.5 miles northeast of Ice House, and 8 miles northeast of Riverton. Altitude of gage, about 5,300 feet (from topographic map).

Drainage area.- 28.4 square miles.

Records available.- October 1924 to September 1946. July to October 1922 at site 1 mile upstream.

Average discharge.- 22 years, 71.7 second-feet.

Extremes.- Maximum discharge during year, 636 second-feet May 5 (gage height, 3.40 feet); minimum, 1.4 second-feet Oct. 7.

1924-46: Maximum discharge, 2,200 second-feet Dec. 11, 1937 (gage height, 5.80 feet, from rating curve extended above 540 second-feet on basis of velocity-area studies; minimum, 0.1 second-foot Aug. 21 to Sept. 6, 1931.

Remarks.- Records good. No storage or diversion above station.

Rating table, water year 1945-46, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.3	0.5	1.0	39	2.0	206
.4	2.5	1.2	56	2.4	512
.5	7.0	1.4	81	2.8	428
.6	13	1.6	116	3.1	526
.8	25	1.8	158		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	59	35	112	38	94	64	398	301	60	8.8	1.9
2	1.4	45	31	91	37	74	58	444	309	62	7.6	1.9
3	1.4	99	28	78	31	b65	54	470	337	57	6.5	1.9
4	1.4	80	26	75	32	b56	55	486	337	51	6.0	2.2
5	1.4	54	22	78	b31	b50	59	509	306	49	5.5	2.2
6	1.4	45	24	71	32	52	60	519	245	45	5.0	2.2
7	1.4	38	27	60	32	57	58	495	211	42	4.5	2.2
8	2.2	33	27	55	b32	66	56	466	206	41	4.5	1.9
9	2.9	30	26	56	b32	75	57	447	204	37	4.1	1.9
10	3.3	49	24	53	b32	89	58	428	196	33	3.7	1.9
11	6.0	51	23	47	32	83	70	410	168	33	3.7	1.9
12	4.5	49	22	49	b32	73	94	404	158	34	3.7	1.9
13	3.7	50	21	47	b32	112	124	401	156	33	3.3	1.6
14	4.5	41	27	45	b31	95	135	377	152	28	3.3	1.6
15	6.0	45	36	43	31	75	163	368	141	24	2.9	1.6
16	6.0	39	27	42	29	67	209	398	135	22	2.9	5.0
17	5.5	55	28	42	b28	65	258	463	118	20	2.9	5.0
18	5.5	51	26	42	28	66	281	482	114	20	2.5	3.7
19	4.5	54	24	b40	27	64	279	482	110	19	2.5	3.3
20	4.5	56	23	b40	29	62	261	463	114	18	2.5	3.3
21	3.3	45	87	b39	32	58	224	401	114	18	2.5	2.9
22	2.5	39	172	39	32	55	242	290	105	17	2.2	2.9
23	2.5	35	95	38	33	53	315	235	97	17	2.2	2.5
24	2.5	35	71	38	33	53	289	235	83	15	2.2	2.5
25	2.5	65	86	*41	33	54	425	253	74	15	2.2	2.5
26	2.2	54	78	40	32	66	422	392	77	17	2.2	2.2
27	2.2	43	84	41	41	84	404	271	73	15	2.2	2.2
28	2.2	38	131	40	75	87	419	232	71	14	1.9	2.2
29	4.5	45	253	40	-	75	416	229	66	12	1.9	2.2
30	256	43	298	37	-	68	389	253	63	11	1.9	2.5
31	126	-	177	39	-	70	-	290	-	9.4	1.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	475.3	256	1.4	15.3	943
November.....	1,463	99	30	48.8	2,900
December.....	2,059	298	21	66.4	4,080
Calendar year 1945	31,058.8	560	.8	85.1	61,600
January.....	1,598	112	37	51.5	3,170
February.....	939	75	27	33.5	1,860
March.....	2,163	112	50	69.8	4,290
April.....	6,098	425	54	203	12,100
May.....	11,991	519	229	387	23,780
June.....	4,841	337	63	161	9,600
July.....	888.4	62	9.4	28.7	1,760
August.....	109.7	8.8	1.9	3.54	218
September.....	73.7	5.0	1.6	2.46	146
Water year 1945-46	32,699.1	519	1.4	89.6	64,850

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

American River flume near Camino, Calif.

Location.- Water-stage recorder, lat. 38°46', long. 120°42', in SW $\frac{1}{4}$ sec. 25, T. 11 N., R. 11 E., 300 feet upstream from Iowa Canyon Creek, 1 mile downstream from diversion dam, and 3 miles northwest of Camino. Altitude of gage, about 1,710 feet (from topographic map).

Records available.- November 1922 to September 1946.

Average discharge.- 24 years, 107 second-feet.

Extremes.- Maximum daily discharge during year, 178 second-feet July 5-7; no flow Feb. 21 to Mar. 22.

1922-46: Maximum daily discharge, 189 second-feet Aug. 15, 16, 1942, June 28, 1944; no flow at times each year.

Remarks.- Records good. Flume diverts from South Fork American River in SW $\frac{1}{4}$ sec. 24, T. 11 N., R. 11 E., for power development in SW $\frac{1}{4}$ sec. 20, T. 11 N., R. 11 E., just above Rock Creek, at which point water is returned to South Fork.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	166	170	167	163	0	159	172	170	175	158	134
2	152	166	170	164	166	0	162	172	170	175	157	132
3	149	166	170	166	165	0	162	172	168	176	149	132
4	150	166	170	168	165	0	162	171	170	176	154	138
5	152	166	168	168	165	0	163	171	171	178	154	140
6	149	165	170	168	165	0	164	171	171	178	145	150
7	146	165	169	166	162	0	164	173	170	178	149	138
8	152	165	170	164	163	0	166	173	171	177	151	140
9	155	165	169	166	166	0	167	173	171	174	154	149
10	158	168	170	166	166	0	170	173	171	171	148	141
11	157	171	169	164	164	0	171	173	171	169	144	135
12	164	171	168	166	166	0	170	173	171	173	149	133
13	157	170	169	166	166	0	171	173	171	172	142	132
14	158	170	171	165	166	0	171	173	170	170	144	133
15	133	169	171	165	166	0	170	173	170	170	142	139
16	144	170	171	164	166	0	170	173	170	165	138	146
17	120	167	171	166	166	0	170	172	171	171	140	157
18	84	170	171	164	70	0	170	172	170	169	131	157
19	84	170	171	167	9.1	0	170	172	170	167	122	150
20	80	169	170	167	4.2	0	170	172	169	164	146	154
21	74	171	168	164	0	0	169	171	173	163	143	145
22	72	171	167	167	0	0	171	171	174	161	137	145
23	70	173	166	167	0	31	173	171	174	167	135	149
24	67	171	164	166	0	45	173	171	174	156	132	140
25	67	167	169	164	0	56	173	171	174	167	130	166
26	66	171	168	166	0	84	173	169	175	174	131	164
27	66	168	169	166	0	105	173	170	175	164	132	162
28	65	170	169	164	0	122	173	170	175	164	127	148
29	80	168	169	163	-	145	173	170	176	152	130	154
30	163	170	169	164	-	153	172	170	176	150	139	152
31	164	-	166	165	-	152	-	170	-	161	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,745	164	65	121	7,430
November.....	5,035	173	165	168	10,030
December.....	5,242	171	164	169	10,400
Calendar year 1945.....	51,441.4	179	0	141	102,000
January.....	5,131	168	163	166	10,180
February.....	2,889.3	166	0	103	5,730
March.....	883	153	0	26.8	1,770
April.....	5,065	173	159	169	10,050
May.....	5,321	173	169	172	10,550
June.....	5,152	176	168	172	10,220
July.....	5,227	178	150	169	10,370
August.....	4,380	158	122	141	8,690
September.....	4,355	166	132	145	8,640
Water year 1945-46.....	52,455.3	178	0	144	104,100

Webber Creek near Salmon Falls, Calif.

Location.- Water-stage recorder, lat. 38°45', long. 121°00', in sec. 32, T. 11 W., R. 9 E., 1 mile upstream from mouth and 3.5 miles east of Salmon Falls. Altitude of gage, about 675 feet (from topographic map).

Drainage area.- 100 square miles (by Bureau of Reclamation).

Records available.- March 1943 to September 1946.

Extremes.- Maximum discharge during year, 3,700 second-feet Dec. 22 (gage height, 12.45 feet); minimum daily, 0.2 second-foot Sept. 11-13, 26-30.

1943-46: Maximum discharge, 5,000 second-feet Feb. 2, 1945 (gage height, 13.70 feet), from rating curve extended above 2,300 second-feet; no flow Aug. 26, 1945.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Flow regulated by reservoir (capacity, 1,275 acre-feet) on headwaters from which most of flow is diverted during irrigation season. Small amount of water diverted from South Fork American River enters watershed during irrigation season.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 12-30)

Oct. 1 to Dec. 22						Dec. 23 to Sept. 30					
4.8	0.9	5.8	32	8.0	390	4.6	0	5.2	6.5	6.0	47
4.9	1.8	6.2	66	8.5	595	4.7	.5	5.3	8.6	6.4	85
5.0	2.9	6.5	98	9.0	840	4.8	1.2	5.4	11	6.8	130
5.1	4.2	6.7	122	9.6	1,200	4.9	2.1	5.5	15	7.2	196
5.2	5.9	7.0	165	10.2	1,620	5.0	3.3	5.6	19		
5.4	11	7.3	215	10.6	1,940	5.1	4.8	5.7	25		
5.6	19	7.7	302								

Note.- Same as preceding table above 7.3 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	50	69	206	33	85	377	26	8.6			0.4
2	1.4	18	56	175	36	76	290	24	8.2			.4
3	1.4	11	47	221	84	71	231	23	7.1			.4
4	1.6	9.1	96	384	81	66	198	22	6.5			.4
5	1.7	7.8	312	394	64	63	173	21	6.2			.4
6	1.9	7.4	162	278	59	60	151	21	7.1			.3
7	2.2	7.6	106	223	108	58	134	20	7.3			.3
8	2.5	7.4	84	198	95	54	121	18	7.1			.3
9	2.8	7.2	69	159	84	45	112	16	6.9			.3
10	3.3	14	62	138	81	43	103	14	7.1			.3
11	6.7	35	57	120	98	41	94	15	6.9			.2
12	9.6	23	52	106	86	41	86	13	6.3			.2
13	11	18	42	96	77	203	80	11	5.6			.2
14	11	14	36	91	71	110	76	11	6.0			.2
15	12	25	42	84	69	82	68	11	5.6			.3
16	50	73	40	79	69	84	60	12	5.6	2.0	1.0	.6
17	16	89	54	74	65	75	47	11	5.3			2.1
18	9.4	69	31	70	62	78	42	11	5.2			1.6
19	6.7	40	28	65	63	90	46	9.9	4.5			.8
20	5.2	31	28	64	72	151	46	16	3.3			
21	4.1	23	779	60	106	202	44	12	3.1			.5
22	4.1	19	1,850	59	126	158	41	12	2.9			.4
23	3.6	16	1,830	56	103	133	39	13	3.1			.4
24	2.9	15	854	54	93	116	36	10	3.2			.4
25	3.2	178	1,800	52	91	104	35	10	2.9			.3
26	3.3	66	1,070	51	81	93	33	29	2.9			.2
27	4.5	46	775	48	80	81	32	23	2.6			.2
28	6.3	42	660	38	100	148	30	15	2.3			.2
29	7.8	353	550	36	-	1,080	29	13	2.8			.2
30	82	106	346	34	-	1,280	27	11	2.7	1.6		.2
31	111	-	258	33	-	550	-	9.4	2.7	1.6		.2

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	390.6	111	1.4	12.6	775
November.....	1,410.5	333	7.2	47.0	2,800
December.....	12,195	1,850	28	393	24,190
Calendar year 1945	35,899.7	2,760	0	98.4	71,220
January.....	3,746	394	33	121	7,430
February.....	2,237	126	33	79.9	4,440
March.....	5,491	1,260	41	177	10,890
April.....	2,881	377	27	96.0	5,710
May.....	483.3	29	9.4	15.6	959
June.....	154.8	8.6	2.3	5.16	307
July.....	61.2	-	1.6	1.97	121
August.....	31.0	-	-	1.00	61
September.....	13.8	2.1	.2	.46	27
Water year 1945-46	29,095.2	1,850	.2	79.7	57,710

Peak discharge.- Dec. 22 (2:30 a.m.) 3,700 sec.-ft.; Dec. 23 (6:30 a.m.) 3,180 sec.-ft.; Dec. 25 (6 a.m.) 2,130 sec.-ft.; Mar. 29 (2 a.m.) 1,980 sec.-ft.; Mar. 30 (2:30 a.m.) 1,950 sec.-ft.

Note.- No gage-height record July 1-29, July 31 to Sept. 11; discharge computed on basis of recorded range in stage, weather records, and comparison with records for stations on nearby streams.

Yolo bypass near Woodland, Calif.

Location.- Water-stage recorder on left bank, lat. 38°40'40", long. 121°38'35", just upstream from Sacramento and Woodland Railroad bridge, 6 miles upstream from Sacramento bypass, 7 miles downstream from Fremont weir, and 7 miles east of Woodland, Yolo County. Auxiliary water-stage recorder 6 miles downstream. Zero of both gages is set to datum of Corps of Engineers, War Department.

Records available.- October 1940 to September 1946 in reports of Geological Survey. 1939-46 in reports of Division of Water Resources, Department of Public Works, State of California.

Extremes.- Maximum discharge during year, 119,000 second-feet Dec. 30 (gage height, 28.70 feet); minimum, 12 second-feet Oct. 29.
1940-46: Maximum discharge, 272,000 second-feet Feb. 8, 1942 (gage height, 32.00 feet); minimum daily discharge, 3 second-feet Dec. 17, 1940.

Remarks.- Records good. Flow is that from Cache Creek and Knights Landing Ridge Cut plus flood water passing over Fremont weir; during summer flow consists largely of return water from irrigation. Discharge for low flows computed on basis of gage-height record for auxiliary gage.

Cooperation.- Records collected and prepared in cooperation with Division of Water Resources, Department of Public Works, State of California.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	31	95	74,600	591	194	73	56	50	46	44	51
2	47	31	119	49,100	585	196	171	57	49	46	44	c58
3	44	35	164	35,300	423	203	196	58	49	46	45	c65
4	44	36	188	30,400	357	194	198	58	48	46	45	71
5	62	32	203	33,100	316	183	196	58	48	47	45	77
6	76	34	291	37,400	307	151	201	57	47	47	45	81
7	62	33	1,090	37,200	295	106	194	56	47	47	45	82
8	67	33	1,680	34,800	265	75	192	56	47	47	45	80
9	114	30	1,760	29,700	262	64	177	56	47	47	45	76
10	131	27	1,670	25,100	251	64	149	56	47	47	45	79
11	118	26	1,370	20,800	251	71	88	56	47	46	45	80
12	87	21	933	15,900	236	81	116	55	47	47	45	79
13	65	20	646	11,800	219	103	116	54	45	47	45	78
14	63	20	555	7,710	219	132	70	54	45	47	45	76
15	58	21	471	5,560	203	127	57	54	45	47	45	75
16	50	21	426	3,140	192	136	52	54	45	47	45	75
17	45	21	381	1,600	175	139	50	55	45	47	45	75
18	42	19	357	1,250	167	141	50	56	45	47	45	73
19	39	17	331	1,100	154	177	51	58	45	46	45	73
20	31	17	309	1,020	141	179	53	56	45	46	45	71
21	27	17	304	960	133	186	54	55	45	45	45	71
22	24	33	417	911	141	177	55	54	44	44	46	70
23	19	55	4,420	884	154	175	56	53	44	44	46	67
24	17	69	17,200	848	177	179	57	52	44	44	46	64
25	16	75	42,800	821	186	201	57	51	44	44	47	59
26	15	73	55,800	772	181	175	56	51	44	44	48	55
27	15	68	63,500	696	186	155	56	51	45	44	48	50
28	14	67	75,500	662	192	126	56	52	45	44	49	44
29	15	74	95,300	637	-	111	56	52	45	44	49	39
30	23	85	116,000	618	-	96	56	52	45	44	49	37
31	28	-	106,000	606	-	71	-	51	-	44	50	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,509	131	14	48.7	2,990
November.....	1,141	85	17	38.0	2,280
December.....	590,280	116,000	95	19,040	1,171,000
Calendar year 1945.....	933,466	116,000	14	2,557	1,852,000
January.....	464,995	74,600	606	15,000	922,300
February.....	6,959	591	133	249	13,800
March.....	4,364	205	64	141	8,660
April.....	5,009	201	50	100	5,970
May.....	1,694	58	51	54.6	3,360
June.....	1,379	50	44	46.0	2,740
July.....	1,418	47	44	45.7	2,810
August.....	1,421	50	44	45.8	2,820
September.....	2,031	82	37	67.7	4,030
Water year 1945-46.....	1,080,200	116,000	14	2,959	2,143,000

c Backwater from debris; discharge interpolated.

COLUSA AND YOLO BASINS

Clear Lake at Lakeport, Calif.

Location.- Staff gage, lat. 39°03', long. 122°55', in SE $\frac{1}{4}$ sec. 24, T. 14 N., R. 10 W., at municipal wharf on north side of Third Street in Lakeport. Datum of gage is 1,318.59 feet above mean sea level, datum of 1929.

Drainage.- 528 square miles (revised), including water surface of lake (65 square miles).

Records available.- 1874-1900 (incomplete) and January 1913 to September 1946.

Extremes.- Maximum gage height observed during year, 7.27 feet Apr. 13, 15-17; minimum observed, 0.00 foot Oct. 27.
1913-46: Maximum gage height observed, 11.12 feet Jan. 28, 1914; minimum observed, -3.50 feet Sept. 24-27, 1920.

Remarks.- This natural lake is regulated by a concrete over-flow dam at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 feet (limits stipulated by court decree), about 319,000 acre-feet. Water is released down natural channel of Cache Creek from which it is diverted for irrigation (see following page).

Cooperation.- Gage-height record furnished by Clear Lake Water Co.

Gage height, in feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.25	0.28	0.97	5.61	6.17	6.77	7.15	6.90	5.77	4.27	2.80	1.47
2	.23	.28	.98	5.70	6.20	6.78	7.15	6.87	5.70	4.20	2.80	1.47
3	.21	.28	1.00	5.80	6.20	6.82	7.15	6.80	5.67	4.20	2.77	1.30
4	.19	.29	1.20	6.00	6.20	6.83	7.17	6.77	5.65	4.10	2.70	1.25
5	.18	.30	1.40	6.10	6.22	6.85	7.20	6.77	5.50	4.10	2.70	1.25
6	.15	.30	1.60	6.10	6.22	6.85	7.20	6.75	5.50	4.10	2.55	1.22
7	.13	.31	1.67	6.10	6.27	6.85	7.20	6.65	5.47	4.00	2.55	1.20
8	.11	.31	1.75	6.20	6.28	6.87	7.20	6.65	5.40	4.00	2.50	1.15
9	.10	.32	1.82	6.20	6.32	6.87	7.22	6.60	5.40	3.90	2.45	1.10
10	.10	.32	1.90	6.10	6.32	6.87	7.25	6.60	5.30	3.85	2.45	1.05
11	.10	.32	1.92	6.10	6.32	6.87	7.25	6.55	5.25	3.85	2.35	1.00
12	.10	.33	1.93	6.00	6.32	6.87	7.25	6.50	5.20	3.82	2.35	1.00
13	.10	.34	1.95	5.95	6.32	6.90	7.27	6.50	5.20	3.70	2.30	.97
14	.10	.34	1.95	5.90	6.32	6.90	7.25	6.45	5.10	3.62	2.25	.90
15	.10	.40	1.97	5.90	6.37	6.92	7.27	6.40	5.10	3.60	2.25	.85
16	.10	.45	2.00	5.90	6.40	6.95	7.27	6.37	5.05	3.55	2.15	.85
17	.09	.50	2.00	5.95	6.40	6.90	7.27	6.30	5.00	3.52	2.10	.85
18	.09	.56	2.00	5.95	6.40	6.95	7.22	6.30	4.90	3.45	2.05	.85
19	.08	.56	2.00	6.00	6.40	6.95	7.22	6.25	4.87	3.40	2.00	.80
20	.08	.57	2.00	6.00	6.45	6.95	7.20	6.20	4.85	3.40	2.00	.80
21	.08	.57	2.00	6.05	6.52	7.00	7.20	6.15	4.85	3.30	1.95	.77
22	.07	.57	2.50	6.05	6.60	7.00	7.20	6.10	4.70	3.27	1.87	.70
23	.07	.58	3.00	6.10	6.60	6.97	7.17	6.07	4.65	3.20	1.85	.67
24	.05	.58	3.10	6.10	6.60	7.00	7.15	6.07	4.65	3.12	1.77	.67
25	.04	.65	3.40	6.10	6.65	7.00	7.10	5.97	4.65	3.27	1.75	.67
26	.02	.72	3.80	6.10	6.70	7.00	7.10	5.90	4.47	3.12	1.72	.67
27	.00	.80	4.20	6.10	6.72	7.00	7.02	5.90	4.47	3.10	1.70	.67
28	.06	.87	4.70	6.10	6.77	7.00	7.00	5.90	4.35	3.10	1.62	.67
29	.12	.95	5.10	6.10	-	7.00	6.90	5.85	4.30	3.10	1.62	.62
30	.17	.96	5.35	6.12	-	7.00	6.90	5.80	4.30	2.80	1.52	.57
31	.25	-	5.52	6.15	-	7.00	-	-	-	2.85	1.47	-

Cache Creek near Lower Lake, Calif.

Location.- Water-stage recorder, lat. 38°55', long. 122°34', in sec. 6, T. 12 N., R. 6 W., 500 feet downstream from Clear Lake Dam, 1.5 miles downstream from Copsey Creek, and 2.5 miles northeast of Lower Lake. Altitude of gage, about 1,280 feet (from topographic map).

Drainage area.- 528 square miles, including water surface of Clear Lake (65 square miles).

Records available.- May 1944 to September 1946.

Extremes (regulated).- Maximum discharge during year, 4,650 second-feet Jan. 4 (gage height, 8.34 feet), from rating curve extended above 2,000 second-feet on basis of velocity-area studies and logarithmic plotting; minimum observed, 0.5 second-foot (field estimate) on Dec. 12.

1944-46: Maximum discharge, that of Jan. 4, 1946; minimum not determined, but less than 0.5 second-foot.

Remarks.- Records good except those for periods of low flow, October to March, which are poor. Flow completely controlled at Clear Lake Dam.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.5	2.0	1.6	27	2.9	185	4.5	660
.6	2.8	1.8	40	3.2	244	5.0	930
.9	7.8	2.0	57	3.5	314	5.5	1,260
1.2	14	2.3	90	3.8	394	6.0	1,630
1.4	19	2.6	133	4.1	490	6.5	2,050

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39			2			4.0	566	528	638	528	394
2	34			2			4.0	566	541	680	536	391
3	33			2			3.4	579	557	665	545	403
4	33			1,250			2.8	602	513	624	553	409
5	26			2,020			3.6	606	579	610	584	406
6	11			2,040		2	3.4	624	680	606	592	406
7	4.5			2,050			4.3	651	715	610	584	397
8				2,040			3.4	660	690	624	562	391
9				2,020			4.6	660	670	528	528	383
10				1,940			3.1	651	633	628	494	366
11				1,920			3.4	638	620	642	480	350
12				1,810		3.2	4.5	651	642	633	476	340
13				1,890		3.2	4.2	660	642	620	476	340
14				808		3.2	4.8	660	670	597	473	324
15						3.4	4.0	660	685	562	473	300
16			2			3.4	3.8	6570	680	536	487	262
17						3.4	29	6570	690	528	501	165
18						3.6	107	6541	695	566	501	109
19	2					3.6	193	6501	715	610	487	145
20						3.7	237	6483	720	624	470	167
21						3.7	233	509	690	624	476	174
22						4.0	268	549	675	624	480	172
23					2	4.0	343	517	680	638	476	171
24						4.0	442	463	660	675	473	167
25						4.0	584	450	656	665	473	164
26												
27						2	660	437	642	620	473	128
28						2	656	427	610	553	480	78
29						4.2	638	443	602	566	490	63
30						3.8	615	480	602	584	476	62
31						3.8	579	501	606	570	446	52
						4.0	-	517	-	541	418	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	228.5	39	-	7.37	453
November.....	60	-	-	2	119
December.....	60	-	-	2	123
Calendar year 1945.....	67,333.4	690	-	184	133,600
January.....	19,828	2,050	-	640	39,330
February.....	56	-	-	2	111
March.....	92.2	4.2	-	2.97	183
April.....	5,845.3	660	2.8	188	11,200
May.....	17,352	660	427	560	34,420
June.....	19,268	720	513	642	38,220
July.....	18,887	680	528	609	37,460
August.....	15,491	592	418	500	30,730
September.....	7,679	409	52	256	15,230
Water year 1945-46.....	104,649.0	2,050	-	287	207,600

g Computed from graph based on gage readings.

Note.- No gage-height record Oct. 8 to Jan. 3, Jan. 15 to Mar. 11, Mar. 26, 27; discharge estimated.

Cache Creek near Capay, Calif.

Location.- Water-stage recorder, lat. 38°43'40", long. 122°06'15", in SE $\frac{1}{4}$ sec. 8, T. 10 N., R. 2 W., 2 miles upstream from Clear Lake Water Co.'s diversion dam and 3 miles northwest of Capay. Altitude of gage, about 240 feet (from topographic map).

Drainage area.- 1,052 square miles (reported by Bureau of Reclamation).

Records available.- May 1942 to September 1946.

Extremes.- Maximum discharge during year, 11,400 second-feet Dec. 27 (gage height, 11.90 feet), from rating curve extended above 6,300 second-feet; minimum, 7.4 second-feet Oct. 22, 23, 27-29.
1942-46: Maximum discharge, 23,000 second-feet Jan. 21, 1943 (gage height, 17.54 feet), from rating curve extended above 6,300 second-feet on basis of peak flow at Yolo; minimum, 5.0 second-feet Oct. 26, 27, 1942.

Remarks.- Records good. Many diversions above station for irrigation; storage in Clear Lake (see p. 374).

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27

Dec. 28 to Sept. 30

2.3	5	3.5	288	5.8	1,730	2.2	64	3.9	588	7.0	3,260
2.4	11	3.8	407	6.5	2,450	2.4	102	4.1	680	7.5	3,860
2.5	22	4.1	540	7.0	3,030	2.6	148	4.3	795	8.0	4,510
2.6	36	4.5	750	7.9	4,230	2.8	202	4.6	990	8.5	5,220
2.7	55	4.8	950	9.1	6,120	3.0	264	5.0	1,280	9.0	6,000
2.9	103	5.1	1,140			3.3	364	5.6	1,790	9.5	6,820
3.2	188	5.5	1,460			3.6	472	6.3	2,490		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	312	284	1,970	191	293	248	632	529	588	533	411
2	60	122	210	1,840	194	270	a246	637	533	623	525	393
3	53	71	173	1,750	229	254	245	619	548	642	529	386
4	46	49	501	2,000	211	238	238	651	548	619	529	393
5	42	38	2,150	3,630	191	226	226	651	529	588	548	400
6	42	33	1,060	3,390	182	214	211	661	601	588	568	400
7	36	30	635	3,140	242	202	202	675	675	580	572	396
8	30	28	518	3,070	296	191	196	702	686	597	564	389
9	25	26	394	2,910	242	180	188	708	681	597	549	378
10	21	26	318	2,800	217	171	174	708	651	592	518	368
11	19	25	267	2,670	208	169	169	691	619	606	491	354
12	16	25	236	2,590	199	166	161	691	614	606	480	340
13	14	25	207	2,460	182	164	153	702	632	597	480	327
14	13	32	179	2,430	174	188	148	702	628	597	476	323
15	12	36	164	592	174	180	141	702	656	a570	472	310
16	11	49	156	465	185	166	136	642	656	a550	468	286
17	9.8	311	150	418	180	161	126	628	656	a535	480	261
18	9.2	299	136	389	169	158	131	623	666	a520	491	200
19	8.6	173	130	371	171	156	208	592	661	a550	491	126
20	8.6	158	125	350	226	156	296	560	686	a600	476	141
21	8.6	152	1,170	333	251	151	333	537	670	a610	465	156
22	8.6	119	5,030	316	432	146	333	576	656	a610	468	158
23	8.0	98	3,640	299	364	141	382	584	642	a620	465	158
24	8.0	88	2,770	286	316	136	447	544	632	a635	465	158
25	8.0	98	5,300	267	310	134	552	506	628	642	461	156
26	8.0	201	2,790	254	299	129	670	502	619	637	458	151
27	7.4	210	5,970	245	280	124	702	483	606	576	458	134
28	7.4	201	6,750	238	303	126	702	476	588	548	465	96
29	9.8	905	4,290	202	-	148	686	483	580	564	468	80
30	21	454	2,940	205	-	191	661	510	580	564	458	71
31	192	-	2,230	199	-	238	-	525	-	548	432	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	841.0	192	7.4	27.1	1,670
November.....	4,394	905	25	146	8,720
December.....	51,075	6,750	125	1,648	101,500
Calendar year 1945.....	169,256.0	6,750	7.4	464	335,700
January.....	42,079	3,630	199	1,357	83,460
February.....	6,618	432	169	236	13,130
March.....	5,567	293	124	180	11,040
April.....	9,511	702	126	310	18,470
May.....	18,903	708	476	610	37,490
June.....	18,636	686	529	621	36,960
July.....	18,299	642	520	590	36,300
August.....	15,302	572	432	494	30,350
September.....	7,900	411	71	263	15,670
Water year 1945-46.....	198,925.0	6,750	7.4	545	394,600

Peak discharge.- Dec. 22 (2 a.m.) 5,620 sec.-ft.; Dec. 25 (3:30 a.m.) 7,020 sec.-ft.; Dec. 27 (8:30 p.m.) 11,400 sec.-ft.

a No gage-height record; discharge computed on basis of records for station near Lower Lake.

Cache Creek at Yolo, Calif.

Location.- Water-stage recorder, lat. 38°43'30", long. 121°48'25", in Rio Jesús Maria Grant, 800 feet upstream from highway bridge and 0.5 mile south of Yolo, Yolo County. Altitude of gage, about 60 feet (from topographic map).

Drainage area.- 1,150 square miles.

Records available.- January 1903 to September 1946.

Average discharge.- 43 years, 532 second-feet.

Extremes.- Maximum discharge during year, 12,200 second-feet Dec. 28 (gage height, 16.08 feet); no flow for several months.

1903-46: Maximum discharge, 28,700 second-feet plus overflow on right bank estimated as 10,000 second-feet Feb. 28, 1940 (gage height, 29.0 feet); no flow at times each year.

Maximum stage observed, 29.8 feet Feb. 2, 1915, staff-gage reading.

Remarks.- Records good. Many diversions above station for irrigation; storage in Clear Lake (see p. 374).

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 1 to Dec. 21)

Oct. 1 to Dec. 27

Dec. 28 to Sept. 30

1.4	0	2.1	128	4.5	1,300	1.6	0	2.0	27	2.5	190
1.5	4.0	2.3	150	6.0	2,320	1.7	2.0	2.1	48	2.8	325
1.6	12	2.7	332	8.0	3,810	1.8	6.0	2.2	74	3.2	525
1.7	26	3.0	455	10.0	5,480	1.9	12	2.3	106	3.7	800
1.8	48	3.5	690	12.0	7,410	Note.- Same as preceding table above 3.7 feet.					
1.9	72	4.0	980	15.0	8,490						

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		92	253	1,460	155	240	181					
2		100	171	1,160	155	217	199					
3		48	143	1,070	164	208	194					
4		26	152	1,030	172	194	181					
5		9.0	1,300	3,500	146	177	164					
6		0	1,060	3,460	138	168	155					
7		0	550	3,170	138	159	138					
8		0	424	3,120	230	150	130					
9		0	340	2,900	204	138	134					
10		0	271	2,780	181	130	118					
11		0	221	2,600	164	122	106					
12		0	187	2,490	155	118	61					
13		0	161	2,310	142	118	51					
14		0	143	2,430	134	122	44					
15		0	128	1,100	130	134	35					
16		0	117	580	130	118	24					
17		0	108	480	134	110	16					
18		188	97	425	126	110	9.2					
19		137	89	380	122	110	1.0					
20		89	80	345	134	110	0					
21		89	129	320	186	106	0					
22		75	4,130	298	266	103	0					
23		60	4,180	280	320	100	0					
24		53	2,570	266	271	96	0					
25		55	5,190	248	253	90	0					
26		74	3,130	230	253	80	0					
27		128	3,840	212	230	71	0					
28		137	8,250	199	222	71	0					
29		366	4,590	190	-	80	0					
30		464	2,930	177	-	103	0					
31		-	1,990	164	-	146	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	2,190.0	464	0	73.0	4,340
December	46,924	8,250	80	1,514	93,070
Calendar year 1945	88,656.0	8,250	0	243	175,800
January	39,374	3,500	164	1,270	78,100
February	5,055	320	122	181	10,030
March	3,999	240	71	129	7,930
April	1,941.2	199	0	64.7	3,850
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1945-46	99,483.2	8,250	0	273	197,300

Peak discharge.- Nov. 29 (8 p.m.) 800 sec.-ft.; Dec. 5 (11:30 a.m.) 1,890 sec.-ft.; Dec. 22 (9:30 a.m.) 5,080 sec.-ft.; Dec. 25 (10 a.m.) 6,740 sec.-ft.; Dec. 28 (3 a.m.) 12,200 sec.-ft.; Jan. 5 (9:30 a.m.) 4,010 sec.-ft.

North Fork Cache Creek near Lower Lake, Calif.

Location.- Water-stage recorder, lat. 39°01', long. 122°33', in NE¼ sec. 31, T. 14 N., R. 6 W., 500 feet upstream from Sweet Hollow Creek, 3 miles upstream from mouth, and 7 miles northeast of Lower Lake. Datum of gage is 1,035.60 feet above mean sea level, preliminary adjustment of 1929.

Drainage area.- 214 square miles.

Records available.- July 1930 to September 1946.

Average discharge.- 16 years, 180 second-feet.

Extremes.- Maximum discharge during year, 9,280 second-feet Dec. 27 (gage height, 10.20 feet), minimum, 0.1 second-foot Sept. 24-30.

1930-46: Maximum discharge, 20,000 second-feet Feb. 28, 1940 (gage height, 13.9 feet), by slope-area method and logarithmic plotting; no flow at times in each year 1930-36.

Remarks.- Records good below 2,000 second-feet and fair above. Several small diversions above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 4						Dec. 5 to Sept. 30					
1.4	0.1	2.2	31	3.8	314	1.3	0.1	2.3	49	5.0	940
1.5	.5	2.4	48	4.2	470	1.4	.5	2.6	85	5.6	1,310
1.6	2.7	2.6	71	4.6	655	1.5	1.5	2.9	133	6.2	1,790
1.7	6.0	2.9	114	5.0	860	1.6	2.8	3.2	199	7.0	2,680
1.8	10	3.2	165	5.5	1,180	1.7	5.0	3.5	284	7.8	3,780
2.0	20	3.5	228			1.9	16	3.9	430	8.6	5,280
						2.1	31	4.5	690	9.2	6,680

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	100	185	775	120	220	209	57	23	4.1	1.3	0.3
2	.3	47	147	663	137	204	199	56	22	3.7	1.1	.3
3	.3	30	133	690	133	189	189	53	21	3.5	.9	.3
4	.3	25	1,180	1,270	119	175	180	51	20	3.2	.8	.3
5	.4	22	1,140	1,250	112	166	171	50	18	3.0	.7	.3
6	.4	20	609	1,000	135	155	162	48	18	2.8	.6	.3
7	.4	20	498	895	272	145	157	45	17	2.7	.6	.3
8	.4	19	383	720	180	137	147	44	17	2.7	.5	.3
9	.5	20	294	618	153	131	135	43	16	2.5	.5	.3
10	.5	22	239	537	145	128	128	41	15	2.4	.4	.3
11	.6	23	202	474	139	128	122	39	15	2.3	.5	.3
12	.6	33	171	422	128	120	117	38	14	2.3	.5	.3
13	.6	35	143	383	122	149	112	37	13	2.3	.4	.2
14	.5	33	126	346	119	137	105	36	12	2.3	.4	.2
15	.6	38	119	310	126	124	101	36	12	2.4	.5	.2
16	.6	186	113	284	126	119	96	35	11	2.4	.5	.3
17	.6	447	101	259	117	113	91	34	11	2.3	.5	.3
18	.6	160	92	239	115	110	89	32	9.0	2.2	.5	.3
19	.6	144	85	225	133	110	85	29	8.0	1.9	.5	.3
20	.6	151	86	212	182	105	82	29	7.0	1.8	.5	.3
21	.6	112	1,180	197	318	104	80	29	6.5	1.5	.5	.2
22	.6	91	2,660	185	324	96	77	33	8.0	1.4	.4	.2
23	.6	77	2,550	175	259	93	73	34	6.0	1.3	.4	.2
24	.6	74	2,360	168	245	92	71	35	5.5	1.2	.3	.1
25	.5	191	3,300	160	245	92	68	32	5.0	1.4	.3	.1
26	.5	210	2,090	151	220	89	65	36	4.8	1.9	.3	.1
27	.5	167	6,620	143	236	86	64	35	4.6	1.9	.2	.1
28	.6	474	4,410	139	247	91	62	31	4.6	1.6	.2	.1
29	3.3	580	2,960	131	-	120	80	29	4.3	1.5	.2	.1
30	4.3	264	1,500	126	-	155	58	27	4.1	1.4	.2	.1
31	541	-	988	122	-	180	5	25	-	1.4	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	562.8	541	0.3	18.2	1,120
November.....	3,775	560	19	126	7,490
December.....	36,644	6,620	85	1,182	72,680
Calendar year 1945	76,276.5	6,620	.3	209	151,300
January.....	15,269	1,270	122	428	26,320
February.....	4,907	324	112	175	9,750
March.....	4,061	220	86	131	8,050
April.....	3,354	209	58	112	6,650
May.....	1,177	57	25	38.0	2,330
June.....	350.4	23	4.1	11.7	695
July.....	69.3	4.1	1.2	2.24	137
August.....	15.6	1.3	.2	.50	31
September.....	7.0	.3	.1	.23	14
Water year 1945-46	68,192.1	6,620	.1	187	135,200

Peak discharge.- Dec. 4 (3 p.m.) 2,520 sec.-ft.; Dec. 22 (3 a.m.) 3,240 sec.-ft.; Dec. 25 (1 a.m.) 4,560 sec.-ft.; Dec. 27 (2 p.m.) 9,280 sec.-ft.; Jan. 4 (5 p.m.) 2,110 sec.-ft.

Putah Creek near Guenoc, Calif.

Location.- Water-stage recorder, lat. 38°46', long. 122°31', 1r. sec. 22, T. 11 N., R. 6 W., just upstream from dam site and 3.5 miles downstream from highway bridge at Guenoc. Datum of gage is 913.4 feet above mean sea level (river-profile survey).

Drainage area.- 112 square miles.

Records available.- February 1904 to July 1906, July 1930 to September 1946.

Average discharge.- 16 years (1930-46), 194 second-feet.

Extremes.- Maximum discharge during year, 7,700 second-feet Dec. 27 (gage height, 12.23 feet); minimum, 2.2 second-feet Oct. 18-20, 26.

1904-6, 1930-46: Maximum discharge observed, 24,600 second-feet Mar. 10, 1904 (gage height, 20.1 feet, datum then in use), from rating curve extended above 14,500 second-feet; minimum, 0.6 second-foot Sept. 30, Oct. 4, 1932.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Small diversions above station.

Rating tables, water-year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27

Dec. 28 to Sept. 30

1.3	1.4	2.1	41	5.0	750	1.1	2.1	1.7	17.5	3.0	192
1.4	2.4	2.3	64	5.5	965	1.2	3.6	1.8	23	3.5	300
1.5	4.4	2.6	108	6.0	1,210	1.3	5.6	1.9	30	4.0	428
1.6	8.2	3.0	178	6.8	1,710	1.4	7.8	2.0	40	4.5	572
1.7	13	3.5	276	8.0	2,680	1.5	10.5	2.3	77	5.0	750
1.8	18	4.0	404	9.3	3,960	1.6	13.5	2.6	122		
1.9	24	4.5	566								

Note.- Same as preceding table above 5.0 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	123	240	542	97	162	251	45	19	8.9	5.6	3.3
2	3.2	31	180	543	112	152	218	44	18	8.3	5.4	3.3
3	3.2	31	140	672	133	143	182	42	18	8.3	5.2	3.2
4	3.0	23	800	888	111	135	164	40	17	8.3	5.2	3.2
5	2.8	19	1,200	724	103	128	148	39	17	8.1	5.0	3.2
6	2.8	17	600	530	145	122	138	36	16	8.3	5.0	3.2
7	3.0	16	400	490	276	116	130	33	16	8.1	5.0	3.0
8	3.2	16	350	408	173	111	122	32	16	8.1	5.0	3.0
9	3.2	16	250	346	150	106	116	30	16	8.1	4.8	3.0
10	3.2	16	200	305	138	104	108	29	15	7.8	4.8	2.8
11	3.2	18	180	273	133	100	103	29	15	7.8	4.6	2.8
12	3.2	20	150	244	122	97	100	29	15	7.6	4.6	2.8
13	3.0	22	135	225	116	130	94	27	14	7.4	4.4	3.0
14	2.8	25	122	208	111	117	90	27	14	7.4	4.4	3.0
15	2.8	30	115	194	120	104	87	26	14	7.4	4.4	3.0
16	2.6	350	113	181	128	100	83	26	13	7.1	4.4	3.2
17	2.4	200	103	171	116	96	80	24	13	6.9	4.2	3.0
18	2.3	90	95	160	112	91	76	23	13	6.7	4.2	2.8
19	2.3	120	88	153	138	94	74	22	12	6.5	4.0	3.0
20	2.3	90	94	150	171	96	72	22	11	6.5	4.0	2.8
21	2.8	80	3,280	143	338	91	68	22	11	6.5	4.0	2.8
22	2.6	70	3,910	135	266	88	67	23	10	6.3	3.8	2.8
23	2.4	60	2,660	132	212	84	63	23	10	6.3	3.6	2.8
24	2.4	60	2,320	127	204	81	59	21	10	6.3	3.4	2.8
25	2.4	80	2,700	122	202	80	57	20	10	6.5	3.4	2.7
26	2.3	150	1,560	117	177	76	54	26	9.7	6.7	3.4	2.8
27	2.3	120	5,130	112	181	74	53	28	9.7	6.3	3.4	2.7
28	2.6	800	2,730	109	184	76	50	24	9.4	6.0	3.4	2.7
29	3.4	600	1,680	104	-	218	47	22	9.4	5.8	3.4	2.7
30	161	300	988	102	-	293	46	20	9.2	5.6	3.3	2.7
31	239	-	696	98	-	246	-	19	-	5.6	3.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	480.9	239	2.3	15.5	954
November	3,620	800	16	1,071	7,180
December	33,209	5,130	88	1,071	65,870
Calendar year 1945	75,963.8	5,130	2.3	208	150,700
January	8,708	888	98	281	17,270
February	4,469	338	97	160	8,860
March	3,711	293	74	120	7,360
April	3,000	251	46	100	5,950
May	873	45	19	28.2	1,730
June	400.4	19	9.2	13.3	794
July	221.5	8.9	5.6	7.15	439
August	132.6	5.6	3.3	4.28	263
September	88.1	3.3	2.7	2.94	175
Water year 1945-46	58,913.8	5,130	2.3	161	116,800

Peak discharge.- Dec. 21 (9:30 p.m.) 6,020 sec.-ft.; Dec. 24 (9:30 p.m.) 5,310 sec.-ft.; Dec. 27 (12 m.) 7,700 sec.-ft.; Jan. 4 (3 to 4 p.m.) 1,260 sec.-ft.

Note.- No gage-height record Nov. 11 to Dec. 12; discharge computed on basis of records for station near Winters.

Putah Creek near Winters, Calif.

Location.- Water-stage recorder, lat. 38°31', long. 122°05', in NE¹ sec. 28, T. 8 N., R. 2 W., 6 miles west of Winters and 8 miles downstream from Capell Creek. Datum of gage is 160.75 feet above mean sea level (river-profile survey).

Drainage area.- 614 square miles.

Records available.- June 1930 to September 1946. 1905-31 at site at Winters, 6 miles downstream; records equivalent except for very low flows.

Average discharge.- 16 years (1930-46), 493 second-feet.

Extremes.- Maximum discharge during year, 16,500 second-feet Dec. 27 (gage height, 17.88 feet); minimum, 0.9 second-foot Sept. 30, 1905-46; Maximum discharge, 70,500 second-feet Feb. 27, 1940 (gage height, 30.5 feet, present datum), from rating curve extended above 28,000 second-feet by slope-area computations; minimum (at present site), 0.3 second-foot Aug. 23, 24, 26, 27, 1931, Aug. 7, Sept. 24, 25, 1939.

Remarks.- Records good except those for period of no gage-height record, which are fair. Several pumps above station divert water for irrigation.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet) (Backwater corrections applied Aug. 9 to Sept. 26)

Oct. 1 to Dec. 27

Dec. 28 to Sept. 30

3.5	2.0	4.2	73	9.0	1,320	3.3	0.8	4.2	27	6.4	308
3.6	4.0	5.1	106	10.0	1,940	3.4	2.1	4.4	38	7.0	450
3.7	7.0	5.4	144	11.0	2,750	3.5	3.9	4.7	59	7.5	600
3.8	10.5	5.8	200	12.0	3,820	3.6	6.0	5.0	87	8.0	790
4.0	18	6.3	290	14.0	7,110	3.8	11.5	5.4	134	9.0	1,300
4.2	27	7.0	460	16.0	11,400	4.0	19	5.8	194	10.0	1,940
4.4	38	7.5	620								
4.6	54	8.0	820								

Note.- Same as preceding table above 10.0 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	369	414	1,350	205	306	440	80	27	11	4.1	5.6
2	6.1	138	303	1,110	208	280	445	78	25	10	3.9	6.0
3	6.4	74	244	1,430	262	262	379	76	24	8.2	3.7	6.3
4	5.8	49	887	1,440	264	244	332	73	23	7.4	3.7	6.0
5	4.9	38	3,330	2,070	226	228	294	71	22	7.1	4.1	6.0
6	3.8	29	1,690	1,320	212	223	266	69	21	6.8	4.3	6.8
7	4.3	25	860	1,090	311	208	244	65	20	6.8	4.5	6.0
8	8.0	22	655	1,020	379	201	228	61	20	7.9	4.3	5.6
9	8.8	20	460	822	298	194	216	58	20	7.1	4.7	5.8
10	7.7	19	363	714	268	186	201	57	21	5.8	5.2	5.6
11	9.4	18	308	635	254	181	191	55	19	5.6	5.2	4.7
12	8.4	18	268	555	241	175	181	53	19	5.6	5.2	3.5
13	6.4	18	a265	506	223	178	174	52	19	3.7	5.2	3.2
14	6.1	22	a250	472	210	208	166	51	18	3.5	5.4	3.2
15	6.1	43	a250	440	208	198	160	50	18	3.4	5.6	2.8
16	6.1	49	a220	411	230	180	151	49	17	4.1	5.6	2.8
17	5.8	749	a200	388	235	174	145	48	16	3.5	5.6	3.0
18	6.1	404	a180	367	214	169	137	45	15	2.8	5.6	3.4
19	6.1	226	a160	348	210	170	133	40	14	2.5	5.6	3.4
20	5.8	316	a1,000	332	288	178	127	37	13	2.3	5.4	2.8
21	5.5	231	a8,000	321	321	176	121	33	12	2.1	5.2	2.6
22	5.5	172	a9,000	302	574	168	118	33	12	2.1	5.2	2.3
23	4.6	140	a7,000	290	424	180	112	33	13	2.1	5.0	2.1
24	4.3	124	a6,000	280	363	154	109	33	13	2.0	5.2	2.5
25	4.3	217	a7,000	272	354	148	104	35	12	2.6	5.4	2.5
26	4.9	416	a5,000	260	332	145	97	36	11	5.8	5.4	2.3
27	5.8	327	a11,000	243	306	140	93	36	11	6.3	5.4	2.1
28	5.8	255	7,380	237	319	140	91	34	11	5.2	5.4	1.8
29	9.4	2,369	4,700	226	-	212	88	34	11	4.3	5.6	1.3
30	23	751	2,510	217	-	419	85	32	11	3.7	6.0	1.1
31	250	-	1,750	208	-	530	-	30	-	4.1	6.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	451.6	250	3.8	14.6	896
November	7,617	2,360	18	254	15,110
December	81,807	11,000	160	2,632	161,900
Calendar year 1945	180,373.2	13,700	1.3	494	357,800
January	19,676	2,070	208	635	39,030
February	7,939	574	205	284	15,750
March	6,535	530	140	211	12,960
April	5,828	445	85	188	11,160
May	1,537	80	30	49.6	3,050
June	508	27	11	16.9	1,010
July	155.4	11	2.0	5.01	308
August	158.7	6.0	3.7	5.06	311
September	113.1	6.8	1.1	3.77	224
Water year 1945-46	131,923.8	11,000	1.1	361	261,700

a No gage-height record; discharge computed on basis of range of stage and records for station near Guenoc.

Napa River near St. Helena, Calif.

Location.- Water-stage recorder, lat. 38°29'40", long. 122°25'50", in SE $\frac{1}{4}$ sec. 32, T. 8 N., R. 5 W., 0.2 mile upstream from highway bridge, 1.3 miles northeast of Zinfandel, and 2.5 miles east of St. Helena. Altitude of gage, about 200 feet (from topographic map).

Drainage area.- 83.5 square miles.

Records available.- November 1929 to September 1932, November 1939 to September 1946.

Extremes.- Maximum discharge during year, 4,060 second-feet Dec. 27 (gage height, 8.23 feet); minimum, 0.1 second-foot parts of many days in August and September.
1929-32, 1939-46: Maximum discharge, 11,800 second-feet Feb. 6, 1942 (gage height, 14.6 feet); no flow at times during 1940, 1944, 1945.

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

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.5	0.1	1.0	12.5	1.5	60	3.2	536
.6	.6	1.1	19	1.7	92	4.0	940
.7	1.5	1.2	27	2.0	153	5.0	1,540
.8	3.3	1.3	36	2.4	253	6.0	2,220
.9	7.0	1.4	47	2.8	377	7.0	2,990

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	11	54	281	33	69	135	17	8.1	1.7	0.8	0.7
2	.6	3.9	37	290	44	55	115	16	8.6	1.4	.8	.8
3	.6	2.1	30	353	46	48	85	16	6.6	2.3	1.3	.8
4	.6	1.4	354	720	36	44	72	16	5.3	2.3	.8	.7
5	.6	1.2	612	567	33	40	63	16	4.6	2.4	1.1	.7
6	.6	1.2	261	360	40	38	57	16	4.9	2.3	1.0	.7
7	.6	1.3	171	302	57	36	52	14	5.7	2.3	.7	.4
8	.6	1.3	113	231	43	34	50	13	4.6	2.4	1.4	.2
9	.6	1.4	80	183	37	33	46	14	5.7	1.8	1.4	.4
10	.6	1.7	64	146	36	32	43	14	7.0	2.0	1.4	.4
11	.7	1.8	56	125	35	32	39	14	6.2	2.0	1.4	.4
12	.6	2.3	48	105	32	32	35	14	5.3	1.8	1.4	.2
13	.6	6.6	45	96	32	47	34	14	4.2	1.5	1.0	.4
14	.6	5.3	46	87	31	37	32	13	3.9	1.5	.7	.6
15	.6	8.1	38	78	37	34	31	13	5.3	1.3	.7	.6
16	.6	34	36	70	43	32	29	12	5.3	1.3	.2	.6
17	.6	92	33	68	36	32	28	11	4.6	2.1	1.2	.4
18	.6	25	31	62	33	31	28	9.8	3.9	1.2	1.2	.3
19	.6	20	29	59	42	35	26	9.8	2.3	1.2	1.2	.4
20	.6	30	29	56	50	32	25	10	1.1	1.3	1.1	.6
21	.6	17	656	55	88	30	24	10	1.6	1.7	1.1	.4
22	.6	12	1,490	51	72	28	23	11	2.4	1.1	1.0	.4
23	.5	9.8	1,250	48	59	27	22	11	2.8	1.0	1.0	.5
24	.5	14	852	46	60	27	21	9.8	2.8	1.3	1.0	.3
25	.5	69	1,100	44	57	25	19	8.1	3.9	1.8	1.0	.4
26	.5	107	653	42	51	25	18	11	2.8	1.2	1.0	.5
27	.6	50	2,500	38	108	25	18	10	2.4	1.8	.6	.4
28	.6	391	1,950	42	103	30	18	8.1	1.8	1.7	.5	.2
29	1.0	275	1,250	37	-	113	18	5.7	2.0	.9	.4	.2
30	1.5	89	604	33	-	149	17	8.1	2.0	1.2	.1	.1
31	21	-	381	34	-	117	-	8.6	-	.8	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	40.0	21	0.5	1.29	79
November	1,275.4	381	1.2	42.5	2,530
December	14,853	2,500	29	479	29,480
Calendar year 1945	34,974.6	2,730	.3	95.8	69,370
January	4,719	720	33	152	9,360
February	1,374	108	31	49.1	2,730
March	1,369	149	25	44.2	2,720
April	1,223	135	17	40.8	2,430
May	374.0	17	5.7	12.1	742
June	127.7	8.6	1.1	4.26	253
July	50.6	2.4	.8	1.63	100
August	28.4	1.4	.1	.92	56
September	13.8	.8	.1	.46	27
Water year 1945-46	25,447.9	2,500	.1	69.7	50,490

Peak discharge.- Dec. 5 (12 m.) 1,120 sec.-ft.; Dec. 22 (8 p.m.) 2,250 sec.-ft.; Dec. 27 (1:30 p.m.) 4,060 sec.-ft.; Jan. 4 (3 to 4 p.m.) 1,170 sec.-ft.

Conn Creek near St. Helena, Calif.

Location.- Water-stage recorder, lat. 38°29', long. 122°24', in NW $\frac{1}{4}$ sec. 3, T. 7 N., R. 5 W., 0.2 mile upstream from highway bridge, 4 miles southeast of St. Helena, and 6 miles upstream from mouth. Altitude of gage, about 180 feet (from topographic map).

Drainage area.- 52.0 square miles.

Records available.- November 1929 to September 1946.

Average discharge.- 15 years (1930-45), prior to construction of Conn Valley Dam, 34.7 second-feet.

Extremes.- Maximum discharge during year, 20 second-feet (regulated) Dec. 27 (gage height, 1.81 feet); no flow for greater part of year.

1930-46: Maximum discharge 7,700 second-feet Feb. 27, 1940 (gage height, 11.80 feet), from rating curve extended above 6,000 second-feet; no flow for several months each year.

Remarks.- Records good. Flow regulated by storage and small diversions. Storage in Conn Valley Reservoir (capacity 31,000 acre-feet) began in December 1945; contents, 15,000 acre-feet Sept. 30, 1946.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

1.32	0	1.5	1.3
1.35	.1	1.6	3.6
1.4	.4	1.7	9.4
1.45	.7	1.8	19

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	14	0	2.0			12	11	2.7			
2	0	11	0	1.9		0	11	11	2.7			
3	0	7.9	0	1.9		0	11	7.2	2.7			
4	0	3.3	0	2.5		0	11	5.4	2.5			
5	0	2.2	0	2.2		0	11	4.9	2.0			
6	0	4.5	0	1.9		0	11	4.9	2.0			
7	0	6.6	0	1.9		0	11	4.9	2.0			
8	0	1.9	0	1.9		0	11	4.9	2.0			
9	0	.2	0	1.6		0	12	4.0	2.5			
10	0	0	0	1.5		0	12	4.4	2.5			
11	0	0	0	1.5		0	12	2.7	2.5			
12	0	0	0	1.3		0	13	4.4	1.9			
13	0	0	0	1.3		0	13	4.9	.4			
14	0	0	0	1.3		0	13	4.9	0			
15	0	0	0	1.2		0	13	4.4	0			
16	0	0	0	1.2		0	12	4.0	0			
17	0	0	0	1.2		0	12	3.6	1.4			
18	0	0	0	1.0		0	12	3.3	1.9			
19	0	0	0	.9		0	12	3.3	2.0			
20	0	0	0	.8		0	12	3.3	2.2			
21	0	0	1.4	.7		0	11	2.7	2.2			
22	0	0	5.4	.5		6.8	11	3.0	1.9			
23	0	0	6.0	.1		9.4	11	3.0	1.6			
24	0	0	4.4	0		10	10	3.0	.8			
25	0	0	4.4	0		10	10	3.0	0			
26	0	0	2.7	0		8.4	10	3.3	0			
27	0	0	9.4	0		11	10	3.3	0			
28	0	0	4.9	0		11	10	3.3	0			
29	0	0	4.0	0		11	11	2.1	0			
30	0	0	3.0	0		11	11	2.5	0			
31	6.3	-	2.5	0		11	-	2.7	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6.3	6.3	0	0.20	12
November.....	51.6	11	0	1.72	102
December.....	48.1	9.4	0	1.55	95
Calendar year 1945.....	6,957.4	1,210	0	19.1	13,800
January.....	32.3	2.5	0	1.04	64
February.....	0	0	0	0	0
March.....	99.6	11	0	3.21	198
April.....	342	13	10	11.4	678
May.....	133.3	11	2.1	4.30	264
June.....	42.4	2.7	0	1.41	84
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1945-46.....	755.6	14	0	2.07	1,500

East Fork Russian River near Calpella, Calif.

Location.- Water-stage recorder, lat. 39°15', long. 123°09', in sec. 13, T. 16 N., R. 12 W., 1 mile downstream from Cold Creek and 3 miles east of Calpella. Altitude of gage, about 720 feet (from topographic map).

Drainage area.- 94.0 square miles.

Records available.- November 1941 to September 1946.

Extremes.- Maximum discharge during year, 10,200 second-feet Dec. 27 (gage height, 13.12 feet); minimum, 57 second-feet (regulated) May 30.
1941-46: Maximum discharge, 11,200 second-feet Jan. 21, 1943 (gage height, 13.67 feet), from rating curve extended above 5,000 second-feet by logarithmic plotting; minimum, 7 second-feet (regulated) Dec. 13, 1943.

Remarks.- Records excellent. Small diversions above station for irrigation. Flow affected by diversion from Bel River through Potter Valley powerhouse (see p. 392).

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)

1.8	84	3.5	384	7.0	2,000
2.0	105	4.0	530	8.0	2,850
2.3	135	4.5	700	9.0	3,900
2.6	178	5.0	905	10.0	5,200
3.0	258	6.0	1,590	11.0	6,700

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	202	228	270	366	272	398	304	228	112	135	150	115
2	192	223	245	881	340	374	299	230	102	146	141	104
3	185	219	629	982	311	353	292	217	142	147	139	136
4	187	213	2,700	3,380	289	357	289	213	150	141	100	143
5	198	219	1,180	1,270	280	324	284	202	150	144	141	153
6	200	219	512	780	484	316	292	209	153	136	151	148
7	183	219	437	918	404	306	277	209	147	106	166	175
8	206	217	337	644	335	301	284	204	148	132	176	133
9	206	226	311	560	314	296	280	202	116	137	151	166
10	211	234	294	503	314	282	277	204	154	137	145	141
11	219	234	a282	461	316	292	275	204	161	138	116	137
12	215	245	270	426	299	294	272	202	155	136	138	162
13	215	228	263	392	292	395	270	211	146	128	141	159
14	187	223	258	384	292	308	270	215	145	97	136	162
15	215	319	270	371	327	301	263	211	146	120	138	124
16	221	764	268	355	299	296	260	182	108	126	144	161
17	217	396	258	342	296	289	256	180	143	137	148	154
18	208	272	254	332	294	289	256	145	145	145	114	160
19	209	517	249	327	335	287	258	133	143	147	144	161
20	215	294	258	311	335	284	258	138	144	158	142	155
21	213	260	1,180	311	724	280	243	143	147	116	138	159
22	213	247	2,120	304	429	275	260	154	144	141	140	116
23	209	254	1,580	299	376	272	247	151	107	138	143	163
24	207	343	1,560	296	404	272	249	135	133	130	151	157
25	211	401	1,500	292	384	268	232	131	148	135	129	148
26	211	345	1,890	287	355	268	223	158	142	163	152	153
27	213	282	6,440	284	550	265	236	147	145	140	146	156
28	219	902	2,910	280	461	277	236	134	142	108	139	144
29	234	440	1,460	275	-	345	236	115	140	146	141	132
30	258	501	682	272	-	342	230	90	105	159	143	159
31	277	-	475	272	-	316	-	116	-	161	147	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,557	277	183	212	13,010
November.....	9,484	902	213	316	18,810
December.....	31,340	6,440	245	1,011	62,160
Calendar year 1945	121,188	6,440	110	332	240,400
January.....	17,157	3,580	272	553	34,030
February.....	10,131	724	272	362	20,090
March.....	9,503	598	265	307	18,850
April.....	7,908	304	223	264	15,690
May.....	5,413	230	90	175	10,740
June.....	4,163	161	102	139	8,280
July.....	4,230	163	97	136	8,390
August.....	4,390	176	100	142	8,710
September.....	4,436	175	104	148	8,600
Water year 1945-46	114,712	6,440	90	314	227,500

Peak discharge.- Dec. 27 (11 a.m.) 10,200 sec.-ft.; Dec. 28 (8 p.m.) 6,020 sec.-ft.; Jan. 4 (12 m.) 6,860 sec.-ft.

a No gage-height record; discharge interpolated.

Russian River near Hopland, Calif.

Location.- Water-stage recorder, lat. 39°01'35", long. 123°07'45", in Rancho de Sanel Grant, at highway bridge, 0.2 mile downstream from McNab Creek, 4 miles north of Hopland, and 17 miles upstream from Sulphur Creek. Datum of gage is 497.43 feet above mean sea level, datum of 1929.

Drainage area.- 362 square miles.

Records available.- December 1939 to September 1946.

Extremes.- Maximum discharge during year, 30,100 second-feet Dec. 27 (gage height, 24.40 feet); minimum, 84 second-feet (regulated) July 15.

1939-46: Maximum discharge, 34,100 second-feet Feb. 28, 1940, from rating curve extended above 30,000 second-feet; maximum gage height, 26.12 feet Jan. 21, 1943; minimum discharge, 24 second-feet (regulated) Dec. 18, 1943.

Flood of December 1937 reached a stage of about 30.0 feet, from floodmarks.

Remarks.- Records good. Several small diversions above station for irrigation. Flow also affected by diversion into basin, see "Remarks" for East Fork Russian River near Calpella.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	206	299	688	1,990	436	986	813	298	147	106	145	136
2	196	255	559	2,130	550	879	756	295	145	126	139	116
3	193	244	861	3,980	625	813	670	288	139	129	131	108
4	186	238	7,890	8,780	530	742	630	278	161	145	129	129
5	193	234	5,510	6,470	480	692	595	271	161	129	104	139
6	193	238	2,480	3,370	668	650	565	271	164	129	129	139
7	200	238	1,790	3,040	996	610	540	267	167	131	139	145
8	189	238	1,270	2,340	716	580	515	264	161	104	150	161
9	203	238	987	1,860	630	560	495	257	164	123	147	131
10	206	259	827	1,570	595	535	480	257	145	121	139	147
11	217	291	723	1,370	620	530	465	254	167	123	136	134
12	217	456	632	1,210	560	515	451	250	167	126	111	139
13	217	390	568	1,080	530	857	432	250	156	126	129	145
14	213	311	518	996	510	750	418	257	153	126	129	147
15	193	487	502	906	555	650	404	250	153	97	126	145
16	217	1,820	508	842	595	640	396	240	150	118	131	134
17	217	1,900	475	793	530	600	382	233	126	118	139	147
18	213	681	450	744	510	580	370	211	142	126	139	147
19	210	1,230	430	710	565	560	370	198	142	134	111	150
20	213	832	430	678	705	540	365	189	136	139	131	147
21	217	565	2,800	635	1,410	520	353	182	142	139	129	147
22	213	460	7,660	615	1,180	500	349	192	139	116	129	139
23	210	455	6,780	590	968	485	349	192	142	123	129	126
24	210	480	5,250	570	950	480	340	182	113	123	134	147
25	206	1,060	7,470	550	938	465	325	176	134	123	145	139
26	210	860	5,580	525	830	456	306	186	136	139	123	139
27	210	631	21,900	505	1,180	441	309	192	131	145	139	142
28	220	1,810	12,700	490	1,180	446	309	176	131	154	139	139
29	255	1,880	8,460	475	-	772	309	161	131	116	164	139
30	333	930	3,810	455	-	1,060	298	150	134	139	134	134
31	447	-	2,620	446	-	902	-	156	-	145	136	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,823	447	186	220	13,530
November.....	19,990	1,900	234	666	39,650
December.....	113,128	21,900	430	3,649	224,400
Calendar year 1945	286,623	21,900	117	785	568,500
January.....	50,715	8,780	446	1,636	100,600
February.....	20,562	1,410	436	734	40,780
March.....	19,776	1,060	441	638	39,230
April.....	13,339	813	298	445	26,460
May.....	7,003	298	136	226	13,890
June.....	4,379	167	113	*146	8,690
July.....	3,918	145	97	126	7,770
August.....	4,105	150	104	132	8,140
September.....	4,177	161	108	139	8,280
Water year 1945-46	267,915	21,900	97	734	531,400

Peak discharge.- Dec. 4 (7 p.m.) 12,800 sec.-ft.; Dec. 23 (12:30 a.m.) 9,260 sec.-ft.; Dec. 25 (3 a.m.) 10,100 sec.-ft.; Dec. 27 (5 p.m.) 30,100 sec.-ft.; Dec. 29 (5 a.m.) 13,300 sec.-ft.; Jan. 4 (9 p.m.) 16,200 sec.-ft.

Russian River near Healdsburg, Calif.

Location.- Water-stage recorder, lat. 38°36'45", long. 122°50'05", in SE $\frac{1}{4}$ sec. 22, T. 9 N., R. 9 W., 2 miles east of Healdsburg and 3.5 miles upstream from Dry Creek. Datum of gage is 76.84 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, War Department).

Drainage area.- 791 square miles.

Records available.- December 1939 to September 1946.

Extremes.- Maximum discharge during year, 41,800 second-feet Dec. 28 (gage height, 21.05 feet); minimum not determined.

1939-46: Maximum discharge, 67,000 second-feet Feb. 28, 1940 (gage height, 30.0 feet), from rating curve extended above 50,000 second-feet; minimum, 69 second-feet (regulated) July 17, 1943.

Flood of December 1937 reached a stage of 30.8 feet, from floodmarks.

Remarks.- Records good except those for period of doubtful gage-height record, which are fair. Several small diversions above station for irrigation. Flow also affected by diversion into basin, see "Remarks" for East Fork Russian River near Calpellia.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28					Dec. 29 to Sept. 30						
2.2	194	4.0	1,280	10	9,600	1.6	105	2.5	370	5.0	2,300
2.4	254	5.0	2,180	12	14,400	1.8	139	3.0	650	6.0	3,340
2.6	326	6.0	3,220	16	25,600	2.0	184	3.5	990	7.0	4,620
2.8	420	7.0	4,440	20	38,200	2.2	244	4.0	1,360	8.0	6,020
3.0	540	8.0	5,950			Note. - Same as preceding table above 8.8					
3.5	880	9.0	7,700			feet.					

Note.- Same as preceding table above 8.8 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	186	1,400	1,900	4,720	801	1,730	1,650	442	212	130	110	116
2	189	768	1,430	4,160	836	1,540	1,480	431	206	130	h119	119
3	189	553	1,300	6,130	1,050	1,410	1,310	426	201	130	120	115
4	186	450	6,820	8,040	962	1,310	1,200	420	201	128	115	105
5	180	385	14,600	14,500	878	1,220	1,110	405	198	h126	105	104
6	180	352	7,810	7,410	948	1,140	1,040	395	201	125	105	110
7	189	339	4,390	5,500	1,860	1,070	983	385	201	125	107	113
8	202	322	5,200	5,000	1,500	1,000	941	370	201	125	110	115
9	191	311	2,480	3,890	1,240	982	892	356	201	h118	115	121
10	200	315	2,040	3,300	1,110	927	850	361	201	115	121	125
11	208	335	1,740	2,870	1,090	906	808	356	198	113	118	123
12	208	380	1,800	2,530	1,040	878	773	352	198	h110	115	123
13	214	560	1,500	2,260	969	948	745	347	195	105	111	116
14	214	498	1,180	2,040	920	1,220	717	342	190	95	105	118
15	214	579	1,060	1,860	990	1,040	698	347	184	100	108	121
16	202	1,540	1,020	1,700	1,130	983	674	342	182	105	108	126
17	208	3,630	952	1,580	1,020	941	650	338	182	100	108	121
18	216	1,970	888	1,470	948	906	632	329	177	95	111	118
19	216	1,440	831	1,390	1,020	892	614	311	172	h101	115	118
20	214	1,760	789	1,330	1,400	878	602	290	165	135	111	123
21	211	1,220	5,720	1,250	2,180	864	590	278	162	125	108	121
22	214	952	16,900	1,180	2,730	815	572	274	160	115	111	119
23	211	824	17,000	1,120	2,000	780	554	274	160	105	110	121
24	211	896	11,500	1,080	1,770	759	536	267	158	90	110	116
25	208	2,360	15,600	1,030	1,780	738	524	263	154	105	111	115
26	208	1,970	11,100	990	1,600	717	502	267	150	h116	111	121
27	211	1,570	24,600	948	1,570	692	480	286	143	125	113	119
28	225	3,450	36,600	913	2,040	698	464	274	139	130	115	116
29	366	5,580	20,000	878	-	990	458	241	137	125	118	113
30	3,000	2,860	10,200	850	-	1,910	453	274	135	115	118	113
31	3,750	-	6,290	815	-	1,810	-	225	-	105	116	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	12,821	3,750	180		25,430
November.....	39,569	5,580	311	414	78,480
December.....	232,680	36,600	789	7,508	461,500
Calendar year 1945	568,698	36,600	119	1,558	1,128,000
January.....	92,734	14,500	815	2,991	183,900
February.....	37,382	2,730	801	1,335	74,150
March.....	32,674	1,910	692	1,054	64,810
April.....	23,482	1,650	453	765	46,580
May.....	10,277	442	225	332	20,380
June.....	5,364	212	155	179	10,640
July.....	3,567	135	90	115	7,080
August.....	3,478	121	105	112	6,900
September.....	3,524	126	104	117	6,990
Water year 1945-46	497,552	36,600	90	1,363	986,800

Peak discharge.- Dec. 22 (7:30 p.m.) 19,400 sec.-ft.; Dec. 28 (10:30 a.m.) 41,800 sec.-ft.

h Computed from staff-gage reading.

Note.- Doubtful gage-height record June 29 to Aug. 6; discharge computed on basis of occasional staff-gage readings and records for station at Guerneville.

RUSSIAN RIVER BASIN

Russian River at Guerneville, Calif.

Location.- Wire-weight gage, lat. 38°30'03", long. 122°59'36", in NW $\frac{1}{4}$ sec. 32, T. 8 N., R. 10 W., at highway bridge in Guerneville, 6.5 miles upstream from Austin Creek.
Datum of gage is 8.67 feet above mean sea level, datum of 1929.

Drainage area.- 1,346 square miles.

Records available.- December 1939 to September 1946.

Extremes.- Maximum discharge during year, 56,800 second-feet Dec. 28 (gage height, 35.22 feet), from rating curve extended above 35,000 second-feet on basis of previous rating curves; minimum observed, 91 second-feet July 18, 25, Aug. 8, 9.
1939-46: Maximum discharge, 88,400 second-feet Feb. 28, 1940 (gage height, 46.87 feet); minimum observed, 88 second-feet Aug. 19, 20, 1940.

Remarks.- Records good except those for periods of variable backwater, which are fair. Gage read twice daily with additional readings in periods of high water. Several small diversions above station for irrigation. Flow also affected by diversion into basin, see "Remarks" for East Fork Russian River near Calpella.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		2,550	3,160	8,760	1,130	2,650	2,450	590	280	140	106	112
2		1,040	2,330	7,080	1,140	2,340	2,240	575	250	137	109	115
3		690	1,840	8,620	1,420	2,140	2,000	532	220	133	125	122
4		532	7,500	10,900	1,430	1,940	1,790	478	210	133	118	118
5		447	20,100	19,900	1,290	1,790	1,650	460	210	137	112	109
6		394	14,900	13,800	1,270	1,670	1,520	447	210	129	112	100
7		357	7,780	9,200	2,840	1,560	1,390	425	210	133	106	100
8		336	5,480	8,270	2,490	1,460	1,340	408	210	133	91	106
9		318	4,100	6,660	2,020	1,390	1,260	399	210	129	91	112
10		307	3,310	5,430	1,760	1,310	1,180	391	210	118	95	118
11		314	2,820	4,710	1,650	1,250	1,120	382	210	106	109	137
12		332	2,420	4,100	1,580	1,200	1,080	362	210	106	118	137
13	200	409	2,100	3,640	1,450	1,230	1,020	374	210	100	115	141
14		470	1,840	3,270	1,360	1,570	971	374	210	93	106	133
15		447	1,700	2,960	1,440	1,420	927	362	200	100	100	122
16		840	1,600	2,690	1,890	1,310	894	387	200	103	106	125
17		4,210	1,510	2,470	1,650	1,280	850	362	190	98	103	133
18		2,950	1,400	2,280	1,500	1,230	820	363	190	95	103	133
19		1,780	1,300	2,110	1,450	1,210	800	351	180	125	106	125
20		2,030	1,260	2,010	2,230	1,210	770	340	180	125	112	125
21		1,550	7,350	1,880	3,080	1,170	750	320	170	145	109	129
22		1,120	25,000	1,760	4,520	1,110	730	290	170	133	100	133
23		915	29,200	1,670	3,400	1,070	710	290	160	115	106	133
24		870	21,100	1,600	2,900	1,020	680	280	160	106	106	133
25		3,350	24,800	1,530	2,850	1,020	665	280	160	91	106	125
26	176	2,980	21,900	1,460	2,560	982	650	290	160	106	106	118
27	176	2,310	34,400	1,390	2,360	944	635	300	150	109	106	125
28	183	3,570	55,600	1,330	2,860	938	620	310	150	122	109	125
29	251	10,200	42,000	1,260	-	1,170	610	300	140	133	112	122
30	2,870	5,090	24,200	1,210	-	2,140	600	280	140	129	122	122
31	4,700	-	12,500	1,170	-	2,700	-	290	-	115	118	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	13,356	4,700	-	431	26,490
November.....	52,708	10,200	307	1,757	104,500
December.....	386,300	55,600	1,260	12,460	766,200
Calendar year 1945.....	891,444	55,600	-	2,442	1,768,000
January.....	145,120	19,900	1,170	4,681	287,800
February.....	57,520	4,520	1,130	2,054	114,100
March.....	45,424	2,700	938	1,465	90,100
April.....	32,722	2,450	600	1,091	64,900
May.....	11,652	590	280	376	23,110
June.....	5,760	280	140	192	11,420
July.....	3,677	145	91	119	7,290
August.....	3,343	125	91	108	6,650
September.....	3,688	141	100	123	7,320
Water year 1945-46.....	761,270	55,600	91	2,086	1,510,000

Note.- Variable backwater from temporary dam Oct. 1-25, May 20 to July 1; discharge computed on basis of records for station near Healdsburg.

Laguna de Santa Rosa near Graton, Calif.

Location.- Water-stage recorder, lat. 38°27', long. 122°50', in sec. 14, T. 7 N., R. 9 W., in Molinos land grant, 0.2 mile downstream from Santa Rosa Creek and 2 miles northeast of Graton, Sonoma County. Datum of gage is 40.00 feet above mean sea level (Corps of Engineers, War Department, reference mark); gage readings have been reduced to elevations above mean sea level.

Records available.- February 1940 to September 1946.

Extremes.- Maximum contents during year, 20,300 acre-feet Dec. 27, 28 (elevation, 62.5 feet); contents less than 500 acre-feet Oct. 1 to Nov. 9, May 21-24, May 31 to Sept. 30. 1940-46: Maximum contents, 61,400 acre-feet acre-feet Feb. 28, 1940 (elevation, 72.1 feet); contents less than 500 acre-feet and not computed for several months each year.

Remarks.- The laguna is a natural water channel and overflow basin connecting Santa Rosa Creek, Mark West Creek, and other smaller creeks with Russian River. During floods direction of flow may be either to or from Russian River and the laguna acts as a natural regulator of floods on lower Russian River. Contents shown are for 12 p.m. of date indicated.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	1,840	3,100	1,000	1,680	2,000	700				
2		-	1,600	3,100	1,120	1,540	1,920	700				
3		-	1,480	3,500	1,240	1,480	1,780	700				
4		-	3,200	6,170	1,300	1,360	1,680	650				
5		-	4,480	5,360	1,360	1,300	1,540	650				
6		-	3,520	3,880	1,600	1,240	1,480	600				
7		-	2,800	3,200	1,840	1,240	1,360	600				
8		-	2,520	2,900	1,760	1,180	1,300	600				
9		-	2,000	2,400	1,600	1,120	1,240	550				
10		500	1,760	2,160	1,480	1,120	1,180	550				
11		500	1,600	2,000	1,420	1,060	1,180	550				
12		550	1,480	1,840	1,560	1,060	1,120	550				
13		550	1,360	1,680	1,240	1,120	1,060	550				
14		550	1,240	1,600	1,240	1,120	1,060	550				
15		600	1,240	1,540	1,480	1,120	1,000	550				
16		700	1,180	1,480	1,540	1,060	950	550				
17		900	1,120	1,420	1,480	1,060	950	500				
18		850	1,060	1,420	1,420	1,060	950	500				
19		850	1,000	1,360	1,600	1,060	950	500				
20		800	1,120	1,360	1,760	1,060	900	500				
21		800	4,880	1,300	2,240	1,060	900	-				
22		800	8,270	1,300	2,160	1,060	850	-				
23		800	8,460	1,240	1,920	1,060	850	-				
24		800	7,020	1,240	1,840	1,000	800	-				
25		950	7,190	1,240	1,760	1,000	800	500				
26		1,060	5,580	1,180	1,600	1,000	800	500				
27		1,060	20,300	1,120	1,680	950	750	500				
28		3,200	20,300	1,120	1,680	1,000	750	500				
29		2,500	11,500	1,120	-	1,300	750	500				
30		2,160	6,170	1,060	-	1,840	700	500				
31		-	4,120	1,060	-	2,000	-	-				

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	-	-	-
Oct. 31.....	-	-	-
Nov. 30.....	52.66	2,160	-
Dec. 31.....	54.59	4,120	+1,960
Calendar year 1945....	-	-	+1,420
Jan. 31.....	51.08	1,060	-3,060
Feb. 28.....	52.12	1,680	+620
Mar. 31.....	52.49	2,000	+320
Apr. 30.....	50.43	700	-1,300
May 31.....	50.02	500	-200
June 30.....	-	-	-
July 31.....	-	-	-
Sept. 30.....	-	-	-
Water year 1945-46....	-	-	-

Note.- Contents less than 500 acre-feet Oct. 1 to Nov. 9, May 21-24, May 31 to Sept. 30.

KEL RIVER BASIN

Lake Pillsbury at Hullville, Calif.

Location.- Staff gage, lat. 39°24', long. 122°57', on line between secs. 14 and 23, T. 18 N., R. 10 W., at Scott Dam on Kel River, at Hullville, 0.3 mile downstream from Rice Fork. Datum of gage is at mean sea level.

Drainage area.- 288 square miles.

Records available.- October 1922 to September 1946 (gage heights only prior to October 1928).

Extremes.- Maximum contents observed during year, 94,200 acre-feet Apr. 14, 15 (elevation, 1,910.2 feet); minimum observed, 39,900 acre-feet Oct. 29 (elevation, 1,881.2 feet).
1922-46: Maximum contents, 95,600 acre-feet May 13, 16, 1925 (elevation, 1,910.8 feet); minimum, 10 acre-feet Dec. 9, 10, 1931 (elevation, 1,822.5 feet).

Remarks.- Reservoir is formed by concrete over-flow type dam; storage began in December 1921. Usable capacity, 93,700 acre-feet between elevations 1,822.4 feet (sill of outlet gate) and 1,910.0 feet (top of spillway gates) above mean sea level. Water is released down Kel River to Van Arsdale Reservoir, from which it is diverted through tunnel to Potter Valley powerhouse; part is then used for irrigation and remainder flows into East Fork Russian River. Records, based on gage readings usually made at 3 p.m., show contents available for release.

Cooperation.- Gage-height record, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51,900	45,500	-	74,500	72,400	73,500	87,500	94,000	-	84,600	74,100	-
2	51,600	45,400	-	74,100	-	-	88,000	93,700	-	84,200	73,700	62,100
3	51,100	-	72,700	74,900	-	-	88,700	93,700	91,900	84,000	-	61,700
4	50,600	-	76,100	77,200	72,400	73,100	89,500	91,600	91,600	83,600	-	61,300
5	50,100	44,600	75,500	76,700	72,400	73,500	90,000	93,700	91,400	83,300	72,400	61,000
6	-	44,300	74,300	75,500	72,700	74,100	-	93,700	91,200	-	72,000	60,600
7	-	44,000	74,100	75,100	73,100	74,700	-	93,700	90,900	-	71,800	-
8	-	43,700	-	74,700	72,900	75,500	92,100	93,700	-	82,500	71,400	-
9	-	43,400	-	74,100	-	-	92,600	93,700	-	82,000	71,200	59,300
10	47,900	-	73,100	73,900	-	-	93,000	93,700	90,300	81,800	-	59,000
11	-	-	73,100	73,700	72,700	77,200	93,500	-	90,000	81,400	-	58,600
12	-	43,900	72,900	-	72,400	77,600	93,700	-	89,800	81,200	70,100	58,300
13	-	44,200	72,900	-	72,400	78,600	-	93,500	89,600	-	69,700	57,900
14	-	44,500	72,700	73,300	72,400	79,300	94,200	93,300	89,300	-	69,300	-
15	45,800	44,500	-	73,300	72,700	79,900	94,200	93,300	-	80,300	68,900	-
16	-	46,100	-	73,100	-	-	94,000	93,300	-	79,900	68,500	56,700
17	-	-	72,400	73,100	-	-	93,700	93,000	88,700	79,500	-	56,300
18	-	-	72,400	73,100	72,400	81,400	93,700	-	88,400	79,000	-	56,000
19	-	51,900	72,400	-	72,400	81,800	93,500	-	88,200	78,600	67,300	55,600
20	-	53,600	72,400	-	72,700	82,000	-	93,000	88,000	-	66,900	55,300
21	-	54,400	74,900	72,900	73,300	82,500	-	92,800	87,500	-	66,800	-
22	42,700	55,100	-	72,900	73,300	82,900	93,300	92,800	-	77,600	66,200	-
23	42,400	55,300	77,400	72,900	-	-	93,300	92,800	-	77,200	65,900	54,300
24	41,800	-	76,100	72,700	-	-	93,500	92,800	86,900	76,700	-	53,900
25	41,300	-	76,500	72,700	73,100	84,000	93,700	-	86,400	76,300	-	53,600
26	40,900	59,300	76,300	-	73,100	84,200	94,000	-	86,200	76,100	64,700	53,100
27	-	60,800	82,200	-	73,500	84,600	-	92,600	86,000	-	64,300	52,700
28	-	63,000	79,000	72,400	73,700	84,900	94,000	92,600	85,500	-	63,900	-
29	39,900	68,300	78,200	72,400	-	85,300	94,000	92,600	-	75,300	63,500	-
30	42,200	70,100	76,100	72,400	-	-	94,000	-	a84,900	74,900	63,200	51,700
31	45,200	-	75,100	72,400	-	a86,600	-	92,300	-	74,500	a62,800	-

a Interpolated.

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	-	a52,400	-
Oct. 31.....	1,884.8	45,200	-7,200
Nov. 30.....	1,899.0	70,100	+24,900
Dec. 31.....	1,901.5	75,100	+5,000
Calendar year 1945....	-	-	+1,800
Jan. 31.....	1,900.2	72,400	-2,700
Feb. 28.....	1,900.8	73,700	+1,300
Mar. 31.....	-	a86,600	+12,900
Apr. 30.....	1,910.1	94,000	+7,400
May 31.....	1,909.4	92,300	-1,700
June 30.....	-	a84,900	-7,400
July 31.....	1,901.2	74,500	-10,400
Aug. 31.....	-	a62,800	-11,700
Sept. 30.....	1,888.9	51,700	-11,100
Water year 1945-46....	-	-	-700

a Contents interpolated on basis of release and weather records.

Eel River at Hullville, Calif.

Location.- Water-stage recorder, lat. 39°24', long. 122°58', in NE¼ sec. 22, T. 18 N., R. 10 W., 0.5 mile downstream from Scott Dam, 0.5 mile upstream from Soda Creek, and 0.5 mile west of Hullville. Altitude of gage, about 1,800 feet (from topographic map).

Drainage area.- 289 square miles.

Records available.- November 1922 to September 1946.

Average discharge.- 23 years (1923-46), 475 second-feet.

Extremes.- Maximum discharge during year, 17,100 second-feet Dec. 27 (gage height, 16.35 feet), from rating curve extended above 1,700 second-feet on basis of computed flow over Scott Dam at various stages; minimum, 111 second-feet (regulated) Mar. 8, 1922-46; Maximum discharge, 38,000 second-feet Dec. 11, 1937 (gage height, 22.9 feet, from floodmarks), from rating curve extended above 3,000 second-feet on basis of computed flow over Scott Dam; practically no flow at times.

Remarks.- Records excellent below 2,000 second-feet, good above. Flow regulated by Lake Pillsbury (see preceding page). No diversion above station.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 3

Dec. 4 to Sept. 30

3.0	104	3.8	258	3.2	117	4.7	594	7.0	1,980	9.5	4,540
3.1	120	4.0	313	3.4	164	5.0	716	7.5	2,400	10.0	5,200
3.3	154	4.2	378	3.7	246	5.5	950	8.0	2,860	11.0	6,700
3.5	191	4.3	414	4.0	358	6.0	1,250	8.5	3,370	12.0	8,380
				4.4	478	6.5	1,600	9.0	3,930	13.0	10,200

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	221	195	168	2,120	306	905	142	291	121	156	172	162
2	221	206	170	1,960	338	787	132	291	126	156	169	162
3	221	208	391	2,440	341	703	121	270	156	154	162	164
4	221	204	3,220	4,410	312	555	121	235	164	154	162	169
5	219	204	3,510	5,070	291	322	130	235	156	146	169	169
6	219	208	2,090	3,350	434	226	135	235	154	159	169	167
7	219	208	1,670	2,850	716	159	135	235	154	142	174	164
8	216	208	1,280	2,100	554	177	135	235	154	152	177	164
9	216	204	962	1,670	460	198	146	218	154	159	177	167
10	216	195	792	1,410	420	198	162	232	152	164	172	172
11	214	195	687	1,190	396	198	162	232	152	164	172	172
12	214	195	598	1,020	365	198	258	226	152	164	177	174
13	214	189	512	895	341	198	319	218	152	162	182	174
14	214	185	446	818	325	196	369	218	152	162	182	172
15	214	183	435	751	348	198	466	201	152	164	182	169
16	212	174	438	687	362	198	584	182	152	169	180	169
17	212	156	392	638	345	198	508	162	154	172	172	167
18	212	156	355	594	341	198	505	144	156	172	169	167
19	212	161	322	566	389	196	505	139	159	169	174	164
20	210	159	325	535	469	196	505	144	162	162	177	162
21	210	159	2,340	505	708	196	439	142	167	162	177	159
22	212	167	6,570	474	782	196	264	142	167	167	177	159
23	212	183	6,560	464	666	196	240	139	164	174	174	167
24	212	183	4,800	449	654	196	207	139	164	177	169	167
25	212	185	5,130	431	703	187	255	137	162	177	169	177
26	206	140	5,000	406	646	167	282	137	162	174	177	177
27	208	115	15,700	386	870	164	288	135	162	169	180	174
28	214	123	10,100	372	1,110	154	288	132	159	169	180	172
29	210	120	8,250	348	-	139	291	126	159	167	180	172
30	183	135	4,490	332	-	139	294	124	159	172	174	177
31	161	-	2,900	316	-	142	-	124	-	172	164	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,557	221	161	212	13,010
November	5,302	208	115	177	10,510
December	8,603	13,700	168	2,858	175,700
Calendar year 1945	215,160	13,700	104	589	426,700
January	39,357	5,070	316	1,270	78,060
February	14,012	1,110	291	500	27,790
March	8,080	208	139	261	16,030
April	8,608	584	121	260	16,580
May	5,820	291	124	188	11,540
June	4,659	167	121	155	8,240
July	5,062	177	139	163	10,040
August	5,391	182	162	174	10,690
September	5,051	177	159	168	10,020
Water year 1945-46	196,301	13,700	115	538	389,300

Peak discharge.- Dec. 22 (8 p.m.) 7,690 sec.-ft.; Dec. 27 (1 p.m.) 17,100 sec.-ft.; Dec. 28 (11 p.m.) 10,900 sec.-ft.; Jan. 4 (6 p.m.) 6,380 sec.-ft.

Eel River at Van Arsdale Dam, near Potter Valley, Calif.

Location.- Water-stage recorder, lat. 39°23', long. 123°07', in NE $\frac{1}{4}$ sec. 30, T. 18 N., R. 11 W., 500 feet downstream from Van Arsdale Dam and 5 miles north of town of Potter Valley. Altitude of gage, about 1,400 feet (from topographic map).

Drainage area.- 347 square miles.

Records available.- October 1927 to September 1946. November 1909 to September 1922 (combined monthly discharge only, of Eel River at this station and Snow Mountain Water & Power Co.'s tailrace near Potter Valley) and October 1922 to September 1927, from records of spill over dam.

Average discharge.- 23 years (1922-26, 1927-46), 537 second-feet, combined flow of Eel River below Van Arsdale Dam and Potter Valley powerhouse tailrace.

Extremes.- Maximum discharge during year, 18,600 second-feet Dec. 27 (gage height, 19.50 feet); no flow (regulated) Nov. 1, 1909-46. Maximum discharge, about 40,000 second-feet Mar. 26, 1928 (gage height, 27.0 feet), from rating curve extended above 1,500 second-feet on basis of computed flow over Van Arsdale Dam; maximum gage height, 30.9 feet Dec. 11, 1937; no flow (regulated) Nov. 1, 1945.

Remarks.- Records good. Water is diverted from Van Arsdale Reservoir through tunnel to Potter Valley powerhouse, after which part is used for irrigation and remainder flows into East Fork Russian River. Records given herein represent flow passing dam down Eel River.

Cooperation.- Water-stage recorder graph, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	0.4	79	2,500	143	942	44	78	10	9.4	7.0	4.7
2	8.2	3.4	65	2,390	184	800	39	74	10	7.0	6.4	8.0
3	8.2	4.1	278	2,940	193	695	20	66	8.4	6.2	5.0	11
4	7.1	4.5	3,250	5,100	159	548	15	30	8.4	6.8	5.4	11
5	6.0	2.5	3,620	6,000	131	268	14	38	8.0	6.8	7.0	9.8
6	6.4	1.6	2,150	3,830	327	149	19	25	7.4	5.6	5.2	8.8
7	10	2.5	1,670	2,980	740	82	26	22	8.0	4.4	4.4	7.4
8	11	2.3	1,260	2,370	503	59	13	22	9.1	6.2	6.2	8.0
9	8.7	5.7	900	1,870	375	83	12	17	10	5.6	6.0	10
10	7.1	40	709	1,520	320	94	26	9.1	13	5.0	6.2	8.8
11	6.7	32	590	1,290	281	78	23	15	8.4	4.2	6.8	8.0
12	5.6	68	478	1,070	239	95	76	15	6.8	4.1	9.8	7.4
13	4.5	29	383	937	208	193	146	7.7	5.8	5.6	9.4	7.4
14	6.4	7.1	313	825	184	114	176	5.6	6.0	5.0	9.1	6.8
15	8.2	71	274	730	214	102	302	4.6	7.4	7.4	9.1	8.4
16	5.2	271	274	650	239	96	420	4.2	8.4	6.4	8.8	12
17	2.7	180	250	576	211	89	334	4.1	8.8	7.7	7.4	10
18	1.6	37	205	518	208	83	327	4.2	6.4	7.4	9.1	9.1
19	2.3	274	169	476	248	80	320	4.6	6.8	6.8	10	8.0
20	3.4	98	174	447	386	76	312	4.6	6.2	6.0	9.1	6.6
21	3.0	35	1,790	390	678	73	306	4.7	5.8	6.8	8.4	4.7
22	2.5	13	6,900	352	795	69	73	5.4	6.8	9.1	7.7	7.7
23	2.5	28	7,480	358	645	64	61	6.4	8.8	7.4	7.4	10
24	2.5	78	5,280	316	655	63	27	7.7	10	7.0	7.0	8.4
25	2.1	194	5,760	298	690	56	48	8.8	8.4	7.4	7.0	8.0
26	4.0	187	5,580	264	615	31	78	9.4	8.0	7.7	9.4	7.4
27	4.1	43	14,900	251	888	28	80	9.4	8.0	7.0	9.1	7.0
28	20	323	11,700	226	1,150	38	80	10	6.4	9.1	8.0	6.8
29	31	229	9,560	202	-	44	82	9.1	7.4	10	6.8	8.4
30	60	89	5,190	179	-	44	82	8.8	8.4	11	6.2	12
31	74	-	3,370	156	-	44	-	11	-	7.7	5.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	331.0	74	1.6	10.7	657
November.....	2,353.1	323	.4	78.4	4,670
December.....	94,601	14,900	65	3,052	187,800
Calendar year 1945	175,628.5	14,900	.4	481	348,300
January.....	41,989	6,000	156	1,354	83,280
February.....	11,609	1,150	131	415	23,030
March.....	5,270	942	28	170	10,450
April.....	3,581	420	12	119	7,100
May.....	541.4	78	4.1	17.5	1,070
June.....	241.1	13	5.8	8.04	478
July.....	213.8	11	3.6	6.90	424
August.....	229.6	10	4.4	7.41	455
September.....	251.6	12	4.7	8.39	499
Water year 1945-46	161,211.6	14,900	.4	442	319,700
Peak discharge.- Dec. 4 (9 p.m.) 4,740 sec.-ft.; Dec. 22 (11 p.m.) 8,440 sec.-ft.; Dec. 27 (3 p.m.) 18,600 sec.-ft.; Dec. 29 (1:30 a.m.) 12,100 sec.-ft.; Jan. 4 (9:30 a.m.) 7,400 sec.-ft.					

Eel River at Scotia, Calif.

Location.- Water-stage recorder, lat. 40°29', long. 124°06', in sec. 7, T. 1 N. m. R. 1 E., at bridge on U. S. Highway 101, 0.5 mile north of Scotia and 6 miles upstream from Van Duzen River. Datum of gage is 36.15 feet above mean sea level, datum of 1929.

Drainage area.- 3,070 square miles.

Records available.- December 1910 to February 1915, October 1916 to September 1946.

Average discharge.- 33 years (1911-14, 1916-46), 6,317 second-feet.

Extremes.- Maximum discharge during year, 239,000 second-feet Dec. 27 (gage height, 44.60 feet); minimum, 48 second-feet Sept. 26, 27.

1910-15, 1916-46: Maximum discharge, 345,000 second-feet Dec. 11, 1937 (gage height, 55.1 feet); maximum stage observed, 55.5 feet Feb. 2, 1915; minimum discharge observed, 10 second-feet Aug. 12-14, 1924.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Diversion above station for power and irrigation near Potter Valley.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27

Dec. 28 to Sept. 30

8.7	65	12.0	4,120	9.4	50	13.0	5,240
8.8	95	13.0	5,500	9.5	90	14.0	7,800
9.0	170	14.0	9,400	9.6	135	15.0	11,000
9.3	310	15.0	16,200	9.7	185	16.0	14,600
9.6	510	18.0	24,800	9.9	300	18.0	23,000
9.9	760	20.0	34,600	10.2	520	20.0	32,500
10.2	1,070	25.0	62,200	10.6	900	25.0	60,000
10.5	1,460	30.0	95,000	11.0	1,370	30.0	93,000
11.0	2,270	35.0	136,500	11.5	2,100	35.0	136,000
11.5	3,160	40.0	187,000	12.0	3,950	40.0	187,000

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	a4,000	15,600	30,700	3,780	14,900	7,340	2,490	911	342	190	78
2	77	a2,500	11,400	25,200	4,410	12,100	6,700	2,320	870	328	185	78
3	77	a1,600	11,100	37,300	5,550	10,700	6,140	2,250	850	321	155	86
4	77	a1,300	69,700	41,200	5,500	9,370	5,650	2,290	830	307	155	78
5	77	a1,100	77,300	70,000	4,860	8,290	5,190	2,270	800	294	150	82
6	77	993	43,200	49,000	8,460	7,480	4,930	2,170	760	288	155	82
7	77	900	33,800	36,200	18,300	6,860	4,690	2,070	730	282	135	82
8	77	860	26,700	33,200	12,900	6,320	4,560	1,990	691	276	135	86
9	77	830	19,300	24,200	9,560	5,980	4,430	1,900	664	264	122	90
10	80	2,500	15,000	19,400	8,260	5,700	4,230	1,780	646	240	117	82
11	80	8,020	12,500	16,000	7,760	5,620	3,950	1,740	619	240	122	86
12	80	9,660	10,500	13,300	7,030	5,480	3,750	1,730	592	240	117	82
13	80	10,500	9,950	11,300	6,290	5,800	3,890	1,610	592	234	108	78
14	80	6,190	7,620	10,000	5,770	13,600	3,710	1,540	583	218	117	78
15	83	6,840	6,980	9,070	5,480	9,940	3,780	1,570	574	214	117	74
16	92	17,500	8,500	8,170	5,720	9,460	3,880	1,400	556	202	112	78
17	95	31,500	7,980	7,450	5,550	8,680	4,210	1,330	538	185	104	86
18	98	15,700	6,780	6,860	5,120	8,110	4,430	1,220	512	185	94	90
19	102	28,400	6,010	6,420	5,360	7,340	4,420	1,200	496	190	94	78
20	106	29,500	5,550	6,290	7,560	7,480	4,080	1,290	480	175	94	90
21	106	14,700	14,100	5,930	10,800	6,980	3,650	1,300	464	170	104	99
22	102	9,600	55,100	5,500	14,900	6,270	3,420	1,270	433	170	82	104
23	102	7,510	90,200	5,290	10,900	6,010	3,210	1,200	419	165	74	90
24	98	8,260	73,300	5,170	10,100	5,650	3,050	1,160	405	160	74	70
25	98	22,200	51,000	5,140	11,600	5,380	3,150	1,090	391	160	78	54
26	95	31,100	58,000	4,980	9,980	5,020	3,230	1,080	370	165	78	50
27	95	22,100	161,000	4,720	11,800	4,780	3,050	1,100	370	170	74	50
28	95	25,900	186,000	4,500	19,100	4,810	2,890	1,190	356	175	78	58
29	419	44,300	152,000	4,390	-	5,850	2,790	1,120	356	180	78	66
30	3,480	24,400	73,500	4,250	-	7,560	2,630	1,020	349	180	78	74
31	a7,000	-	44,600	3,990	-	8,140	-	955	-	180	78	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	13,359	7,000	77	431	26,500
November.....	390,463	44,300	830	13,020	774,500
December.....	1,363,280	186,000	5,550	43,980	2,704,000
Calendar year 1945.....	3,423,463	186,000	77	9,379	6,791,000
January.....	515,120	70,000	3,990	16,620	1,022,000
February.....	242,220	19,100	3,780	8,651	480,400
March.....	259,460	14,900	4,180	7,725	475,000
April.....	124,650	7,340	2,630	4,154	247,200
May.....	48,645	2,490	955	1,569	96,490
June.....	17,207	911	349	574	34,130
July.....	6,900	342	160	223	13,690
August.....	3,454	190	74	111	6,850
September.....	2,359	104	50	78.6	4,680
Water year 1945-46.....	2,967,097	186,000	50	8,129	5,885,000

Peak discharge.- Nov. 29 (9 a.m.) 51,600 sec.-ft.; Dec. 4 (11 p.m.) 103,000 sec.-ft.; Dec. 23 (8 p.m.) 98,000 sec.-ft.; Dec. 27 (12 p.m.) 239,000 sec.-ft.; Jan. 5 (7 a.m.) 78,300 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

Potter Valley powerhouse tailrace near Potter Valley, Calif.

Location.- Water-stage recorder and electrical output meters, lat. 39°21', long. 123°07' in NW 1/4 sec. 6, T. 17 N., R. 11 W., at powerhouse of Pacific Gas & Electric Co., 3 miles northwest of town of Potter Valley. Altitude of gage, about 1,000 feet (from topographic map).

Records available.- October 1922 to September 1946.

Average discharge.- 24 years, 191 second-feet.

Extremes.- Maximum daily discharge during year, 235 second-feet Oct. 16; minimum daily, 35 second-feet Dec. 28 to Jan. 1.
1922-46: Maximum daily discharge, 321 second-feet Aug. 26, 1933; no flow at times in several years.

Remarks.- Records excellent except those obtained from powerhouse output, which are fair. Water is diverted from Eel River above Van Arsdale Dam; after passing through powerhouse, part of it is used for irrigation in Potter Valley and remainder flows into East Fork Russian River. Water for irrigation diverted from tailrace is included in figures of discharge.

Cooperation.- Record of daily discharge Oct. 1-10, 14, Dec. 3, 4, 27-31, Jan. 1-5, May 3 to Sept. 30, computed from powerhouse output, furnished by Pacific Gas & Electric Co., obtained in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	212	222	218	35	219	221	224	224	137	172	169	123
2	212	222	208	80	219	221	222	225	126	172	168	123
3	212	223	214	114	219	220	221	219	172	172	169	168
4	212	216	200	190	218	221	224	219	172	123	123	168
5	212	222	212	150	218	220	224	206	172	172	168	168
6	212	222	210	218	218	221	224	219	172	172	168	168
7	188	222	210	218	219	220	216	218	172	123	168	168
8	212	220	209	218	216	220	226	219	172	172	168	123
9	212	220	218	218	216	219	225	219	123	172	168	168
10	210	219	218	215	215	207	225	219	172	172	168	168
11	226	221	216	216	224	221	226	219	172	172	123	168
12	226	217	216	216	224	221	226	219	172	172	168	168
13	226	215	216	207	225	221	226	219	172	172	168	168
14	165	214	216	215	225	221	226	219	172	123	168	168
15	231	217	216	220	225	221	224	209	172	170	168	123
16	235	217	216	219	216	221	227	182	123	168	168	168
17	231	214	216	218	226	222	228	176	171	172	168	168
18	222	215	216	218	225	224	228	148	167	170	123	168
19	221	216	214	212	228	224	226	135	155	169	168	168
20	222	218	214	210	226	224	224	148	168	171	168	168
21	219	219	215	226	224	222	215	148	168	123	168	168
22	219	218	215	224	221	224	231	147	172	170	168	123
23	222	219	215	221	219	224	227	148	123	170	168	168
24	225	220	216	221	197	224	223	137	168	170	168	145
25	225	220	216	222	221	224	225	137	168	169	123	168
26	223	220	216	222	219	224	222	134	172	172	168	174
27	224	219	181	221	224	224	228	137	170	172	168	168
28	221	220	35	220	220	224	225	137	172	123	168	168
29	223	220	35	220	-	225	225	137	172	168	168	123
30	223	219	35	220	-	226	227	102	123	169	168	168
31	220	-	35	219	-	224	-	138	-	172	168	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,739	235	165	217	13,370
November.....	6,566	223	214	219	13,020
December.....	5,887	218	35	190	11,680
Calendar year 1945	73,951	235	35	203	146,700
January.....	6,243	226	35	201	12,380
February.....	6,168	228	197	220	12,230
March.....	6,875	226	207	222	13,640
April.....	6,740	231	215	225	13,370
May.....	5,581	225	102	179	11,030
June.....	4,842	172	123	161	9,600
July.....	5,059	172	123	163	10,030
August.....	5,030	169	123	162	9,980
September.....	4,753	174	123	158	9,430
Water year 1945-46	70,461	235	35	193	139,800

South Fork Eel River near Miranda, Calif.

Location.- Water-stage recorder, lat. 40°12', long. 123°46', in NW¼ sec. 30 T. 3 S., R. 4 E., at Sylvandale camp grounds on U. S. Highway 101, 0.9 mile south of Rocky Glen Creek, 6 miles south of Miranda, and 20 miles upstream from mouth.

Drainage area.- 547 square miles.

Records available.- May 1940 to September 1946.

Extremes.- Maximum discharge during year, 73,200 second-feet Dec. 27 (gage height, 27.73 feet), from rating curve extended above 30,000 second-feet by logarithmic plotting; minimum, 12 second-feet Sept. 22, 23.
1940-46: Maximum discharge, that of Dec. 27, 1945; minimum observed, 9 second-feet Oct. 17, 1944.

Remarks.- Records good. No diversion; low flow regulated at Benbow Dam and powerhouse.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27					Dec. 28 to Sept. 30						
2.6	29	3.6	455	9.0	8,100	1.8	12	2.8	147	4.7	1,880
2.7	44	3.8	615	11.0	12,200	2.0	23	3.0	237	5.5	2,840
2.8	66	4.1	900	14.0	19,700	2.2	39	3.2	370	7.0	4,870
2.9	92	4.5	1,350	18.0	32,500	2.4	62	3.5	610	8.5	7,200
3.0	124	5.0	1,950	25.0	60,000	2.6	93	3.9	1,000		
3.2	210	6.0	3,260								
3.4	320	7.0	4,720								
Note.- Same as preceding table above 8.5											

Note.- Same as preceding table above 8.5 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	1,590	3,430	6,180	830	3,820	1,940	400	192	104	38	26
2	34	642	2,660	6,320	1,120	3,140	1,760	385	192	102	54	32
3	34	385	3,660	9,540	1,350	2,680	1,570	378	183	100	64	31
4	34	266	19,000	12,200	1,280	2,680	1,450	363	179	102	56	29
5	32	210	11,500	14,200	1,180	1,980	1,540	349	171	95	34	34
6												
7	40	196	8,510	9,500	3,570	1,780	1,240	342	171	95	55	40
8	40	210	8,120	8,280	5,400	1,590	1,160	328	171	86	44	29
9	34	192	6,010	6,720	3,410	1,460	1,100	314	167	86	40	40
10	35	250	4,520	5,410	2,680	1,330	1,060	307	163	86	57	30
11	35	1,190	3,620	4,440	2,280	1,250	990	300	159	90	30	28
12	35	1,870	3,020	3,670	2,080	1,210	910	287	155	84	33	28
13	58	2,190	2,570	3,070	1,800	1,200	860	281	151	68	52	29
14	121	1,890	2,220	2,670	1,600	3,610	810	275	151	74	48	28
15	71	1,000	1,970	2,370	1,470	3,080	750	268	159	69	47	29
16	42	1,860	1,940	2,110	1,480	2,530	710	262	163	60	32	29
17												
18	42	5,140	2,160	1,890	1,450	2,500	673	243	155	60	25	30
19	79	6,280	1,860	1,730	1,310	2,290	637	135	147	73	37	40
20	59	3,500	1,690	1,590	1,230	2,100	610	122	141	43	47	40
21	62	8,960	1,570	1,510	1,540	1,870	593	183	135	62	40	62
22	34	5,250	1,570	1,450	2,000	1,770	568	217	128	61	20	49
23												
24	32	3,020	4,850	1,320	3,580	1,620	542	217	119	60	23	25
25	34	2,110	9,820	1,250	3,360	1,510	525	237	116	54	36	14
26	34	1,860	16,300	1,240	2,640	1,420	509	232	111	52	40	14
27	34	2,140	12,900	1,190	2,870	1,340	493	227	114	54	24	23
28	36	5,330	9,140	1,190	3,010	1,280	485	222	111	58	40	28
29												
30	40	6,380	14,900	1,120	2,550	1,180	461	243	109	58	33	38
31	40	4,320	58,100	1,040	4,650	1,100	453	294	107	62	29	35
1	59	7,690	44,900	990	4,980	1,110	438	250	107	72	28	32
2	308	8,190	34,000	960	-	1,690	430	222	107	65	28	28
3	2,250	4,650	14,200	930	-	2,260	415	207	104	76	28	22
4	4,460	-	8,690	880	-	2,170	-	197	-	65	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,287	4,460	32	267	16,440
November.....	88,941	8,960	192	2,965	176,400
December.....	319,400	58,100	1,570	10,300	633,500
Calendar year 1945.....	789,102	58,100	29	2,162	1,565,000
January.....	116,960	14,200	880	3,773	232,000
February.....	66,640	5,400	830	2,380	132,200
March.....	60,090	3,820	1,100	1,938	119,200
April.....	25,482	1,940	415	849	50,540
May.....	8,287	400	122	267	16,440
June.....	4,338	192	104	145	8,600
July.....	2,256	104	43	72.8	4,470
August.....	1,191	64	20	36.4	2,360
September.....	949	62	14	31.6	1,880
Water year 1945-46.....	702,821	58,100	14	1,926	1,394,000

Peak discharge.- Dec. 4 (4:30 p.m.) 22,700 sec.-ft.; Dec. 27 (1 p.m.) 73,200 sec.-ft.; Dec. 29 (1 a.m.) 50,900 sec.-ft.

Van Duzen River at Bridgeville, Calif.

Location.- Wire-weight gage, lat. 40°28'05", long. 123°47'55", in NW $\frac{1}{4}$ sec. 13, T. 1 N., R. 3 E., at highway bridge at Bridgeville, 1 mile downstream from Little Larrabee Creek.
Datum of gage is 590.66 feet above mean sea level, datum of 1929.

Drainage area.- 200 square miles.

Records available.- September 1911 to August 1913, December 1939 to September 1946.

Extremes.- Maximim discharge observed during year, 13,800 second-feet Dec. 27 (gage height, 20.25 feet); minimum observed, 6.0 second-feet Oct. 3, 7, Aug. 23, 24.
1939-46: Maximum discharge, 12,600 second-feet Jan. 21, 1943 (gage height, 25.5 feet, from floodmarks), from rating curve extended above 12,000 second-feet by logarithmic plotting; minimum observed, 6.0 second-feet Sept. 12-17, Oct. 3, 7, 1945, Aug. 23, 24, 1946.

Remarks.- Records fair. Wire-weight gage read twice daily, with additional readings in periods of high water. No storage or large diversions.

Rating tables, water-year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27						Dec. 28 to Sept. 30					
2.8	4.0	5.0	328	11.0	5,840	2.8	4.0	5.9	93	6.0	790
2.9	8.0	5.5	500	12.0	4,630	2.9	8.0	4.2	145	7.0	1,300
3.1	17	6.0	715	13.0	5,470	3.1	17	4.6	242	9.0	2,490
3.4	36	6.5	960	14.0	6,580	3.3	30	5.0	360	10.0	3,140
3.7	64	7.0	1,240	16.0	8,450	3.6	56	5.5	555		
4.0	104	8.0	1,840	19.4	12,600						
4.3	158	9.0	2,480								
4.6	226	10.0	3,140								

Note.- Same as preceding table above
10 Feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	724	1,510	2,080	348	1,630	654	200	72	30	14	7.2
2	6.4	352	1,120	2,460	423	1,370	636	190	67	29	12	6.8
3	6.0	221	2,040	3,080	402	1,220	591	185	65	27	12	6.8
4	6.4	162	11,000	5,830	378	1,000	546	180	60	26	11	7.6
5	6.4	131	5,360	4,710	378	880	528	173	58	26	10	7.6
6	6.4	131	3,490	2,940	2,620	850	506	166	58	24	10	7.6
7	6.0	142	3,630	3,080	1,700	780	462	158	57	23	10	7.6
8	6.8	146	2,350	2,310	1,140	690	446	153	54	22	10	7.6
9	6.8	226	1,680	1,820	850	636	438	149	52	22	10	7.2
10	8.4	1,490	1,540	1,410	840	636	438	145	52	21	9.6	6.8
11	10	1,180	1,160	1,170	790	654	426	139	50	19	9.2	6.8
12	10	3,210	1,120	960	663	1,140	402	131	48	19	9.2	6.4
13	10	1,360	1,020	800	609	2,940	381	125	48	18	8.8	6.4
14	10	715	607	676	546	1,710	374	116	54	18	8.4	6.4
15	9.6	2,020	885	645	573	1,730	374	116	53	18	8.4	6.4
16	9.6	3,910	865	591	502	1,570	374	113	48	18	8.0	8.8
17	10	2,940	679	490	502	1,410	374	108	44	17	8.0	10
18	10	2,090	584	470	528	1,120	374	105	44	16	7.6	11
19	9.6	5,290	476	462	780	1,000	374	99	40	15	7.6	9.6
20	9.2	2,480	580	454	870	1,100	356	96	38	15	7.2	8.0
21	9.2	1,450	3,560	438	1,970	910	297	96	36	13	7.2	7.2
22	9.2	971	6,480	446	1,370	1,070	270	102	35	13	6.8	7.2
23	8.8	1,020	7,480	462	1,080	750	267	99	34	12	6.4	7.2
24	8.8	1,180	5,650	442	1,850	970	270	94	35	12	6.0	6.8
25	8.4	4,710	3,630	564	1,790	860	282	90	33	11	6.4	6.4
26	8.0	4,470	6,460	462	1,710	564	270	99	32	13	6.8	6.4
27	8.0	2,380	12,500	434	3,000	555	253	120	32	15	6.8	6.8
28	19	6,700	9,840	409	2,270	850	232	96	31	16	7.2	6.8
29	154	3,910	9,000	395	-	780	232	87	32	16	7.2	6.8
30	1680	2,170	4,310	378	-	750	216	79	32	15	7.2	6.4
31	2,540	-	2,740	367	-	740	-	74	-	14	7.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,597.8	2,540	6.0	148	9,120
November.....	57,881	6,700	131	1,929	114,800
December.....	113,166	12,500	476	3,651	224,500
Calendar year 1945	358,744.8	12,500	6.0	983	711,600
January.....	41,235	5,830	367	1,330	81,790
February.....	30,482	3,000	348	1,089	60,460
March.....	32,845	2,940	555	1,060	65,150
April.....	11,623	654	216	387	23,050
May.....	3,883	200	74	125	7,700
June.....	1,394	72	31	48.5	2,760
July.....	573	30	11	18.5	1,140
August.....	266.2	14	6.0	8.59	528
September.....	220.6	11	6.4	7.35	438
Water year 1945-46	298,166.6	12,500	6.0	817	591,400

Williamson River below Sprague River, near Chiloquin, Oreg.

Location. - Water-stage recorder, lat. 42°34', long. 121°52', in sec. 3, T. 35 S., R. 7 E., a quarter of a mile downstream from Sprague River and three-quarters of a mile southwest of Chiloquin. Datum of gage is 4,155.55 feet above mean sea level, datum of 1929.

Drainage area. - 3,000 square miles.

Records available. - June 1917 to September 1946.

Average discharge. - 29 years, 866 second-feet.

Extremes. - Maximum discharge during year, 3,140 second-feet (slightly regulated) Apr. 24 (gage height, 4.71 feet); minimum daily, 500 second-feet Aug. 20.
1917-46: Maximum discharge, 7,660 second-feet Apr. 1, 1943 (gage height, 7.29 feet); minimum, 320 second-feet Oct. 14, 1920.

Remarks. - Records good except those for Jan. 12 to Feb. 7 and June 6 to Sept. 30, which are fair. Diversions above station for irrigation. Manipulation of gates at dam above station causes fluctuation at times.

Cooperation. - Water-stage recorder inspected by employee of The California Oregon Power Co.

Rating table, water year 1945-46 (gage height, in feet,
and discharge, in second-feet)
(Shifting-control method used Mar. 24 to Apr. 24)

2.2	470	2.9	960	3.8	1,930
2.4	570	3.2	1,260	4.2	2,430
2.6	705	3.5	1,585	4.6	3,000

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	548	670	705	1,660	a770	1,210	2,430	2,880	1,210	635	542	a550
2	554	635	721	1,850	a810	1,360	2,460	2,920	1,140	628	a520	a550
3	554	649	713	1,950	a770	1,450	2,350	2,900	1,060	a615	a560	559
4	559	635	684	1,880	729	1,430	2,220	2,810	1,010	a610	a566	559
5	548	635	684	1,680	a810	1,270	2,110	2,670	979	a605	542	554
6	554	635	663	1,490	a780	1,140	2,050	2,540	942	a600	a530	559
7	554	628	677	1,350	737	1,080	2,010	2,420	a910	a590	a530	559
8	548	628	663	1,100	705	1,120	2,040	2,340	a890	583	a520	a560
9	548	649	649	828	745	1,240	2,100	2,330	a850	a570	a520	542
10	548	656	663	802	713	1,350	2,180	2,310	819	a565	a530	554
11	548	656	649	721	705	1,390	2,270	2,310	a780	a570	a540	564
12	554	670	635	745	698	1,560	2,300	2,260	a775	a600	537	a565
13	554	670	583	a780	713	1,760	2,250	2,190	759	a640	a530	a555
14	554	691	537	802	698	1,860	2,160	2,110	761	a600	a540	a550
15	554	677	559	a800	698	2,010	2,170	2,030	a750	564	537	a550
16	554	684	642	a790	705	2,130	2,260	1,950	a730	559	a530	a555
17	554	684	663	a780	698	2,240	2,360	1,850	a720	a560	a520	a580
18	576	684	656	a790	698	2,200	2,440	1,790	a720	554	a540	554
19	576	721	635	a780	705	2,010	2,530	1,710	664	a550	537	a555
20	583	677	649	a770	705	1,920	2,580	1,630	a580	a550	a500	a560
21	590	670	649	769	729	1,980	2,640	1,580	a640	a545	a515	a570
22	596	656	677	785	737	2,170	2,740	1,420	a660	542	a525	a580
23	602	642	684	785	761	2,340	2,920	1,450	a620	542	a530	a590
24	602	642	713	836	794	2,400	3,080	1,410	576	a525	a530	a600
25	616	656	745	802	836	2,290	3,040	1,410	a800	537	a520	a590
26	609	663	761	a770	897	2,070	2,900	1,450	a610	a540	532	a580
27	609	670	819	a800	1,030	1,910	2,770	1,460	a620	a540	a530	a580
28	616	698	979	844	1,160	1,820	2,700	1,440	628	a540	a520	a580
29	609	698	1,180	a850	-	1,880	2,700	1,350	a630	548	537	a570
30	628	698	1,310	a770	-	2,070	2,780	1,300	a630	a560	a540	570
31	649	-	1,510	a750	-	2,260	-	1,260	-	a555	a550	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	17,858	649	548	576	35,420
November.....	19,927	721	628	664	39,520
December.....	23,057	1,510	537	744	45,730
Calendar year 1945	314,180	1,970	507	661	623,200
January.....	31,069	1,950	721	1,002	61,620
February.....	21,516	1,160	698	769	42,680
March.....	54,940	2,400	1,080	1,772	109,000
April.....	73,540	3,080	2,010	2,451	145,900
May.....	61,470	2,920	1,260	1,983	121,900
June.....	23,293	1,210	576	776	46,200
July.....	17,722	635	525	572	35,150
August.....	16,494	560	500	532	32,720
September.....	16,924	600	542	564	33,570
Water year 1945-46	377,810	3,080	500	1,035	749,400

a No gage-height record; discharge computed on basis of weather records and records for Sprague River near Chiloquin.

KLAMATH RIVER BASIN

Upper Klamath Lake near Klamath Falls, Oreg.

Location.- Water-stage recorder, lat. 42°15', long. 121°48', in SW $\frac{1}{4}$ sec. 19, T. 38 S., R. 9 E., 1 mile upstream from outlet of Upper Klamath Lake and 2 miles northwest of Klamath Falls. Datum of gage is 4,098.22 feet above mean sea level, datum of 1929, or 4,100.00 feet above datum of Bureau of Reclamation. Gage readings have been reduced to elevations above Bureau of Reclamation datum.

Records available.- May 1904 to September 1946.

Extremes.- Maximum elevation during year, 4,142.72 feet June 5; minimum, 4,136.28 feet Oct. 30. Maximum daily elevation, 4,142.36 feet May 28; minimum daily, 4,136.90 feet Oct. 29.

1904-46: Maximum elevation recorded, 4,144.98 feet about Apr. 20, 1904, determined from high-water marks; minimum recorded, 4,135.55 feet Oct. 30, 1944.

Remarks.- Reservoir is formed by concrete dam at outlet of natural lake, completed in 1921, replacing a temporary dam built in 1919; storage began Apr. 15, 1919. Capacity, 584,000 acre-feet between elevations 4,135.0 and 4,143.3 feet. Dead storage below elevation 4,135 feet not known; lake level ordinarily maintained between elevations 4,137 feet (contents, 118,600 acre-feet) and 4,143.3 feet. Water stored may be diverted through "A" canal for irrigation of land under Klamath project of Bureau of Reclamation, or released to Link River through dam or power plants at Klamath Falls. Area of lake at high stages is partly controlled by diking. Lake elevations, particularly extremes, are very much affected by wind. Contents given herein represent those above elevation 4,135 feet.

Cooperation.- Capacity table and water-stage recorder inspections furnished by The California Power Co.

Revisions.- Revised figures of elevation and contents for the end of March 1944, superseding those published in Water-Supply Paper 1011, are given herewith:

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Mar. 31	4,141.39	415,400	+59,800
Apr. 30	4,141.73	444,800	+29,200

Elevation, in feet, and contents, in acre-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37.63	37.58	38.56	39.98	41.06	41.22	41.08	41.74	42.21	41.92	40.85	39.48
2	37.59	37.62	38.44	40.02	41.09	41.24	41.09	41.90	42.19	41.81	40.83	39.46
3	37.69	37.67	37.83	40.13	41.12	41.19	41.09	41.71	42.29	41.84	40.78	39.43
4	37.83	37.65	38.02	40.08	41.14	41.22	41.13	41.92	42.29	41.88	40.80	39.40
5	37.80	37.76	38.62	40.61	41.14	41.18	41.15	41.96	42.32	41.80	40.77	39.42
6	37.56	37.61	38.65	40.39	41.16	41.33	41.14	41.92	42.22	41.78	40.70	39.43
7	37.44	37.68	38.89	40.52	41.21	41.17	41.08	42.03	42.05	41.74	40.67	39.37
8	37.40	37.64	38.86	40.60	41.22	41.14	41.12	41.96	42.22	41.65	40.62	39.31
9	37.34	37.47	38.87	40.59	41.22	41.11	41.10	42.00	42.27	41.62	40.56	39.30
10	37.59	37.66	38.91	40.62	41.21	41.13	41.05	42.02	42.23	41.59	40.51	39.22
11	37.38	37.67	38.95	40.68	41.22	41.07	41.12	41.96	42.24	41.56	40.51	39.24
12	37.44	37.81	38.95	40.67	41.22	40.96	41.16	42.06	42.25	41.53	40.49	39.16
13	37.42	37.81	38.96	40.69	41.22	41.38	41.22	42.08	42.10	41.47	40.43	39.11
14	37.42	37.69	38.97	40.71	41.22	41.17	41.20	42.04	42.13	41.43	40.37	39.22
15	37.42	37.70	38.98	40.72	41.20	41.22	41.20	42.08	42.12	41.42	40.27	39.07
16	37.43	37.77	39.01	40.73	41.19	41.17	41.21	42.06	42.17	41.43	40.17	39.12
17	37.55	37.81	39.00	40.75	41.17	41.01	41.18	42.04	42.15	41.37	40.18	39.06
18	37.54	37.66	39.01	40.77	41.17	41.29	40.90	42.06	42.12	41.35	40.13	38.98
19	37.51	38.10	39.02	40.80	41.16	41.24	41.26	42.08	42.13	41.28	39.99	39.01
20	37.50	38.15	39.02	40.83	41.15	41.35	41.38	42.19	42.12	41.21	39.96	38.99
21	37.49	38.17	39.04	40.84	41.15	41.13	41.47	42.09	42.05	41.19	39.92	39.07
22	37.57	38.20	39.07	40.89	41.15	41.17	41.49	42.06	42.18	41.16	39.90	39.00
23	37.50	38.08	39.12	40.90	41.15	41.07	41.50	42.03	42.11	41.11	39.86	38.92
24	37.59	38.04	39.17	40.94	41.15	41.13	41.49	42.02	42.06	41.02	39.88	38.88
25	37.38	38.06	39.22	40.97	41.16	41.09	41.52	42.00	42.08	40.93	39.83	38.90
26	37.31	38.08	39.28	40.99	41.16	41.02	41.70	42.16	42.10	40.98	39.76	38.92
27	37.31	38.22	39.35	41.00	41.17	41.10	41.67	42.30	41.97	40.87	39.72	38.90
28	37.11	38.17	39.44	41.02	41.21	40.70	41.68	42.36	41.85	40.92	39.70	38.86
29	36.90	38.38	39.66	41.05	-	40.83	41.84	42.24	41.84	40.94	39.65	38.82
30	37.14	38.47	39.79	41.05	-	41.00	41.68	42.23	41.91	41.02	39.59	38.72
31	37.54	-	39.68	41.05	-	41.11	-	42.26	-	40.83	39.56	-

Note.- Add 4,100.00 feet to obtain elevation above mean sea level, Bureau of Reclamation datum. Elevations given represent daily mean elevation of lake.

Monthly elevation and contents, water year October 1945 to September 1946

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	4,137.68	159,400	-
Oct. 31.....	4,137.41	143,200	-16,200
Nov. 30.....	4,138.30	196,900	+53,700
Dec. 31.....	4,139.91	297,600	+100,700
Calendar year 1945.....	-	-	+140,000
Jan. 31.....	4,141.07	388,500	+90,900
Feb. 28.....	4,141.22	401,100	+12,600
Mar. 31.....	4,141.03	385,100	-16,000
Apr. 30.....	4,141.74	445,400	+60,300
May 31.....	4,142.24	489,000	+43,600
June 30.....	4,141.88	457,600	-31,400
July 31.....	4,140.88	372,700	-84,900
Aug. 31.....	4,139.53	272,200	-100,500
Sept. 30.....	4,138.73	223,000	-49,200
Water year 1945-46.....	-	-	+63,600

Note.- To compensate for wind effect, elevation given for end of month is mean of elevation for last 3 days of that month and first 3 days of following month.

Link River at Klamath Falls, Oreg.

Location.- Water-stage recorder, lat. 42°13', long. 121°48', in sec. 32, T. 38 S., R. 9 E., 200 yards upstream from outlet of Keno Canal and three-eighths of a mile upstream from Main Street Bridge at Klamath Falls. Datum of gage is 4,083.71 feet above mean sea level, datum of 1929, or 4,085.50 feet above datum of Bureau of Reclamation.

Drainage area.- 3,812 square miles (including Crater Lake Basin).

Records available.- May 1904 to September 1946.

Average discharge.- 42 years, 1,549 second-feet (including Keno Canal).

Extremes.- Maximum combined discharge of Link River and Keno Canal during year, 3,700 second-feet (regulated) Mar. 7; minimum, 186 second-feet (regulated) Dec. 2; minimum daily, 292 second-feet Jan. 6.

1904-46: Maximum discharge, 9,400 second-feet May 12, 1904 (gage height at bridge, 7.30 feet); minimum, 12 second-feet (regulated) Mar. 22, 1945; minimum daily, 17 second-feet (regulated) Dec. 13, 1937.

Remarks.- Records good. Regulation since April 1919 by Upper Klamath Lake. Water diverted above station by the main or "A" Canal of Klamath project and Keno Canal (see pp. 404, 405. Other small diversions above lake. Records of discharge include flow of Keno Canal.

Cooperation.- Water-stage recorder inspected by employee of The California Oregon Power Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,950	932	833	312	1,000	2,400	3,460	757	870	1,190	1,110	1,400
2	1,730	901	768	408	973	3,020	3,460	660	780	1,150	1,190	1,350
3	1,780	1,040	371	442	952	3,040	3,480	669	999	955	1,120	1,400
4	1,970	768	454	444	947	3,040	3,480	907	1,060	850	741	1,360
5	1,950	830	362	454	1,040	3,030	1,940	913	1,130	721	1,330	1,280
6	1,780	1,030	667	292	1,050	3,050	861	818	1,210	465	1,380	1,370
7	1,690	1,030	901	454	1,150	3,240	1,580	816	1,180	945	1,420	1,410
8	1,760	1,060	962	543	1,410	3,480	3,520	871	1,130	1,160	1,420	1,590
9	1,540	965	972	642	1,410	3,480	3,510	862	847	1,460	1,410	1,740
10	1,200	473	1,010	609	1,410	3,480	3,520	1,110	1,050	1,540	1,410	1,740
11	1,310	516	1,040	609	1,410	3,480	3,540	804	947	1,460	1,410	1,760
12	984	925	928	516	1,420	3,450	3,540	908	949	1,470	1,410	1,650
13	1,110	1,030	1,050	574	1,650	3,560	2,720	1,030	929	1,380	1,490	1,560
14	1,060	1,020	1,020	638	2,000	3,500	1,990	1,150	929	1,330	1,690	1,500
15	996	909	996	708	2,000	3,480	1,990	1,180	886	1,380	1,660	1,470
16	864	869	1,050	747	1,980	3,510	1,760	1,220	675	1,430	1,660	1,430
17	852	700	1,060	751	1,980	3,470	905	1,120	956	1,470	1,670	1,360
18	812	754	1,080	514	1,980	3,530	853	1,140	937	1,470	1,840	1,360
19	828	352	1,130	391	1,980	3,520	949	1,200	978	1,470	1,900	1,280
20	1,100	583	1,240	398	1,980	3,540	1,090	1,170	898	1,460	1,830	1,510
21	1,340	812	1,230	659	1,980	3,480	1,070	657	928	1,470	1,770	1,600
22	1,340	662	708	721	1,970	3,480	1,140	990	640	1,190	1,830	1,470
23	1,320	776	569	1,070	1,980	3,480	1,070	1,070	649	1,470	1,580	1,400
24	1,330	771	532	1,080	1,970	3,480	1,040	983	922	1,370	1,480	1,540
25	1,160	865	494	1,080	1,980	3,480	546	1,140	967	1,340	1,620	1,540
26	1,080	602	741	1,040	1,980	3,460	855	1,100	1,210	1,300	1,470	1,500
27	982	690	524	986	1,980	3,450	782	1,030	1,380	837	1,380	1,560
28	771	301	407	947	1,950	3,370	1,510	1,000	1,130	728	1,320	1,610
29	882	440	386	1,000	-	3,400	1,070	896	895	1,070	1,370	1,580
30	543	647	311	991	-	3,430	804	660	1,090	1,130	1,380	1,520
31	775	-	350	1,080	-	3,450	-	599	-	1,090	1,400	-

Month	River including Keno Canal				"A" Canal (runoff in acre-feet)	River including Keno and "A" Canals	
	Maximum	Minimum	Mean	Runoff in acre-feet		Runoff in acre feet	Mean
October.....	1,970	543	1,251	76,940	4,350	81,290	1,322
November.....	1,060	301	775	46,120	0	46,120	775
December.....	1,240	311	780	47,970	0	47,970	780
Calendar year 1945..	2,230	19	1,020	738,800	195,600	934,400	1,290
January.....	1,090	292	690	41,830	0	41,830	690
February.....	2,000	947	1,625	90,270	0	90,270	1,625
March.....	3,560	2,400	3,364	206,800	0	206,800	3,364
April.....	3,540	546	1,935	115,200	6,330	121,530	2,041
May.....	1,220	599	949	58,350	36,030	94,380	1,535
June.....	1,380	640	975	58,010	45,730	103,740	1,743
July.....	1,540	465	1,218	74,920	59,630	134,550	2,188
August.....	1,900	741	1,474	80,630	50,020	140,650	2,287
September.....	1,760	1,280	1,496	69,000	25,530	114,530	1,925
Water year 1945-46..	3,560	292	1,376	996,000	227,600	1,223,600	1,690

Klamath River at Keno, Oreg.

Location.- Water-stage recorder, lat. 42°08', long. 121°58', in SE $\frac{1}{4}$ sec. 35, T. 39 S., R. 7 E., 2 miles west of Keno and 5 miles upstream from Spencer Creek.

Drainage area.- 3,920 square miles, not including Lost River or Lower Klamath Lake Basins.

Records available.- June 1904 to December 1913, January 1930 to September 1946.

Average discharge.- 25 years, 1,546 second-feet.

Extremes (regulated).- Maximum discharge during year, 4,430 second-feet Mar. 23 (gage height, 8.42 feet); minimum, 205 second-feet Aug. 15 (gage height, 2.54 feet); minimum daily, 361 second-feet Apr. 25.

1904-13, 1930-46: Maximum discharge, 6,830 second-feet May 1-6, 1938 (gage height, 10.10 feet); minimum, 35 second-feet Aug. 4, 1934; minimum daily, 60 second-feet May 19, 1934.

Remarks.- Records good. Diversions above station for irrigation. Lost River diversion canal enters or diverts from Klamath River above station. (See records for Lost River diversion canal near Olene and diversion from Klamath River to Lost River near Olene.) Diversions through Klamath Strait into Lower Klamath Lake were computed by Bureau of Reclamation from gate openings at Ady. Pumpage into Klamath River at Ady was computed by Bureau of Reclamation from hours of pump operation. Flow regulated by dam at outlet of Upper Klamath Lake since 1919 and by low dam on Klamath River at Keno since September 1931.

Cooperation.- Water-stage recorder inspected by employee of The California Oregon Power Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,130	1,210	1,140	1,190	1,250	3,170	3,750	690	845	1,270	1,210	1,610
2	1,830	1,210	522	1,190	1,240	3,730	3,760	700	1,050	1,090	1,380	1,720
3	1,870	1,060	637	1,190	1,270	3,780	3,790	690	1,160	815	1,270	1,800
4	2,040	994	637	1,190	1,270	3,790	3,820	815	1,150	810	1,230	1,780
5	2,050	1,080	636	1,410	1,250	3,760	3,360	901	1,080	636	1,370	1,760
6	1,850	1,140	912	1,430	1,220	3,700	2,020	790	1,040	457	1,450	1,760
7	1,780	1,300	1,180	1,320	1,300	3,960	1,290	790	972	967	1,450	1,750
8	1,780	1,280	1,080	1,350	1,600	4,150	2,470	850	860	1,280	1,450	1,880
9	1,690	1,140	1,150	1,340	1,620	4,060	3,590	850	812	1,530	1,450	2,010
10	1,300	713	1,220	1,340	1,670	3,950	3,610	918	1,050	1,480	1,380	2,010
11	1,170	739	1,220	1,340	1,760	3,920	3,640	912	994	1,400	1,330	2,020
12	1,160	1,190	1,220	1,340	1,740	4,020	3,620	860	940	1,520	1,400	1,900
13	1,160	1,290	1,220	1,350	1,980	4,150	3,000	950	994	1,190	1,520	1,820
14	1,170	1,280	1,290	1,350	2,200	4,200	2,100	1,040	1,030	1,130	1,720	1,790
15	1,120	1,190	1,310	1,400	2,130	4,200	2,090	1,050	912	1,290	1,610	1,780
16	1,060	965	1,230	1,530	2,070	4,220	1,930	1,050	870	1,320	1,800	1,770
17	1,040	872	1,190	1,460	2,100	4,270	1,000	1,050	1,040	1,340	1,700	1,650
18	1,040	1,020	1,350	1,350	2,140	4,340	713	1,050	1,030	1,340	1,770	1,520
19	1,120	713	1,410	1,080	2,280	4,270	722	994	1,040	1,300	1,870	1,650
20	1,060	736	1,410	1,010	2,410	4,230	672	918	1,040	1,260	1,880	1,830
21	1,460	1,020	1,370	1,210	2,460	4,270	642	815	912	1,130	1,870	1,900
22	1,460	1,000	884	1,300	2,640	4,300	956	830	750	1,260	1,820	1,760
23	1,460	1,080	722	1,180	2,720	4,390	850	1,060	785	1,260	1,600	1,720
24	1,370	1,170	1,070	1,180	2,680	4,360	584	1,100	1,070	1,250	1,550	1,820
25	1,250	1,180	811	1,120	2,720	4,320	361	1,160	1,190	1,270	1,780	1,810
26	1,180	876	972	1,080	2,690	4,230	520	1,230	1,240	1,250	1,840	1,780
27	1,150	750	825	1,100	2,650	3,940	605	1,130	1,440	1,100	1,750	1,760
28	1,060	855	1,040	1,210	2,660	3,800	785	928	1,280	1,100	1,650	1,780
29	1,010	956	1,040	1,240	-	3,780	896	750	1,050	1,370	1,580	1,780
30	689	1,100	984	1,240	-	3,720	795	664	1,090	1,450	1,600	1,750
31	796	-	1,110	1,240	-	3,720	-	600	-	1,270	1,610	-

Month	Second-foot-days	Discharge in second-feet			Runoff in acre-feet	Diversion at Ady (acre-feet)	Pumpage at Ady (acre-feet)
		Maximum	Minimum	Mean			
October.....	42,305	2,130	689	1,365	83,910	710	1,350
November.....	31,109	1,300	713	1,037	61,700	428	3,600
December.....	32,779	1,410	522	1,067	65,000	6,260	1,560
Calendar year 1945	419,815	2,240	396	1,150	832,680	33,040	24,530
January.....	39,180	1,530	1,010	1,264	77,710	8,590	0
February.....	55,620	2,720	1,220	1,986	110,300	22,020	0
March.....	124,700	4,390	3,170	4,023	247,300	808	6,830
April.....	56,031	3,820	361	1,934	115,100	40	6,240
May.....	28,135	1,230	600	908	55,800	863	2,520
June.....	30,716	1,440	750	1,024	60,920	639	5,810
July.....	36,935	1,530	457	1,191	73,260	3,070	5,110
August.....	48,870	1,880	1,210	1,576	96,930	3,190	6,210
September.....	53,670	2,020	1,520	1,789	106,500	629	3,960
Water year 1945-46	582,043	4,390	361	1,595	1,154,430	47,250	43,290

Klamath River below Fall Creek, near Copco, Calif.

Location.- Water-stage recorder, lat. 41°58', long. 122°22', in NE¹ sec. 36, T. 48 N., R. 5 W., 500 feet downstream from Fall Creek, half a mile downstream from Copco No. 2 plant of The California Oregon Power Co., and 1 mile south of Copco post office. Altitude of gage, 2,310 feet (from river-profile map).

Drainage area.- 4,370 square miles.

Records available.- October 1928 to September 1946. October 1923 to September 1928 at site above Fall Creek.

Average discharge.- 23 years, 1,503 second-feet (including Fall Creek).

Extremes.- Maximum discharge during year, 6,900 second-feet (regulated) Mar. 19 (gage height, 6.42 feet); minimum, 202 second-feet (regulated) Sept. 22 (gage height, 1.49 feet); minimum daily, 343 second-feet July 4.

1923-46: Maximum discharge, 9,660 second-feet Apr. 27, May 3, 1938 (gage height, 7.39 feet); minimum, about 10 second-feet above Fall Creek several times in 1925, 1926; minimum daily, 83 second-feet at present site Aug. 2, 1931.

Remarks.- Records good except those for period of no gage-height record, which are fair. Diversions and regulation above station.

Cooperation.- Water-stage recorder inspected by employee of The California Oregon Power Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,910	1,470	1,180	1,440	1,630	3,320	a5,930	1,310	1,250	1,590	1,810	1,330
2	2,230	1,420	835	1,650	1,300	3,800	a3,810	1,250	827	1,160	1,860	1,550
3	2,350	1,290	1,030	1,800	776	3,940	a3,820	1,440	1,480	1,560	1,470	2,040
4	2,380	691	1,400	1,940	1,780	4,130	a3,830	1,080	1,460	343	724	2,210
5	2,270	1,480	1,320	1,970	1,650	4,080	3,780	413	1,520	1,200	1,840	2,300
6	2,250	1,650	1,420	2,000	1,600	3,930	2,620	1,520	1,400	1,350	1,800	2,280
7	1,470	1,670	1,570	1,840	1,580	3,880	1,370	1,490	1,440	708	1,920	2,160
8	2,060	1,610	1,250	1,800	1,680	4,300	2,230	1,400	717	1,820	1,720	988
9	1,650	1,590	824	1,850	1,900	4,200	3,580	1,420	796	1,910	1,760	2,140
10	1,930	1,450	1,540	1,680	1,650	4,080	3,660	1,440	1,480	1,720	1,480	2,170
11	1,690	833	1,480	1,760	1,770	4,230	3,610	1,250	1,570	1,730	845	2,170
12	1,680	1,020	1,580	1,450	1,820	4,060	3,620	589	1,570	1,610	1,980	2,280
13	1,370	1,390	1,690	1,080	2,070	4,110	3,580	1,420	1,650	1,070	2,110	2,300
14	1,030	1,630	1,860	1,770	2,050	4,410	2,620	1,420	1,450	738	2,030	2,220
15	1,800	1,400	1,280	1,690	2,230	4,350	1,750	1,450	933	1,790	2,030	1,160
16	1,800	1,560	830	1,620	2,250	4,200	2,450	1,500	653	1,790	1,960	1,970
17	1,630	1,410	1,740	1,640	2,780	4,410	1,850	1,520	1,260	1,860	1,550	2,120
18	1,860	762	1,680	1,670	1,980	4,720	1,400	1,190	1,400	1,710	1,240	2,160
19	2,030	1,500	1,790	1,470	2,200	4,300	1,370	633	1,520	1,690	2,060	2,290
20	1,560	1,670	1,730	919	2,670	a4,060	1,250	1,610	1,410	926	2,220	2,270
21	1,100	1,740	1,540	1,950	2,760	a4,040	940	1,620	1,510	924	2,200	1,980
22	1,660	698	1,180	1,670	2,940	a4,100	1,300	1,650	1,070	1,630	2,100	763
23	1,770	1,470	961	1,700	2,980	a4,090	1,270	1,510	810	1,650	2,020	2,240
24	1,600	1,400	1,100	1,740	3,130	a4,040	1,320	1,660	1,500	1,740	1,660	2,250
25	1,630	574	767	1,740	2,970	a4,290	1,210	1,390	1,680	1,800	1,230	2,280
26	1,650	888	1,660	1,390	2,890	a4,150	1,320	466	1,720	1,480	2,070	2,350
27	1,540	1,530	2,010	870	2,940	a4,090	710	1,470	1,680	1,200	2,290	2,270
28	787	1,540	2,220	1,730	2,960	a3,920	1,040	1,370	1,660	946	2,300	1,870
29	1,590	1,450	2,180	1,570	-	a3,970	1,170	1,480	1,260	1,710	2,300	1,060
30	1,800	1,520	1,180	1,570	-	a3,800	1,500	1,030	672	1,370	2,220	2,170
31	1,510	-	1,980	1,640	-	a3,910	-	1,360	-	1,790	1,550	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	53,087	2,380	787	1,712	105,300
November.....	40,306	1,740	574	1,344	71,950
December.....	44,987	2,220	767	1,451	89,230
Calendar year 1945.....	527,253	2,530	356	1,445	1,046,000
January.....	50,609	2,000	870	1,633	100,400
February.....	60,816	3,130	776	2,132	120,600
March.....	127,010	4,720	3320	4,097	251,900
April.....	67,910	3,930	710	2,264	134,700
May.....	40,331	1,660	413	1,301	80,000
June.....	39,348	1,720	653	1,512	78,050
July.....	44,515	1,910	349	1,436	88,290
August.....	56,369	2,300	724	1,818	111,800
September.....	59,341	2,350	763	1,978	117,700
Water year 1945-46.....	684,629	4,720	343	1,876	1,358,000

a No gage-height record; discharge computed from power output, spill, and discharge of Fall Creek.

Klamath River at Somesbar, Calif.

Location.- Water-stage recorder, lat. 41°23', long. 123°29', in NE¼ sec. 4, T. 11 N., R. 6 E., 300 feet downstream from Salmon River and 1 mile west of Somesbar post office. Altitude of gage, about 450 feet (from topographic map).

Drainage area.- 8,480 square miles.

Records available.- October 1927 to September 1946.

Average discharge.- 18 years (1927-29, 1930-46), 6,666 second-feet.

Extremes.- Maximum discharge during year, 97,000 second-feet probably Dec. 28 (gage height, 40.0 feet, from floodmarks), from rating curve extended above 49,000 second-feet by velocity-area studies; minimum, 1,150 second-feet (regulated) Sept. 24. 1927-46: Maximum discharge, that of Dec. 28, 1945; minimum, 218 second-feet (regulated) Aug. 26, 1931. Flood of Feb. 21, 1927, reached a stage of 50.8 feet.

Remarks.- Records excellent except those for Dec. 29, which are good. Storage, large diversions for irrigation, and considerable regulation by power plants above station.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28					Dec. 29 to Sept. 30						
6.1	1,780	8.0	5,000	14	21,200	5.1	1,780	6.5	3,880	9.0	8,900
6.3	2,040	8.5	6,080	17	29,600	5.3	2,040	6.8	4,420	10	11,400
6.5	2,330	9.0	7,200	20	38,000	5.7	2,600	7.5	5,750	14	21,800
6.8	2,790	10	9,860	25	52,000	6.0	3,050	8.0	6,750	20	38,000
7.2	3,460	11	12,800	36	85,000	Note.- Same as preceding table above 20 feet.					
7.6	4,200	12	15,600								

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,440	4,040	10,300	23,400	9,240	16,100	11,400	11,000	8,550	3,660	2,930	2,350
2	2,440	3,320	8,230	24,700	9,400	15,200	11,200	11,400	8,790	4,420	3,010	2,040
3	2,650	2,930	7,760	25,600	8,640	14,600	10,800	12,900	8,350	4,020	3,040	2,280
4	2,900	2,620	17,600	26,000	7,800	13,800	10,500	14,100	8,390	4,190	2,720	2,970
5	2,970	2,150	17,300	31,100	8,500	13,500	10,500	13,300	8,130	3,490	2,110	3,120
6	2,870	2,540	14,400	26,000	11,400	13,500	10,600	12,300	7,650	3,210	2,630	3,150
7	2,810	2,810	17,600	24,000	12,100	13,400	9,380	13,200	7,110	3,750	2,900	3,140
8	2,220	2,810	13,800	21,900	10,700	13,200	8,420	12,300	6,980	3,290	2,810	2,990
9	2,580	3,270	10,600	18,700	9,680	13,700	9,070	12,000	6,250	3,740	2,860	2,010
10	2,450	4,840	9,130	16,400	9,760	13,900	10,100	12,400	5,970	4,100	2,740	2,660
11	2,580	3,890	8,600	14,800	9,000	13,600	10,100	12,600	6,450	3,850	2,430	2,920
12	2,540	4,680	7,760	13,500	8,750	14,400	10,400	11,900	6,490	3,800	1,890	3,000
13	2,320	4,180	7,130	12,200	8,480	17,700	11,000	11,100	6,610	3,700	2,590	3,030
14	2,070	3,710	6,720	11,200	8,480	16,100	11,700	11,000	6,680	3,000	3,060	3,060
15	1,790	5,680	6,570	11,200	8,370	15,500	11,900	10,600	6,510	2,500	2,810	3,070
16	2,260	6,630	5,840	10,600	8,330	14,800	12,700	11,300	5,950	3,300	2,950	2,300
17	2,420	6,700	5,160	9,910	8,310	14,600	15,000	12,400	5,540	3,360	2,930	2,760
18	2,270	5,910	5,690	9,600	8,830	14,400	16,500	13,300	5,870	3,460	2,860	3,000
19	2,300	10,600	5,710	9,310	8,390	14,200	15,900	12,400	6,130	3,250	2,030	3,030
20	2,500	8,490	5,550	8,300	8,680	13,500	13,600	11,500	6,250	3,200	2,700	3,070
21	2,280	6,460	6,840	8,130	9,690	13,000	11,900	11,800	6,230	2,680	3,030	3,130
22	1,670	5,490	8,460	10,900	9,980	12,900	10,900	10,400	6,010	2,190	3,070	2,840
23	2,040	4,800	14,200	11,900	9,910	12,600	11,400	9,480	5,280	2,910	2,010	2,000
24	2,300	5,730	15,000	13,300	10,700	12,300	13,300	8,920	4,550	3,030	2,790	2,530
25	2,220	9,330	13,100	15,700	11,900	12,000	15,800	9,020	5,070	3,150	2,540	3,120
26	2,200	10,900	17,200	13,600	11,400	12,100	15,700	9,620	5,100	3,680	1,960	3,090
27	2,400	13,700	32,000	12,200	17,200	12,700	13,900	8,500	4,930	3,510	2,620	3,190
28	2,420	38,400	79,200	10,800	19,000	13,100	12,500	8,700	5,010	2,830	3,040	3,100
29	2,260	23,800	83,000	10,900	-	12,900	12,800	8,500	4,900	2,380	3,080	2,710
30	5,200	13,900	43,500	10,000	-	12,400	11,700	8,330	4,330	2,960	3,080	1,970
31	4,840	-	29,400	9,550	-	11,900	-	8,020	-	2,680	3,110	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	79,410	5,200	1,790	2,562	157,500
November	224,510	38,400	2,150	7,484	445,500
December	533,350	83,000	5,160	17,200	1,058,000
Calendar year 1945	2,764,910	83,000	1,790	7,575	5,484,000
January	478,130	31,100	8,130	15,420	948,400
February	282,800	19,000	7,800	10,100	560,900
March	427,600	17,700	11,900	13,790	848,100
April	360,670	16,500	8,420	12,020	715,400
May	544,490	14,100	6,020	11,110	663,300
June	190,260	8,790	4,350	6,342	377,400
July	103,700	4,420	2,190	3,345	205,700
August	85,230	3,110	1,690	2,749	169,100
September	83,630	3,190	1,970	2,788	165,900
Water year 1945-46	3,193,780	83,000	1,790	8,750	6,335,000

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

Smaller reservoirs in Klamath River Basin, Oreg.

Fourmile Lake Reservoir.- Staff gage, lat. 42°27', long. 122°14', in NW¼ sec. 9, T. 36 S., R. 5 E., at dam at outlet of Fourmile Lake, 8 miles west of Recreation. Gage readings are elevations above mean sea level, irrigation company datum. Records available, June 1923 to September 1930, June 1932 to September 1946. Maximum contents observed during year, 13,960 acre-feet June 20, 22 (elevation, 6,000.7 feet); minimum, 3,852 acre-feet (interpolated) Sept. 30. Maximum contents observed during periods 1923-30, 1932-46, 16,220 acre-feet May 18, 1938, June 17, 20, 21, 23, 1944 (elevation, 6,003.1 feet); no usable contents at times.

Reservoir is formed on natural lake by rock-faced earth dam, completed by Rogue River Valley Canal Co. about 1922. Capacity, 13,330 acre-feet between elevations 5,980 feet (sill of outlet gage) and 6,000 feet (crest of spillway, on which flashboards are placed to increase contents to 18,100 acre-feet at elevation 6,005 feet). Figures given herein represent usable contents. Water is used for irrigation of lands near Medford. Gage read once to four times weekly from June 1 to Sept. 6, occasionally at other times.

Hyatt Prairie Reservoir.- Staff gage, lat. 42°10', long. 122°28', in sec. 16, T. 39 S., R. 3 E., at dam of Talent Irrigation District on Keene Creek, 3 miles north of Ashland-Klamath Falls highway and 20 miles east of Ashland. Gage readings are elevations above mean sea level, datum of Talent Irrigation District. Records available, December 1922 to September 1946. Maximum contents observed during year, 9,160 acre-feet May 16 (elevation, 5,007.1 feet); minimum observed, 200 acre-feet Sept. 24 (elevation, 4,985.9 feet). Maximum contents observed during period 1922-46, 17,410 acre-feet May 29, 1938 (elevation, 5,017.37 feet); no usable contents at times.

Reservoir is formed by rock-faced earth dam, completed by Talent Irrigation District in 1923; storage began in December 1922. Capacity, 16,180 acre-feet between elevations 4,981.7 feet (sill of gate, approximate) and 5,016.0 feet (spillway crest). Dead storage negligible. Water used for irrigation near Ashland and Talent. Gage read once to five times weekly from June to September, occasionally at other times.

Other reservoirs.- There are six other small reservoirs in Williamson River Basin and eight in Lost River Basin, having a total capacity of 12,300 acre-feet.

Elevation and contents, water year October 1945 to September 1946

Date	Fourmile Lake Reservoir			Hyatt Prairie Reservoir		
	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	-	4,322	-	-	232	-
Oct. 31.....	-	4,283	-39	-	712	+480
Nov. 30.....	-	4,436	+153	-	1,178	+466
Dec. 31.....	-	4,705	+269	4,992.9	1,658	+480
Calendar year 1945	-	-	-1,178	-	-	+579
Jan. 31.....	-	4,890	+185	-	1,954	+296
Feb. 28.....	-	5,016	+126	-	2,352	+398
Mar. 31.....	-	5,738	+722	-	4,248	+1,296
Apr. 30.....	-	9,037	+3,299	5,005.0	7,750	+3,482
May 31.....	-	12,230	+3,193	-	8,955	+1,225
June 30.....	-	13,240	+1,010	-	7,295	-1,660
July 31.....	5,994.3	8,746	-4,494	-	3,583	-3,712
Aug. 31.....	5,987.9	4,514	-4,232	-	518	-3,065
Sept. 30.....	-	3,852	-662	4,988.9	250	-268
Water year 1945-46	-	-	-470	-	-	+18

† Hour of reading not known.

Note.- Contents interpolated for days on which gage was not read.

KLAMATH RIVER BASIN

Sprague River near Chiloquin, Oreg.

Location.- Water-stage recorder, lat. 42°35', long. 121°51'. in NE $\frac{1}{4}$ sec. 35, T. 34 S., R. 7 E., $1\frac{1}{2}$ miles east of Chiloquin and 4 miles upstream from Modoc Point canal intake.

Drainage area.- 1,580 square miles.

Records available.- August 1931 to September 1946. July 1920 to September 1931 at site at McCready Ranch, 12 miles upstream; records equivalent except for extremely low stages.

Average discharge.- 25 years (1921-46), 464 second-feet.

Extremes.- Maximum discharge during year, 2,340 second-feet Apr. 24 (gage height, 4.35 feet); minimum, 191 second-feet Aug. 20 (gage height, 1.46 feet).
1920-46: Maximum discharge, 6,650 second-feet Apr. 1, 1943 (gage height, 7.47 feet); minimum daily, 50 second-feet (estimated) May 26, 27, 1926.

Remarks.- Records good except those for Oct. 1 to Feb. 13, which are fair. Diversions above station for irrigation; regulation by ponding at irrigation dams.

Cooperation.- Water-stage recorder inspected by employee of The California Oregon Power Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	253	371	381	1,300	b390	780	1,590	2,220	850	305	207	214
2	256	350	386	1,460	440	889	1,600	2,280	794	291	227	214
3	262	355	392	1,550	b400	983	1,510	2,240	722	286	236	214
4	262	340	381	1,460	b370	962	1,400	2,180	676	286	236	214
5	262	335	371	1,270	366	856	1,330	2,070	631	281	227	214
6	262	330	365	1,100	360	708	1,290	1,940	593	272	218	218
7	262	325	376	976	350	650	1,250	1,840	575	267	218	218
8	262	320	370	720	b360	670	1,280	1,790	550	256	218	222
9	262	325	360	500	b380	741	1,360	1,780	520	253	214	218
10	262	325	365	470	b370	787	1,450	1,780	491	249	214	218
11	262	325	360	390	b345	822	1,500	1,770	457	253	218	218
12	267	330	340	410	b325	934	1,510	1,740	452	286	214	218
13	267	330	300	440	b345	1,050	1,460	1,680	446	340	218	214
14	267	345	260	450	335	1,130	1,390	1,610	440	276	222	214
15	267	335	270	450	340	1,230	1,410	1,550	424	253	218	218
16	267	350	340	440	350	1,350	1,500	1,480	408	240	214	218
17	267	350	370	430	350	1,390	1,600	1,390	397	240	210	222
18	267	350	380	430	355	1,330	1,700	1,320	392	240	214	218
19	272	380	350	420	365	1,160	1,770	1,270	350	240	210	218
20	276	350	360	410	360	1,050	1,620	1,180	276	240	195	227
21	286	340	360	400	371	1,100	1,870	1,130	315	236	203	231
22	286	335	375	371	366	1,250	1,990	1,080	330	231	210	231
23	286	330	386	355	402	1,430	2,200	1,030	310	227	210	236
24	300	335	413	402	430	1,520	2,330	997	276	222	210	244
25	305	340	446	b370	480	1,450	2,290	1,020	305	227	207	236
26	296	350	466	b360	550	1,290	2,180	1,050	315	236	210	236
27	300	360	480	b425	656	1,130	2,070	1,080	320	236	210	236
28	300	375	606	b460	734	1,050	2,020	1,050	325	236	203	236
29	300	376	780	480	-	1,120	2,050	983	315	236	207	231
30	315	381	927	413	-	1,280	2,150	941	310	244	207	231
31	335	-	1,130	b370	-	1,450	-	906	-	244	214	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,595	335	253	277	17,050
November.....	10,343	381	320	345	20,520
December.....	13,428	1,130	260	433	25,630
Calendar year 1945.....	184,960	1,500	210	507	366,900
January.....	19,462	1,550	355	628	38,640
February.....	11,285	734	325	405	22,560
March.....	35,532	1,520	650	1,082	66,510
April.....	50,870	2,330	1,250	1,696	100,900
May.....	46,357	2,260	906	1,495	91,950
June.....	13,585	850	276	452	26,910
July.....	7,931	340	222	256	15,730
August.....	6,639	236	195	214	13,170
September.....	6,697	244	214	223	13,280
Water year 1945-46.....	228,724	2,330	195	627	453,700

b Stage-discharge relation affected by ice.

Note.- Doubtful gage-height record Nov. 5-12, 16-28, Dec. 8-22, Jan. 8-21; discharge computed on basis of weather records and records for Williamson River below Sprague River, near Chiloquin.

Cascade Canal near Fish Lake, Oreg.

Location.- Water-stage recorder, lat. 42°24', long. 122°16', in SE $\frac{1}{4}$ sec. 30, T. 36 S., R. 5 E., at divide between Rogue River and Klamath River Basins, 3 miles upstream from Fish Lake and 10 miles downstream from point of diversion.

Records available.- June 1924 to September 1946 (irrigation seasons only).

Extremes.- Maximum discharge recorded during period June to September, 44 second-feet Aug. 19, 20, 23 (gage height, 1.95 feet); no flow at times.
1924-1946: Maximum discharge recorded, 75 second-feet June 1, 1943 (gage height, 2.58 feet); no flow at times.

Remarks.- Records good except those for June 17 to July 17, which are poor. Water stored in Fourmile Lake Reservoir was released to canal during period June 18 to Sept. 6. Canal diverts water from Fourmile Creek, in Klamath River Basin, and discharges into lava bed $\frac{1}{2}$ miles above Fish Lake, in Rogue River Basin. Also some runoff from melting snow intercepted and diverted. Entire flow sinks in lava bed, reappearing in springs at head of Fish Lake.

Cooperation.- Water-stage recorder inspected by employee of Medford Irrigation District.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1									-	a34	42	24	
2									-	a35	42	25	
3									-	a36	42	21	
4									-	a37	41	18	
5									-	a37	42	16	
6									-	38	42	12	
7									-	38	42	0	
8									-	38	42	0	
9									-	32	42	0	
10									-	3.5	42	0	
11									-	a42	42	0	
12									-	a42	42	0	
13									-	42	43	0	
14									-	a42	43	0	
15									-	a42	43	0	
16									-	a42	42	0	
17									0.3	a42	42	0	
18									1.3	42	42	0	
19									11	41	42	0	
20									15	41	44	0	
21									19	41	43	0	
22									21	41	42	0	
23									25	41	42	0	
24									a26	41	37	0	
25									a28	41	30	0	
26									a29	42	26	0	
27									a30	42	27	0	
28									a32	42	29	0	
29									h33	42	28	0	
30									a34	43	24	0	
31									-	42	22	-	
Month									Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....													
November.....													
December.....													
Calendar year													
January.....									-	-	-	-	-
February.....									-	-	-	-	-
March.....									-	-	-	-	-
April.....									-	-	-	-	-
May.....									-	-	-	-	-
June 17-30..									304.6	34	0.3	21.8	604
July.....									1,204.5	43	3.5	38.9	2,390
August.....									1,194	44	22	38.5	2,370
September.....									116	25	0	3.9	230
The period.....									2,819.1	-	-	-	5,590

a No gage-height record; discharge interpolated.

h Computed from staff-gage reading.

"A" Canal at Klamath Falls, Oreg.

Location.- Water-stage recorder, lat. 42°14', long. 121°48', in NE $\frac{1}{4}$ sec. 30, T. 38 S., R. 9 E., 300 feet downstream from head gates of canal and 1 mile northwest of Klamath Falls. Datum of gage is 4,126.22 feet above mean sea level, Bureau of Reclamation datum (levels by Bureau of Reclamation).

Records available.- October 1910 to September 1946.

Average discharge.- 36 years, 193 second-feet.

Extremes.- Maximum daily discharge during year, 1,070 second-feet July 23, 24; no flow Oct. 11 to Apr. 16.
1910-46: Maximum daily discharge, 1,100 second-feet June 22, 1945; no flow at times.

Remarks.- Records good. Canal diverts water from Upper Klamath Lake in NE $\frac{1}{4}$ sec. 30, T. 38 S., R. 9 E., for irrigation of lands east of Klamath River on both sides of Lost River. Most of return water reaches Lost River.

Cooperation.- Records furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	267						0	655	213	880	841	537
2	277						0	690	365	948	829	517
3	274						0	764	418	923	822	510
4	261						0	803	458	862	907	456
5	260						0	821	540	939	845	493
6		235					0	806	605	563	881	374
7		212					0	824	671	727	901	380
8		196					0	818	701	971	901	382
9		166					0	806	727	1,010	894	384
10		44					0	758	804	1,020	891	382
11	0						0	727	887	1,030	871	411
12	0						0	721	964	1,050	916	419
13	0						0	691	989	1,040	943	458
14	0						0	679	1,010	1,020	947	480
15	0						0	680	989	999	926	464
16	0						0	683	899	1,020	883	448
17	0						13	721	817	1,040	843	414
18	0						26	741	806	1,040	799	410
19	0						27	714	817	1,030	785	416
20	0						27	728	803	1,020	783	426
21	0						27	673	842	1,020	783	416
22	0						27	519	848	1,050	787	398
23	0						105	419	792	1,070	772	394
24	0						175	350	792	1,070	718	411
25	0						241	270	850	1,050	722	428
26	0						329	206	866	1,020	748	424
27	0						423	164	905	962	768	420
28	0						517	156	937	934	717	411
29	0						603	178	890	927	684	392
30	0						649	191	850	934	633	416
31	0						-	201	-	895	578	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,192	277	0	70.7	4,350
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1945	98,618	1,100	0	270	195,600
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	3,189	649	0	106	6,330
May.....	18,166	824	156	586	36,030
June.....	23,055	1,010	213	768	45,730
July.....	30,064	1,070	563	970	59,830
August.....	25,218	947	374	813	50,020
September.....	12,871	537	0	429	25,530
Water year 1945-46	114,755	1,070	0	314	227,600

Keno Canal at Klamath Falls, Oreg.

Location.- Watt-hour meter, lat. 42°13', long. 121°48', in SW $\frac{1}{4}$ sec. 32, T. 38 S., R. 9 E., in west-side plant of The California Oregon Power Co., a quarter of a mile upstream from Link River bridge at Klamath Falls, with staff gage in canal 200 feet above penstock.

Records available.- October 1923 to September 1946.

Average discharge.- 23 years, 211 second-feet.

Extremes.- Maximum daily discharge during year, 309 second-feet Dec. 6; minimum daily, 64 second-feet June 22.

1923-46: Maximum daily discharge, 339 second-feet Feb. 1, 1940; no flow at times.

Remarks.- Records good. Watt-hour meter read daily at 12 p.m.; staff gage read once or twice daily. Discharge determined by combining flow through power plant, as computed from record of electrical output, with flow spilled from canal at wasteway above penstock. Canal diverts water from Upper Klamath Lake at Link River storage dam in SE $\frac{1}{4}$ sec. 30. Water is used for developing power and returned to Link River in SW $\frac{1}{4}$ sec. 32. Flow controlled by gates at head of canal.

Cooperation.- Gage readings and record of electrical output furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	189	264	269	264	276	275	266	269	272	266	260	270
2	220	266	160	274	277	270	265	269	264	264	263	267
3	227	268	255	280	278	267	266	269	265	263	263	266
4	213	266	270	274	279	270	267	271	266	264	265	267
5	213	273	200	266	280	260	279	267	262	264	263	268
6	207	263	309	287	280	277	266	264	265	266	262	269
7	206	264	297	266	282	267	264	263	264	263	258	270
8	188	261	282	268	282	269	262	263	265	264	263	264
9	207	253	278	265	282	272	254	263	265	259	264	264
10	237	266	269	273	277	267	260	263	265	262	262	260
11	231	264	273	273	284	268	260	260	264	262	256	263
12	246	263	268	265	267	260	259	264	262	267	259	261
13	240	261	272	272	279	260	265	264	261	270	266	264
14	246	254	284	274	285	265	259	263	266	269	266	260
15	244	258	272	268	285	267	263	259	254	269	260	257
16	246	261	277	273	277	268	265	267	263	269	263	260
17	248	269	277	274	281	261	267	263	266	267	272	261
18	252	248	272	269	286	270	257	264	263	267	272	259
19	252	235	279	269	279	277	266	264	260	267	262	259
20	239	255	276	276	275	283	267	265	263	264	262	258
21	241	266	279	273	281	280	266	264	162	264	267	265
22	239	274	273	277	274	274	269	264	64	263	261	270
23	234	264	282	275	279	274	269	261	299	259	262	262
24	231	261	284	278	274	274	269	260	276	263	263	262
25	240	261	290	276	275	271	269	265	272	267	266	261
26	248	266	287	276	281	266	269	258	270	266	266	259
27	248	269	282	277	276	264	269	264	269	266	269	257
28	235	267	287	276	277	253	268	269	268	266	266	259
29	206	262	270	277	-	260	274	266	266	264	262	250
30	243	269	277	277	-	260	270	266	269	264	269	216
31	261	-	276	277	-	264	-	267	-	264	268	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,177	261	188	232	14,240
November.....	7,951	295	248	265	15,770
December.....	8,426	309	160	272	16,710
Calendar year 1945.....	74,061	309	0	203	146,900
January.....	8,469	284	265	275	16,800
February.....	7,822	287	274	279	15,510
March.....	8,333	283	253	269	16,530
April.....	7,971	279	254	266	15,810
May.....	8,200	271	258	265	16,260
June.....	7,690	299	64	258	15,250
July.....	8,213	270	259	265	16,290
August.....	8,180	272	256	264	16,220
September.....	7,828	270	216	261	15,530
Water year 1945-46.....	96,260	309	64	264	190,900

Lost River diversion canal near Olene, Oreg.

Location.- Staff gages above and below head gates at intake of canal at Lost River Dam, lat. 42°09', long. 121°40', in SW $\frac{1}{4}$ sec. 29, T. 39 S., R. 10 E., 4 miles southwest of Olene.

Records available.- May 1912 to September 1946.

Average discharge.- 30 years (1912-15, 1919-46), 131 second-feet.

Extremes.- Maximum daily discharge during year, 1,100 second-feet Dec. 30, Feb. 23; no flow at times.

1912-46: Maximum discharge, 1,320 second-feet Apr. 11, 1935; no flow at times.

Remarks.- Records fair. Discharge computed from daily record of openings and head on gates. Canal diverts water from Lost River, and discharges into Klamath River to aid in reclamation of bed of Tule Lake. Discharge includes water occasionally wasted from "C" Canal flume below intake. At times direction of flow is reversed and water diverted from Klamath River into Lost River. (See record for Diversion from Klamath River to Lost River near Olene.)

Cooperation.- Records furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	156	214	931	672	758	234	0	93	0	271	330
2	159	171	198	836	697	736	217	0	144	0	261	349
3	167	154	174	825	734	696	198	0	103	0	257	362
4	161	132	161	834	687	651	188	0	25	0	213	359
5	112	128	160	846	599	610	170	0	0	0	141	363
6	127	139	158	868	567	528	225	0	0	0	106	352
7	135	135	160	844	537	505	199	0	0	0	30	343
8	142	139	167	766	608	485	89	0	0	0	38	331
9	148	139	156	698	699	462	53	0	0	0	38	325
10	173	133	151	668	747	434	57	0	0	0	70	318
11	161	122	175	733	757	430	19	0	0	0	77	312
12	161	139	169	750	699	429	0	0	0	0	76	298
13	152	149	149	740	672	432	0	0	0	0	78	293
14	136	147	144	734	580	489	0	0	0	0	49	285
15	127	155	144	726	534	544	0	0	0	67	48	287
16	145	151	139	731	540	530	0	0	0	114	87	294
17	166	146	136	724	600	459	0	0	0	108	59	270
18	150	152	219	714	665	450	0	0	24	90	137	282
19	135	162	281	703	730	437	0	0	103	74	154	285
20	125	161	315	694	840	452	0	0	109	62	184	279
21	158	182	345	662	904	604	0	0	40	47	182	290
22	141	185	386	618	1,070	637	0	0	0	15	183	288
23	129	179	402	508	1,100	612	0	0	84	0	181	286
24	117	175	440	477	1,070	560	0	18	118	0	178	279
25	111	160	440	497	1,080	482	0	36	103	0	183	276
26	123	173	448	548	990	420	0	31	88	41	197	276
27	116	186	461	592	848	376	0	78	26	277	224	260
28	118	190	568	602	776	339	0	123	0	344	252	241
29	118	206	783	637	-	323	0	0	0	387	280	225
30	132	211	1,100	658	-	280	0	0	0	307	298	207
31	128	-	1,080	658	-	224	-	67	-	290	314	-
Month				Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet				
October.....				4,293	173	111	138	8,520				
November.....				4,776	211	122	159	9,470				
December.....				10,023	1,100	136	323	19,880				
Calendar year 1945.....				64,339	1,160	0	176	127,600				
January.....				21,822	931	477	704	43,280				
February.....				21,002	1,100	534	750	41,660				
March.....				15,374	758	224	496	30,490				
April.....				1,649	234	0	55.0	3,270				
May.....				353	123	0	11.4	700				
June.....				1,060	144	0	35.3	2,100				
July.....				2,223	387	0	71.7	4,410				
August.....				4,826	314	30	156	9,570				
September.....				8,935	382	207	298	17,720				
Water year 1945-46.....				96,336	1,100	0	264	191,100				

Diversion from Klamath River to Lost River near Olene, Oreg.

Location.- Staff gage above rectangular gate at wasteway, lat. 42°09', long. 121°42', in SW $\frac{1}{4}$ sec. 30, T. 39 S., R. 10 E., 5 miles southwest of Olene.

Records available.- April 1931, when diversion began, to September 1946.

Average discharge.- 16 years, 35.8 second-feet.

Extremes.- Maximum daily discharge during year, 313 second-feet Apr. 21; no flow at times. 1931-46: Maximum daily discharge, 564 second-feet Apr. 13, 1933; no flow at times.

Remarks.- Records fair. Discharge computed from daily record of gate openings and gage readings at wasteway. Canal was built to divert water from Lost River to Klamath River and thereby aid in reclamation of bed of Tule Lake. (See record for Lost River diversion canal near Olene.) Beginning in April 1931, water has been diverted at times from Klamath River and released into drain which empties into Lost River, from which it is rediverted for irrigation of lands near Tule Lake.

Cooperation.- Records furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	24	0	0		
2							0	0	0	0		
3							0	0	0	0		
4							0	0	33	0		
5							0	0	62	0		
6							0	0	77	0		
7							0	0	85	0		
8							0	0	63	0		
9							0	0	57	0		
10							0	0	24	0		
11							0	0	0	0		
12							0	0	0	0		
13							0	0	0	0		
14							0	0	0	0		
15							0	31	0	0		
16							33	58	0	0		
17							144	56	0	0		
18							218	55	0	0		
19							273	53	0	0		
20							310	78	0	0		
21							313	80	40	0		
22							272	47	24	39		
23							226	0	0	67		
24							217	0	0	28		
25							200	0	0	0		
26							140	0	0	0		
27							116	0	0	0		
28							115	0	0	0		
29							115	0	0	0		
30							77	0	0	0		
31							-	0	-	0		
Month							Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year 1945							6,368	348	0	17.5	12,670	
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							2,769	313	0	92.3	5,490	
May.....							482	80	0	15.5	956	
June.....							465	85	0	15.5	922	
July.....							184	67	0	4.3	266	
August.....							0	0	0	0	0	
September.....							0	0	0	0	0	
Water year 1945-46							3,850	313	0	10.5	7,630	

Fall Creek at Copco, Calif.

Location.- Staff gage, lat. 41°58', long. 122°22', in NE¹ sec. 36, T. 48 N., R. 5 W., 1,500 feet upstream from mouth and 0.8 mile south of Fall Creek power plant and Copco post office.

Records available.- July 1928 to September 1946.

Average discharge.- 18 years, 34.4 second-feet.

Extremes.- Maximum discharge observed during year, 198 second-feet Jan. 4 (gage height, 2.52 feet); minimum observed, 32 second-feet several days in November, June, July, August.
1928-46: Maximum discharge, 241 second-feet Feb. 28, 1940 (gage height, 2.64 feet, observed at peak), from rating curve extended above 80 second-feet; minimum observed, 12 second-feet (regulated) May 21, 1941 (gage height, 0.76 foot), from rating curve extended below 28 second-feet; minimum daily, 24 second-feet on many days during June to September 1937.

Remarks.- Records fair except those above 80 second-feet and those for periods of no gage-height record from November to February, which are poor. Gage read once daily. No diversion above station for irrigation. Occasional diurnal fluctuation caused by power plant and fish ponds half a mile above station.

Cooperation.- Gage readings furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	33	a37	a60	42	a63	47	37	a33	32	33	a34
2	34	34	a35	56	a42	a59	47	37	33	32	33	a33
3	34	a33	34	67	a44	56	46	a37	33	32	33	33
4	34	a33	41	198	a43	54	46	a37	33	32	33	34
5	34	32	41	a120	42	54	a45	37	33	32	33	34
6	a34	32	39	a80	42	56	a45	37	a33	33	33	34
7	a34	32	39	67	41	56	44	36	a32	33	a33	34
8	34	33	a38	62	39	a56	44	36	a32	34	33	33
9	34	34	a39	56	39	a56	42	36	32	33	33	33
10	34	a35	39	54	39	56	44	a36	32	a33	33	33
11	33	a40	39	50	39	56	44	a36	32	a33	33	34
12	34	47	39	a50	39	60	a43	36	32	33	33	33
13	a34	37	39	a48	39	74	a43	34	32	33	33	a33
14	a34	36	37	47	39	64	42	34	a32	33	33	a34
15	34	36	a40	47	a39	a61	42	34	a33	34	a32	34
16	34	37	a38	46	a39	a58	42	34	34	33	32	34
17	34	a36	37	46	39	56	41	a34	33	a34	33	34
18	33	a36	37	44	42	56	41	a34	33	34	33	34
19	33	36	36	a44	44	54	a40	34	33	32	33	33
20	a34	39	37	a44	44	56	a40	33	32	33	33	34
21	a35	37	39	44	50	54	39	37	a32	33	33	33
22	36	36	a45	44	a50	a53	39	36	a33	33	33	35
23	34	36	a45	46	a50	a51	39	36	33	33	33	35
24	33	a36	47	44	50	50	39	a35	33	33	33	37
25	34	a40	a52	56	52	47	37	a35	33	33	33	37
26	34	39	56	a52	48	47	a37	34	33	34	33	37
27	a34	37	89	a48	65	47	a37	34	33	33	33	34
28	a33	41	a150	44	67	47	37	34	33	33	33	34
29	33	44	a100	46	-	47	37	33	33	33	33	34
30	44	39	a80	44	-	47	37	33	33	36	34	34
31	34	-	67	42	-	47	-	a33	-	34	34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,060	44	33	34.2	2,100
November.....	1,096	47	32	36.5	2,170
December.....	1,531	150	34	49.4	3,040
Calendar year 1945.....	14,520	150	31	39.8	28,790
January.....	1,796	198	42	57.9	3,560
February.....	1,268	85	39	45.3	2,520
March.....	1,698	74	47	54.8	3,370
April.....	1,246	47	37	41.5	2,470
May.....	1,089	37	35	35.1	2,180
June.....	981	34	32	32.7	1,950
July.....	1,026	36	32	33.1	2,040
August.....	1,023	34	32	33.0	2,030
September.....	1,022	37	33	34.1	2,030
Water year 1945-46.....	14,836	198	32	40.6	29,440

a No gage-height record; discharge computed on basis of weather records, or interpolated.

Little Beaver Creek at Pinehurst, Oreg.

Location.- Water-stage recorder, lat. 42°07', long. 122°22', in NW $\frac{1}{4}$ sec. 4, T. 40 S., R. 4 E., at Pinehurst, 150 feet upstream from mouth, a quarter of a mile downstream from Corral Creek, and 18 miles southeast of Ashland. Datum of gage is 3,348.81 feet above mean sea level, datum of 1929 (levels by Bureau of Reclamation).

Records available.- October 1945 to September 1946 in reports of Geological Survey. October 1943 to September 1945 in files of State engineer.

Extremes.- Maximum discharge during year, 143 second-feet Dec. 28 (gage height, 2.69 feet), from rating curve extended above 33 second-feet; minimum, 0.3 second-foot July 20, 1943-46; Maximum discharge, that of Dec. 28, 1945; minimum, 0.3 second-foot Aug. 29, 1944, July 20, 1946.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. One small diversion above station. No regulation.

Cooperation.- Prior to July 1, 1946, most field data furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	2.4	8.6	20	a6	31	14	27	4.4	1.2	1.1	0.9
2	1.1	2.1	7.0	30	a4	29	13	26	4.4	1.0	1.0	.8
3	1.1	1.8	7.2	24	a4	25	13	27	4.4	1.2	1.0	.7
4	1.1	1.8	21	35	a4	23	12	27	4.4	1.1	.9	.9
5	1.2	1.8	14	42	a4	*24	13	26	4.4	1.2	.9	1.0
6	1.1	2.1	17	27	b4	32	14	24	4.6	1.3	.9	.9
7	1.2	2.1	21	22	a4	28	15	23	4.4	1.4	.8	.8
8	1.2	2.7	13	20	a4	26	14	22	4.4	1.3	.8	.5
9	1.4	4.0	9.8	a18	b4	25	14	20	4.6	1.0	.8	.6
10	1.6	4.6	9.4	a12	b4	26	13	19	4.4	1.1	.9	.9
11	1.6	3.5	8.2	a7	b4	25	14	18	3.9	1.2	1.0	.8
12	1.5	a3.0	7.5	a4	b4	31	17	16	3.9	1.0	1.0	.8
13	1.4	a2.8	*b2.5	a4	b4	32	20	15	3.9	.9	1.1	.9
14	1.4	a3.0	a2.3	a4	b4	25	26	14	4.0	1.1	1.2	1.0
15	1.4	a7.5	a2.0	a4	*b4.5	25	30	13	4.0	1.2	1.2	1.1
16	1.5	a5.8	a2.0	*b4	7.8	21	34	12	5.3	.9	1.2	1.3
17	2.2	a5.0	a1.9	a4	9.0	20	40	11	4.4	.8	1.1	1.4
18	1.8	a4.7	a1.9	a4	13	19	43	9.0	3.9	.9	1.2	1.2
19	1.7	a20	a1.9	a5	a15	17	43	8.6	2.4	.7	1.2	1.2
20	1.7	*11	a2.0	a5	a13	15	39	7.8	1.8	.5	1.1	1.0
21	1.7	7.5	11	a5	a12	14	37	11	1.8	.6	1.1	e.9
22	1.8	6.4	30	*5	11	14	35	7.2	1.9	.6	1.1	e.8
23	1.8	7.0	26	b5	18	13	38	7.8	2.1	.7	1.2	e.8
24	1.7	12	23	a7	24	12	38	7.2	1.7	.8	1.2	e.8
25	1.7	18	23	15	24	12	41	7.2	1.6	1.0	1.2	e.8
26	1.7	15	27	26	23	13	41	9.4	1.5	1.4	1.2	e.8
27	1.8	18	42	19	44	17	38	7.5	1.6	1.0	.6	e.8
28	1.9	28	92	15	32	20	35	7.0	1.5	.6	.6	e.8
29	2.8	17	42	14	-	21	34	6.1	1.6	.8	.7	e.8
30	11	11	33	a11	-	18	30	5.3	1.4	1.2	.6	e.8
31	5.6	-	25	a8	-	15	-	4.6	-	1.2	.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	61.7	11	1.0	1.99	122
November.....	229.6	28	1.8	7.65	455
December.....	534.2	92	1.9	17.2	1,060
Calendar year 1945.....	3,352.2	92	.5	9.18	6,650
January.....	423	42	4	13.6	839
February.....	308.3	44	4	11.0	612
March.....	668	32	12	21.5	1,320
April.....	806	43	12	26.9	1,600
May.....	445.7	27	4.6	14.4	884
June.....	98.6	5.3	1.4	3.29	196
July.....	30.9	1.4	.5	1.00	61
August.....	30.6	1.2	.6	.99	61
September.....	26.8	1.4	.5	.89	53
Water year 1945-46.....	3,663.4	92	.5	10.0	7,260

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Keene Creek near Lincoln.

b Stage-discharge relation affected by ice.

c Stage-discharge relation indefinite; discharge computed on basis of weather records.

Keene Creek near Lincoln, Oreg.

Location.- Water-stage recorder, lat. 42°08', long. 122°29', in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 39 S., R. 3 E., 200 feet upstream from bridge on State Highway 66, 1 $\frac{1}{2}$ miles downstream from Keene Creek diversion dam and 4 $\frac{1}{2}$ miles northwest of Lincoln.

Records available.- October 1945 to September 1946 in reports of Geological Survey. December 1940 to September 1943 at site 1 $\frac{1}{2}$ miles upstream, and October 1943 to September 1945 at present site, in files of State engineer.

Extremes.- Maximum discharge during year, 74 second-feet Dec. 28 (gage height, 2.62 feet), from Rating curve extended above 18 second-feet; minimum, 0.1 second-foot Sept. 23-30. 1940-46: Maximum discharge, that of Dec. 28, 1945; practically no flow at times.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Flow regulated by Hyatt Prairie Reservoir (see p. 401). Water released from that reservoir is diverted by Keene Creek Canal into Emigrant Creek Basin (see following page).

Cooperation.- Prior to July 1, 1946, most of field data furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.7	1.5	7.2	a1.3	4.3	9.2	4.9	1.0	1.0	1.3	0.3
2	.3	.5	1.3	8.8	a1.2	4.0	9.0	4.2	1.0	1.1	1.3	.3
3	.3	.5	1.3	a6.5	a1.1	3.2	9.0	3.9	.9	1.4	1.7	a.3
4	.3	.5	1.0	*4.2	a1.1	*2.9	10	3.6	1.0	1.5	1.7	a.3
5	.3	.5	1.4	3.3	a1.1	4.6	12	3.3	1.0	1.5	1.6	.3
6	.2	.7	1.7	3.4	a1.1	16	13	3.0	1.1	1.5	1.6	.3
7	.2	.6	2.8	2.8	a1.1	12	13	2.9	1.1	1.5	1.5	.3
8	.2	.6	2.0	2.6	a1.1	11	12	2.9	1.1	1.6	1.4	.3
9	.3	.7	1.9	2.3	a1.1	12	11	2.4	1.1	1.5	1.0	.3
10	.3	.9	1.5	2.1	a1.1	12	11	2.1	1.1	1.5	1.0	.3
11	.3	.8	1.4	a1.2	a1.1	10	12	1.9	1.2	1.5	1.0	.2
12	.4	.9	a.7	a1.2	a1.1	11	14	1.9	1.2	1.5	1.0	.2
13	.3	1.0	*b.7	a1.2	a1.1	10	16	1.7	1.3	1.5	1.0	.2
14	.3	1.0	a.7	a1.2	b1.1	8.8	16	1.6	1.3	1.5	1.0	.2
15	.3	1.3	a.7	a1.2	*b1.1	7.2	17	1.6	1.4	1.5	.9	.3
16	.3	1.1	a.7	*b1.2	a1.1	5.8	18	1.5	1.9	1.4	.9	.3
17	.3	1.1	a.7	a1.2	a1.1	5.3	19	1.6	1.5	1.4	.9	.3
18	.4	1.0	a.7	a1.2	1.5	4.6	21	1.7	1.3	1.3	.8	.2
19	.4	2.7	a.7	a1.2	1.7	4.3	20	1.7	1.3	1.3	.8	.2
20	.3	*1.7	a.7	a1.2	1.5	4.0	18	1.7	1.3	1.2	.9	.2
21	.3	1.3	1.1	a1.2	1.5	4.9	16	2.6	1.1	1.3	.9	.2
22	.3	1.3	4.0	1.7	1.5	4.8	14	2.4	1.1	1.3	1.1	.2
23	.3	1.5	3.2	2.6	1.7	4.3	14	2.3	1.2	1.3	1.3	.1
24	.3	1.8	2.3	2.9	2.4	4.5	13	1.9	1.1	1.3	1.1	.1
25	.3	1.8	2.1	4.5	2.6	5.2	13	1.7	1.0	1.5	1.0	.1
26	.3	2.1	2.4	3.4	2.4	9.9	12	1.6	1.0	1.7	.8	.1
27	.3	6.9	5.3	b2.4	4.8	11	11	1.6	1.0	1.4	.6	.1
28	.3	9.0	37	b2.1	6.0	12	10	1.6	1.0	1.3	.3	.1
29	.5	3.6	20	a1.9	-	12	10	1.4	1.0	1.4	.3	.1
30	.9	1.9	10	a1.5	-	10	7.8	1.2	1.0	1.6	.3	.1
31	1.1	-	8.8	a1.4	-	9.2	-	1.1	-	1.5	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	10.9	1.1	0.2	0.35	22
November.....	50.0	9.0	.5	1.67	99
December.....	120.3	37	.7	3.88	239
Calendar year 1945.....	1,024.0	37	-	2.81	2,030
January.....	90.8	8.8	1.2	2.61	160
February.....	46.6	6.0	1.1	1.66	92
March.....	240.8	16	2.9	7.77	478
April.....	401.0	21	7.8	13.4	795
May.....	69.5	4.9	1.1	2.24	138
June.....	34.6	1.9	.9	1.15	69
July.....	43.8	1.7	1.0	1.41	87
August.....	31.3	1.7	.3	1.01	62
September.....	6.6	.3	.1	.22	15
Water year 1945-46.....	1,136.1	37	.1	3.11	2,250

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Little Beaver Creek at Pinehurst.

b Stage-discharge relation affected by ice.

Keene Creek Canal near Ashland, Oreg.

Location.- Water-stage recorder, lat. 42°09', long. 122°30', in NW $\frac{1}{4}$ sec. 29, T. 39 S., R. 3 E., 400 feet upstream from short tunnel through Cascade Divide, 2 miles north of Ashland-Klamath Falls highway, and 16 miles southeast of Ashland.

Records available.- June 1923 to September 1946 (some years incomplete).

Extremes.- Maximum discharge during year, 59 second-feet July 3 (gage height, 3.92 feet); no flow at times.
1923-46: Maximum discharge, 91 second-feet Aug. 2, 3, 1938, July 23, 1939; no flow at times.

Remarks.- Records poor. Water released from Hyatt Prairie Reservoir is diverted by this canal from Keene Creek in SE $\frac{1}{4}$ sec. 20, T. 39 S., R. 3 E., and discharged into Emigrant Creek Basin for irrigation of lands near Ashland and Talent. Stored water released from reservoir Apr. 29 to Sept. 24.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	e0	43	45	2.9
2								-	e0	50	48	2.8
3								-	.9	56	52	3.1
4								-	19	58	52	3.1
5								-	22	58	52	3.1
6								-	22	58	51	3.1
7								-	22	58	51	3.1
8								-	22	58	45	3.1
9								-	22	58	39	3.1
10								-	22	58	39	2.9
11								-	22	57	39	2.6
12								-	22	57	39	1.8
13								e0	22	56	38	1.3
14								e0	22	55	38	1.1
15								e0	22	54	38	2.9
16								1.7	23	53	38	3.5
17								35	23	53	37	3.5
18								40	26	52	37	3.1
19								42	39	51	39	3.1
20								43	40	51	42	3.1
21								42	40	50	43	3.1
22								26	41	49	49	3.1
23								25	41	a48	51	2.8
24								24	41	a48	50	2.4
25								23	41	a47	47	.2
26								2.4	41	a47	44	e0
27								e0	41	46	6.4	e0
28								e0	41	46	1.4	e0
29								e0	41	46	.6	e0
30								e0	41	46	2.0	e0
31								e0	-	45	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May 13-31	304.1	43	0	16.0	603
June.....	821.9	41	0	27.4	1,630
July.....	1,612	58	43	52.0	3,200
August.....	1,155.2	52	.6	37.3	2,290
September.....	67.9	3.5	0	2.28	135
The period.....	3,961.1	-	-	-	7,860

a No gage-height record; discharge interpolated.

e Stage-discharge relation indefinite; discharge computed only for days of probable zero flow.

Shasta River near Yreka, Calif.

Location.- Water-stage recorder, lat. 41°49', long. 122°35', in NE $\frac{1}{4}$ sec. 24, T. 46 N., R. 7 W., 0.6 mile upstream from mouth and 6 miles north of Yreka. Altitude of gage about 2,000 feet (from topographic map).

Drainage area.- 804 square miles.

Records available.- October 1933 to December 1941, December 1944 to September 1946.

Extremes.- Maximum discharge during year, 823 second-feet Jan. 4 (gage height, 4.63 feet); minimum, 18 second-feet Aug. 19.
1933-41, 1944-46: Maximum discharge, 2,440 second-feet Feb. 29, 1940 (gage height, 6.72 feet), from rating curve extended above 900 second-feet by logarithmic plotting and velocity-area studies; minimum, 3.4 second-feet Aug. 13, 1939, when about 2 second-feet were being diverted around gage.

Remarks.- Records good. Storage and many diversions above station for irrigation.

Rating table, water year 1945-46 (gage height, in feet and discharge, in second-feet)

1.7	16	2.6	87	3.9	450
1.8	20	2.8	118	4.2	590
2.0	31	3.0	169	4.5	750
2.2	45	3.3	250		
2.4	64	3.6	340		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	261	182	396	239	284	215	100	100	59	86	50
2	91	223	180	385	256	275	207	85	103	51	82	42
3	95	199	177	518	250	267	204	74	98	52	88	47
4	113	188	185	712	245	258	215	68	97	55	79	85
5	118	180	236	615	242	256	218	64	98	62	66	91
6	118	172	270	518	245	270	239	65	118	57	66	72
7	120	169	210	468	245	278	220	58	115	61	62	53
8	128	169	196	454	245	272	196	57	110	73	48	51
9	145	172	188	381	231	267	172	58	81	77	43	48
10	142	177	185	347	242	264	164	56	74	56	39	47
11	142	174	196	324	242	258	156	47	70	39	34	43
12	137	174	188	299	231	258	161	44	56	37	30	47
13	132	174	180	284	236	290	161	43	54	39	28	67
14	135	172	172	275	234	278	158	46	52	34	27	68
15	147	177	169	267	234	261	177	50	60	39	30	67
16	145	182	172	264	231	247	201	48	111	43	34	68
17	137	188	188	258	231	245	182	45	125	33	38	67
18	137	191	193	256	234	258	193	51	116	32	24	68
19	147	188	188	256	234	258	201	43	81	26	19	85
20	153	193	188	256	226	256	174	50	67	24	22	88
21	156	191	199	256	228	247	161	67	58	26	24	93
22	158	182	212	256	236	236	147	79	74	28	28	95
23	156	177	267	261	234	228	128	79	53	35	32	103
24	153	172	264	270	234	226	120	82	50	37	30	103
25	153	174	226	347	236	223	110	80	57	43	32	120
26	158	180	250	318	239	226	103	79	60	62	34	123
27	153	180	330	284	267	239	113	85	63	72	36	110
28	156	177	555	278	296	231	111	93	70	63	42	106
29	156	191	678	264	-	226	104	85	75	59	45	100
30	196	191	486	253	-	275	104	87	63	55	51	95
31	253	-	438	242	-	234	-	97	-	70	58	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,434	253	91	143	8,790
November.....	5,538	261	169	185	10,980
December.....	7,748	678	169	250	15,370
Calendar year 1945.....	51,588	717	17	141	102,300
January.....	10,562	712	242	341	20,950
February.....	9,743	296	226	241	15,370
March.....	7,889	290	223	254	15,650
April.....	5,015	239	103	167	9,950
May.....	2,065	100	43	66.6	4,100
June.....	2,409	125	50	80.3	4,780
July.....	1,499	77	24	48.4	2,970
August.....	1,355	88	19	43.7	2,690
September.....	2,302	123	42	76.7	4,570
Water year 1945-46.....	57,559	712	19	158	114,200

Scott River near Fort Jones, Calif.

Location.- Water-stage recorder, lat. 41°38'35", long. 123°00'35", in NW $\frac{1}{4}$ sec. 28, T. 44 N., R. 10 W., 150 feet south of road from Fort Jones to Scotts Bar, 1.8 miles upstream from Snow Creek, and 10.5 miles downstream from Fort Jones. Datum of gage is 2,625.80 feet above mean sea level (levels by Corps of Engineers, War Department).

Drainage area.- 656 square miles.

Records available.- December 1941 to September 1946.

Extremes.- Maximum discharge during year, 7,040 second-feet Dec. 29 (gage height, 11.38 feet); minimum, 48 second-feet Oct. 1-3, 8.

1941-46: Maximum discharge, 7,340 second-feet Jan. 22, 1943 (gage height, 11.65 feet), from rating curve extended above 3,600 second-feet; minimum, 44 second-feet Sept. 28, 1944.

Floodmarks indicate stages of about 14 feet, dates not known.

Remarks.- Records good except those for period of backwater, which are fair. Many small diversions for irrigation in Scott Valley during summer.

Rating tables, water year 1945-46, except period of backwater from debris (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28

Dec. 29 to Sept. 30

1.3	42	2.8	224	5.0	1,070	1.4	54	3.4	364	6.0	1,810
1.5	56	3.2	322	5.5	1,410	1.8	94	3.8	495	8.0	3,550
1.8	83	3.6	446	6.0	1,810	2.2	142	4.2	680	11.0	6,730
2.1	119	4.0	590	8.0	3,550	2.6	198	4.6	900		
2.4	160	4.5	805	10.0	5,550	3.0	268	5.0	1,140		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	415	527	1,980	713	1,080	702	1,270	1,040	300	141	63
2	48	268	436	2,050	702	984	675	1,250	1,140	294	132	68
3	48	213	399	2,490	670	912	635	1,450	1,200	283	122	70
4	49	193	723	2,560	630	845	605	1,720	1,110	278	116	70
5	49	180	927	2,770	615	796	585	1,680	1,040	270	112	69
6	49	169	654	2,090	660	779	600	1,610	936	258	109	69
7	49	160	715	1,850	675	774	620	1,610	828	249	106	69
8	48	145	646	1,830	635	764	615	1,500	768	238	104	68
9	50	132	548	1,470	585	779	600	1,420	730	226	102	67
10	52	145	494	1,290	566	823	571	1,460	691	209	101	66
11	53	149	443	1,170	540	834	553	1,490	645	200	98	66
12	53	142	399	1,040	515	840	580	1,420	630	189	95	65
13	52	149	353	960	499	960	655	1,460	645	176	94	65
14	52	145	322	900	491	918	752	1,330	680	166	93	64
15	51	160	305	845	484	862	906	1,280	645	158	91	65
16	51	196	297	790	476	801	1,140	1,310	686	152	88	64
17	52	210	284	746	465	774	1,510	1,470	655	146	88	64
18	52	206	276	708	473	779	1,890	1,680	595	134	86	64
19	52	250	265	680	476	752	1,940	1,710	571	132	85	63
20	52	339	254	650	480	735	1,610	1,650	580	129	84	62
21	54	281	276	625	503	702	1,360	1,620	585	129	83	62
22	54	246	619	665	515	675	1,220	1,400	571	129	82	62
23	52	230	1,050	784	491	660	1,190	1,210	515	137	81	62
24	52	238	850	918	503	640	1,380	1,070	465	134	79	62
25	52	284	756	1,300	544	605	1,770	1,010	421	136	78	61
26	52	674	905	1,170	540	610	2,020	1,060	387	145	77	60
27	52	590	1,700	1,050	780	691	1,720	1,070	359	212	77	60
28	54	677	4,940	966	1,230	806	1,590	1,030	337	189	76	59
29	57	1,120	6,710	884	-	856	1,800	984	322	168	75	58
30	398	684	4,010	812	-	806	1,420	948	305	154	74	a58
31	614	-	2,550	746	-	762	-	966	-	147	71	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,501	614	48	80.7	4,960
November.....	8,788	1,120	132	295	17,430
December.....	33,621	6,710	254	1,085	66,690
Calendar year 1945.....	179,414	6,710	48	492	355,800
January.....	38,889	2,770	625	1,254	77,140
February.....	16,458	1,230	465	588	32,640
March.....	24,604	1,080	605	794	48,800
April.....	33,014	2,020	553	1,100	65,480
May.....	42,138	1,720	948	1,359	83,580
June.....	20,082	1,200	305	669	39,830
July.....	5,867	300	129	189	11,640
August.....	2,900	141	71	93.5	5,750
September.....	1,925	70	58	64.2	3,820
Water year 1945-46.....	230,785	6,710	48	632	457,800

Peak discharge.- Dec. 29 (6 to 8 a.m.) 7,040 sec.-ft.; Jan. 5 (1 to 2 a.m.) 5,180 sec.-ft.

a No gage-height record; discharge interpolated.

Note.- Backwater from debris in channel Dec. 5-22.

Salmon River at Somesbar, Calif.

Location.- Water-stage recorder, lat. 41°23', long. 123°28', in NW¼ sec. 2, T. 11 N., R. 6 E., 0.5 mile east of Somesbar post office and 1.5 miles upstream from mouth. Altitude of gage, about 500 feet (from topographic map).

Drainage area.- 737 square miles.

Records available.- September 1911 to September 1915, October 1927 to September 1946.

Average discharge.- 20 years (1911-13, 1927-29, 1930-46), 1,555 second-feet.

Extremes.- Maximum discharge during year, 29,900 second-feet Dec. 28 (gage height, 15.82 feet), from rating curve extended above 15,000 second-feet; minimum, 149 second-feet Oct. 7, 8.

1927-46: Maximum discharge, that of Dec. 28, 1945; minimum, 70 second-feet Aug. 25, Sept. 4, 5, 1931.

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

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28					Dec. 29 to Sept. 30				
2.6	130	3.4	610	6.0	4,860	2.9	142	3.6	545
2.7	162	3.7	900	6.0	9,210	3.0	172	3.8	720
2.8	202	4.0	1,250	10.0	13,900	3.1	212	4.0	930
2.9	250	4.5	1,990	12.0	19,200	3.2	262	4.4	1,420
3.1	370	5.0	2,850	13.2	22,400	3.3	322	4.8	1,990
						3.4	390	5.4	2,980

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	156	700	2,400	8,230	2,110	4,040	2,190	3,390	2,890	1,050	396	176
2	156	472	1,910	6,920	2,120	3,580	2,100	3,780	3,200	1,060	342	176
3	152	472	1,800	7,060	1,980	3,180	2,000	4,720	3,020	996	322	188
4	152	428	4,960	8,380	1,870	2,840	1,920	5,070	2,730	952	316	212
5	152	370	4,590	8,810	1,780	2,850	1,900	4,770	2,530	919	292	200
6	152	357	3,540	7,060	2,240	2,610	1,900	4,570	2,190	855	286	192
7	149	338	4,440	8,560	2,440	2,800	1,980	4,570	1,980	831	274	188
8	149	318	3,440	5,800	2,200	2,580	2,000	4,130	2,000	790	262	184
9	156	458	2,720	5,030	2,100	2,630	1,940	4,080	1,960	740	257	180
10	170	950	2,340	4,300	2,020	2,840	1,840	4,370	1,840	668	247	176
11	202	730	2,010	3,750	1,880	2,680	1,860	4,350	1,810	875	242	172
12	194	1,070	1,770	3,280	1,780	2,960	2,040	4,170	1,610	866	237	169
13	178	910	1,560	2,980	1,710	4,220	2,270	4,040	1,930	822	227	169
14	170	700	1,420	2,770	1,860	3,820	2,560	3,600	2,040	588	227	166
15	166	1,250	1,360	2,560	1,620	3,390	3,060	3,640	1,800	562	222	176
16	170	1,590	1,280	2,400	1,560	3,140	3,890	4,020	1,760	529	217	212
17	188	1,800	1,180	2,250	1,520	3,140	4,740	4,660	1,840	521	208	204
18	178	1,260	1,110	2,140	1,530	3,020	5,840	5,030	1,640	505	208	192
19	174	3,400	1,070	2,060	1,570	2,870	5,230	4,680	1,760	505	204	184
20	170	2,440	1,060	1,990	1,600	2,780	4,150	4,460	1,640	497	200	176
21	174	1,540	1,430	1,900	1,770	2,850	3,620	4,000	1,630	481	192	172
22	174	1,220	2,290	2,440	1,780	2,830	3,350	3,080	1,870	465	188	172
23	174	1,220	3,920	2,800	1,740	2,510	3,620	2,880	1,430	545	188	169
24	170	1,400	4,120	3,260	1,940	2,430	4,700	2,560	1,210	485	184	166
25	170	2,550	3,500	4,130	2,220	2,270	5,740	2,850	1,120	505	180	166
26	170	2,850	4,860	3,520	2,170	2,350	5,430	3,060	1,090	782	180	163
27	170	2,850	8,880	3,060	4,240	2,730	4,480	2,770	1,080	893	178	160
28	202	6,610	22,200	2,820	4,880	2,870	4,350	2,530	1,080	505	178	160
29	312	5,450	20,000	2,610	-	2,750	4,410	2,540	1,080	428	178	160
30	1,720	3,360	11,300	2,360	-	2,530	3,890	2,480	1,020	390	176	160
31	1,100	-	8,020	2,200	-	2,350	-	2,630	-	376	176	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,868	1,720	149	254	15,610
November	48,659	6,810	318	1,622	96,510
December	136,460	22,200	1,080	4,402	270,700
Calendar year 1945	892,150	22,200	136	1,898	1,373,000
January	123,450	8,610	1,900	3,962	244,900
February	58,030	4,680	1,520	2,072	115,100
March	89,440	4,220	2,270	2,685	177,400
April	98,800	5,740	1,840	3,287	195,600
May	117,080	5,070	2,480	3,777	232,200
June	54,940	3,200	1,020	1,831	109,000
July	20,182	1,080	376	650	39,980
August	7,138	556	176	230	14,160
September	5,340	212	180	178	10,590
Water year 1945-46	787,187	22,200	149	2,102	1,522,000

Peak discharge.- Nov. 28 (4:30 p.m.) 8,970 sec.-ft.; Dec. 28 (10:30 p.m.) 29,900 sec.-ft.; Jan. 4 (4 p.m.) 9,410 sec.-ft.

Trinity River at Lewiston, Calif.

Location.- Water-stage recorder, lat. 40°42', long. 122°48', in NE¼ sec. 19, T. 33 N., R. 8 W., at highway bridge at Lewiston, 0.8 mile downstream from Deadwood Creek. Datum of gage, is 1,794.10 feet above mean sea level, datum of 1929.

Drainage area.- 724 square miles.

Records available.- August 1911 to September 1946.

Average discharge.- 35 years, 1,543 second-feet.

Extremes.- Maximum discharge during year, 21,400 second-feet Dec. 29 (gage height, 16.35 feet), from rating curve extended above 6,800 second-feet by logarithmic plotting; minimum, 100 second-feet Oct. 3.

1911-46: Maximum discharge, 40,300 second-feet Feb. 28, 1940 (gage height, 20.8 feet), from rating curve extended above 13,000 second-feet; minimum, 23 second-feet July 30, 1924.

Remarks.- Records excellent except those for high-water periods Oct. 29-31, Dec. 27-29, which are fair. Diversions above station for irrigation, power, and placer mining.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106	1,870	1,510	4,450	1,370	2,610	2,400	4,900	3,300	990	412	164
2	104	1,250	1,260	4,880	1,390	2,430	2,280	5,340	3,510	1,000	380	161
3	102	1,320	1,240	5,530	1,320	2,240	2,160	6,260	3,420	940	349	161
4	104	950	3,560	4,930	1,260	2,050	2,030	6,700	3,060	905	325	178
5	103	740	3,140	4,800	1,220	1,950	2,060	6,570	2,830	872	306	188
6	102	595	2,490	4,180	1,270	2,020	2,130	6,130	2,350	828	289	181
7	106	510	2,600	3,640	1,240	2,180	2,320	6,220	2,130	808	282	175
8	108	435	2,100	3,080	1,160	2,460	2,300	5,700	2,070	760	270	168
9	112	435	1,690	2,660	1,130	2,670	2,160	5,510	2,000	728	263	165
10	126	470	1,430	2,400	1,120	2,940	2,040	5,720	1,890	676	257	164
11	173	446	1,260	2,170	1,100	2,810	2,120	5,650	1,800	664	238	159
12	190	490	1,110	1,960	1,060	2,670	2,560	5,260	1,790	644	228	155
13	169	482	950	1,860	1,050	3,090	3,030	5,240	1,830	608	223	149
14	153	456	842	1,780	1,040	2,730	3,670	4,630	1,780	572	217	147
15	147	1,000	824	1,710	1,040	2,430	4,420	4,580	1,700	544	214	145
16	143	1,230	746	1,660	1,040	2,200	5,600	4,810	1,670	523	210	149
17	143	1,180	695	1,800	1,040	2,230	6,800	5,270	1,560	506	205	159
18	147	980	860	1,560	1,050	2,360	7,520	5,770	1,510	484	199	159
19	147	2,040	631	1,540	1,120	2,210	6,840	5,480	1,540	460	196	156
20	147	1,760	636	1,500	1,250	2,070	5,790	5,190	1,590	451	189	151
21	145	1,280	1,120	1,470	1,510	2,010	5,080	4,550	1,560	433	184	147
22	141	1,020	3,650	1,460	1,680	2,060	4,740	3,560	1,500	421	178	147
23	139	980	5,020	1,470	1,620	2,060	5,270	3,040	1,350	551	175	144
24	137	1,260	4,040	1,540	1,700	1,940	6,660	2,670	1,200	495	172	142
25	137	2,310	3,770	1,830	1,950	1,850	7,950	2,740	1,140	558	168	140
26	135	2,230	4,150	1,770	1,860	2,090	7,910	4,160	1,100	784	168	138
27	132	2,080	10,800	1,710	2,600	2,770	6,220	3,650	1,080	836	167	135
28	143	2,640	13,400	1,650	2,980	3,280	6,200	3,320	1,050	600	164	133
29	1,300	2,720	16,300	1,580	-	3,220	6,330	3,080	1,000	509	158	131
30	5,650	1,920	8,500	1,500	-	2,800	5,240	2,930	985	467	161	129
31	3,780	-	5,770	1,420	-	2,570	-	3,100	-	448	164	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	14,471	5,650	102	467	28,700
November.....	37,079	2,720	435	1,236	73,550
December.....	105,894	16,300	631	3,416	210,000
Calendar year 1945	605,641	16,300	100	1,659	1,201,000
January.....	75,290	5,530	1,420	2,429	149,300
February.....	39,170	2,980	1,040	1,399	77,630
March.....	75,000	3,280	1,850	2,419	148,800
April.....	131,830	7,950	2,030	4,394	261,500
May.....	147,440	6,700	2,670	4,756	292,400
June.....	55,295	3,510	985	1,843	109,700
July.....	20,065	1,000	421	647	39,600
August.....	7,111	412	158	229	14,100
September.....	4,620	188	129	154	8,160
Water year 1945-46	713,265	16,300	102	1,954	1,415,000

Peak discharge.- Oct. 30 (6 a.m.) 8,710 sec.-ft.; Dec. 29 (2:30 a.m.) 21,400 sec.-ft.

Trinity River near Douglas City, Calif.

Location.- Water-stage recorder, lat. 40°40', long. 122°59', in SW¹ sec. 34, T. 33 N., R. 10 W., 800 feet downstream from Browns Creek and 2.6 miles northwest of Douglas City. Datum of gage is 1,520.89 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 1,017 square miles.

Records available.- April 1944 to September 1946.

Extremes.- Maximum discharge during year, 24,900 second-feet Dec. 29 (gage height, 21.93 feet); from rating curve extended above 9,100 second-feet by logarithmic plotting; minimum, 126 second-feet Oct. 7, 1944-46; Maximum discharge, that of Dec. 29, 1945; minimum, 107 second-feet Sept. 13-16, 1944.

Remarks.- Records good. Diversions above station for irrigation, power, and placer mining.

Rating table, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

0.9	126	2.0	405	5.0	1,730	12.0	8,600
1.0	146	2.5	572	6.0	2,450	14.0	11,300
1.2	188	3.0	750	7.0	3,250	16.0	14,400
1.4	235	3.5	942	8.0	4,150	18.0	17,800
1.7	315	4.0	1,160	10.0	6,100	20.0	21,300

Discharge, in second-feet, water year October 1945 to September 1945

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	2,290	1,900	6,080	1,630	3,190	2,790	5,220	3,290	1,020	467	180
2	132	1,390	1,570	6,030	1,630	2,960	2,660	5,610	3,500	1,030	434	180
3	132	1,390	1,510	7,160	1,580	2,750	2,530	6,870	3,520	982	399	180
4	130	1,130	5,150	6,830	1,490	2,530	2,420	7,610	3,150	942	368	186
5	130	954	4,710	7,080	1,430	2,370	2,430	7,230	2,930	914	344	202
6	128	835	3,390	5,840	1,510	2,390	2,510	6,830	2,510	862	327	204
7	128	746	3,340	4,950	1,460	2,550	2,690	7,000	2,250	835	315	197
8	132	674	2,810	4,150	1,360	2,780	2,750	6,320	2,180	794	304	190
9	136	689	2,220	3,560	1,320	2,990	2,590	5,940	2,110	761	298	184
10	146	736	1,860	3,180	1,310	3,230	2,440	6,200	2,010	714	287	182
11	171	707	1,620	2,900	1,280	3,190	2,460	6,220	1,900	692	274	178
12	202	779	1,440	2,630	1,240	3,000	2,820	5,650	1,880	674	260	173
13	193	764	1,290	2,470	1,220	3,450	3,300	5,670	1,920	649	252	169
14	180	721	1,170	2,350	1,210	3,160	3,940	4,920	1,880	621	245	163
15	171	1,170	1,130	2,230	1,220	2,830	4,640	4,770	1,740	593	240	161
16	169	1,490	1,090	2,140	1,220	2,590	6,000	4,980	1,700	565	238	167
17	169	1,450	1,030	2,050	1,220	2,530	7,570	5,480	1,640	545	235	175
18	171	1,200	982	1,990	1,230	2,710	8,760	6,230	1,560	524	228	178
19	173	2,210	942	1,940	1,330	2,570	8,000	5,970	1,580	507	223	173
20	171	2,070	934	1,900	1,510	2,430	6,640	5,480	1,640	490	216	171
21	171	1,500	1,370	1,800	1,890	2,330	5,600	4,870	1,620	473	209	165
22	169	1,240	3,920	1,760	2,150	2,350	5,090	3,850	1,560	457	202	163
23	167	1,160	7,320	1,790	2,050	2,370	5,450	3,220	1,410	518	197	161
24	167	1,320	5,650	1,840	2,070	2,270	7,180	2,650	1,260	562	195	159
25	167	2,740	5,430	2,160	2,390	2,150	8,990	2,750	1,180	576	190	161
26	169	2,730	6,100	2,170	2,390	2,280	9,440	4,100	1,140	718	186	159
27	169	2,490	16,000	2,090	3,090	2,910	7,250	3,880	1,130	938	184	156
28	184	3,110	18,000	2,070	3,650	3,440	6,980	3,420	1,110	678	182	156
29	535	5,790	21,200	1,930	-	3,660	7,160	3,160	1,080	565	178	152
30	6,790	2,510	12,400	1,610	-	3,190	5,860	2,990	1,050	514	176	150
31	4,490	-	8,280	1,710	-	2,970	-	3,090	-	490	180	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	16,276	6,790	128	525	32,280
November.....	45,985	3,790	674	1,533	91,210
December.....	145,758	21,200	934	4,702	289,100
Calendar year 1945.....	721,744	21,200	126	1,977	1,432,000
January.....	98,590	7,160	1,710	3,180	195,600
February.....	47,060	3,650	1,210	1,681	93,580
March.....	86,120	3,660	2,150	2,778	170,800
April.....	148,960	9,440	2,420	4,965	295,500
May.....	158,380	7,610	2,750	5,109	314,100
June.....	57,430	3,520	1,050	1,914	113,900
July.....	21,203	1,030	457	684	42,060
August.....	8,033	467	178	259	15,930
September.....	5,175	204	150	172	10,260
Water year 1945-46.....	838,990	21,200	128	2,299	1,664,000

Peak discharge.- Dec. 27 (6 p.m.) 20,400 sec.-ft.; Dec. 29 (4 a.m.) 24,900 sec.-ft.

Trinity River near Hoopa, Calif.

Location.- Water-stage recorder, lat. 41°02', long. 123°39', in SE¼ sec. 31, T. 8 N., R. 5 E., on Hoopa Indian Reservation, 0.5 mile downstream from Campell Creek and 2 miles southeast of Hoopa. Altitude of gage, about 315 feet (from river-profile map).

Drainage area.- 2,840 square miles.

Records available.- October 1931 to September 1946. October 1911 to January 1914 and November 1916 to August 1918 at site at Hoopa, 2 miles downstream.

Average discharge.- 17 years (1911-13, 1931-46), 5,353 second-feet.

Extremes.- Maximum discharge during year, 74,500 second-feet Dec. 29 (gage height, 23.92 feet); minimum, 338 second-feet Sept. 30 (gage height, 3.03 feet).
1911-14, 1916-18, 1931-46: Maximum discharge, 124,000 second-feet Feb. 28, 1940 (gage height, 31.2 feet), from rating curve extended above 60,000 second-feet; minimum, 162 second-feet Oct. 4, 1931.

Remarks.- Records good. Small diversions above station for mining and irrigation.

Rating tables, water year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29				Dec. 30 to Sept. 30			
2.9	348	6.0	2,050	12	15,300	3.0	330
3.2	420	6.5	2,590	14	22,200	3.2	388
3.6	544	7.0	3,250	16	30,800	3.5	490
4.0	700	7.5	4,040	20	50,200	4.0	700
4.5	935	8.0	4,950	23.5	70,200	4.5	955
5.0	1,220	9.0	7,050				
5.5	1,600	10	9,500				

Note.- Same as preceding table above 7.0 feet.

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	375	7,050	9,080	27,600	5,950	12,600	7,350	9,100	5,700	2,180	1,030	410
2	372	3,870	7,260	23,800	5,870	11,200	7,030	9,020	5,930	2,210	972	410
3	368	3,010	6,490	29,900	5,720	10,200	6,730	10,200	6,030	2,170	911	423
4	361	2,690	24,000	29,100	5,420	9,200	6,490	11,300	5,680	2,070	850	454
5	357	2,140	25,700	34,400	5,180	8,550	6,360	11,200	5,320	2,040	800	454
6	355	1,900	16,700	30,000	5,620	8,300	6,450	10,600	4,870	1,950	760	447
7	357	1,710	16,900	25,800	6,490	8,250	6,560	10,500	4,370	1,880	727	451
8	357	1,540	14,200	22,000	5,970	8,350	6,780	10,100	4,090	1,800	696	440
9	363	1,720	11,400	16,200	5,680	8,580	6,270	9,550	4,040	1,710	675	434
10	382	2,940	9,500	15,200	5,540	8,920	6,380	9,600	3,900	1,630	650	420
11	454	3,110	8,200	13,300	5,440	8,950	6,180	9,850	3,740	1,570	628	407
12	478	4,260	7,300	11,800	5,200	8,780	6,360	9,280	3,630	1,560	598	394
13	469	4,140	6,470	10,600	5,040	11,600	7,030	9,020	3,680	1,500	574	394
14	469	3,260	5,840	9,900	4,910	11,100	7,780	8,450	3,740	1,440	558	391
15	454	3,600	5,580	9,220	4,870	10,200	8,750	7,950	3,600	1,380	546	394
16	442	6,160	5,340	8,600	4,840	9,780	10,200	8,020	3,400	1,300	542	420
17	440	8,520	4,570	8,080	4,760	9,320	12,100	8,520	3,340	1,250	522	434
18	437	6,450	4,660	7,730	4,800	9,180	13,800	9,300	3,180	1,230	514	440
19	437	9,650	4,440	7,460	5,030	8,880	13,400	9,380	3,140	1,200	502	434
20	437	10,600	4,320	7,230	5,560	8,500	11,700	8,800	3,250	1,180	490	420
21	437	7,370	6,710	6,840	6,310	8,050	10,200	8,200	3,310	1,170	476	404
22	434	5,620	14,700	6,940	7,330	7,900	9,380	7,160	3,170	1,150	465	394
23	431	4,930	26,900	7,210	7,140	7,750	9,460	6,180	2,990	1,120	444	388
24	431	4,950	25,600	7,260	7,330	7,560	10,900	5,580	2,720	1,140	430	379
25	426	7,560	21,300	7,800	8,580	7,160	13,100	5,320	2,460	1,180	423	373
26	426	12,500	24,000	7,730	8,420	7,000	13,900	6,200	2,360	1,340	420	367
27	428	10,400	52,200	7,350	11,100	7,630	12,200	7,140	2,310	1,740	414	361
28	472	12,300	67,200	6,980	14,700	8,450	10,900	6,180	2,280	1,660	410	355
29	802	19,500	70,200	6,670	-	8,900	11,000	5,780	2,270	1,330	420	364
30	7,140	12,300	49,300	6,400	-	8,350	10,200	5,480	2,190	1,150	407	352
31	10,200	-	36,100	6,140	-	7,730	-	5,420	-	1,080	404	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	29,791	10,200	355	961	59,090
November.....	185,750	19,500	1,540	6,192	368,400
December.....	592,160	70,200	4,320	19,100	1,175,000
Calendar year 1945	2,329,652	70,200	350	6,393	4,621,000
January.....	427,440	34,400	6,140	13,790	847,800
February.....	178,800	14,700	4,760	6,386	354,600
March.....	276,920	12,600	7,000	8,933	549,300
April.....	275,280	13,900	6,180	9,178	546,000
May.....	258,380	11,300	5,320	8,335	512,500
June.....	110,690	6,030	2,190	3,690	219,600
July.....	47,310	2,210	1,080	1,526	93,840
August.....	18,256	1,030	404	589	36,210
September.....	12,208	454	352	407	24,210
Water year 1945-46	2,412,985	70,200	352	6,611	4,787,000

Peak discharge.- Nov. 29 (4 a.m.) 22,800 sec.-ft.; Dec. 4 (8 p.m.) 33,500 sec.-ft.; Dec. 23 (8 p.m.) 29,100 sec.-ft.; Dec. 29 (8 to 9 a.m.) 74,500 sec.-ft.; Jan. 5 (11 a.m.) 35,300 sec.-ft.; Feb. 28 (6 a.m.) 15,400 sec.-ft.

Smith River near Crescent City, Calif.

Location.- Water-stage recorder, lat. 41°47', long. 124°04', in SW $\frac{1}{4}$ sec. 10, T. 16 N., R. 1 E., 0.5 mile downstream from South Fork and 9 miles east of Crescent City.
Drainage area.- 613 square miles.

Records available.- October 1931 to September 1946.

Average discharge.- 14 years (1931-37, 1938-46), 3,363 second-feet.

Extremes.- Maximum discharge during year, 123,000 second-feet Dec. 28 (gage height, 35.6 feet), from rating curve extended above 24,000 second-feet by logarithmic plotting of station and cableway ratings; minimum, 189 second-feet Sept. 28, 30 (gage height, 3.38 feet)

1931-46: Maximum discharge, that of Dec. 28, 1945; minimum, 168 second-feet Oct. 21, 1931.

Remarks.- Records excellent except those computed from staff-gage readings and those for periods of no gage-height record, which are fair.

Rating tables, water-year 1945-46 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 28						Dec. 29 to Sept. 30					
3.6	244	7.0	1,880	16.0	18,400	3.3	173	7.0	1,880	18.0	22,800
3.8	293	8.0	2,700	19.0	28,600	3.5	215	8.0	2,670	21.0	35,000
4.0	348	9.0	3,800	22.0	41,000	4.0	345	9.0	3,670	25.0	55,500
4.5	513	10.0	5,140	26.0	61,800	4.5	513	10.0	4,870		
5.0	727	11.0	6,550	30.0	85,500	5.0	727	12.0	7,800		
5.5	970	12.0	8,420	32.0	98,500	5.5	970	14.0	11,400		
6.0	1,240	14.0	12,900			6.0	1,240	16.0	16,300		

Discharge, in second-feet, water year October 1945 to September 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	268	803	a7,800	10,400	3,670	9,460	3,320	1,960	1,040	606	539	250
2	268	532	a6,000	19,600	4,460	8,110	3,100	1,980	1,040	581	325	246
3	268	428	a5,600	15,000	4,240	8,030	2,870	2,090	1,010	556	311	240
4	261	380	a19,300	16,600	3,710	6,960	2,690	2,090	960	540	305	240
5	258	354	15,200	23,700	3,540	6,000	2,560	2,020	935	521	305	240
6	254	431	17,600	14,100	16,500	5,700	2,470	1,930	a1,050	506	300	238
7	254	593	20,700	15,100	12,700	5,280	2,490	1,890	a980	498	297	236
8	251	822	11,800	13,000	8,320	4,690	2,650	1,760	a920	502	294	229
9	256	2,240	8,230	9,460	6,520	4,320	3,910	1,720	871	552	289	222
10	280	5,290	6,650	7,620	5,680	4,530	3,990	1,740	851	a535	286	220
11	283	a4,500	5,520	6,360	4,900	4,680	3,650	1,740	817	a520	284	222
12	278	a9,050	4,660	5,400	4,360	12,300	3,640	1,640	798	a505	273	222
13	270	a5,000	3,980	4,700	3,930	20,200	3,430	a1,580	803	a485	273	215
14	261	a3,500	3,510	4,190	5,630	10,500	3,360	a1,520	1,000	a470	268	217
15	258	a10,000	3,540	3,800	3,450	10,700	3,350	a1,470	1,000	a455	268	248
16	278	a12,000	3,660	3,440	3,310	9,170	3,400	a1,480	915	a440	266	376
17	293	a12,000	3,400	3,160	3,250	8,240	3,350	a1,510	856	a425	263	328
18	278	a5,000	3,100	3,000	3,710	7,380	3,530	a1,500	808	411	260	263
19	266	a20,000	2,850	3,030	4,060	6,300	3,310	1,420	774	398	258	238
20	263	a11,000	2,670	3,260	3,990	5,360	2,870	1,380	741	389	256	226
21	263	a5,500	4,440	3,100	6,040	4,690	2,580	1,400	713	382	250	217
22	268	a2,900	7,130	16,300	5,970	4,570	2,410	1,330	686	376	248	215
23	266	a2,900	19,700	11,200	4,670	4,290	2,390	1,230	695	373	246	208
24	258	a3,220	17,400	15,500	7,480	4,320	2,670	1,130	695	364	243	202
25	254	a3,800	11,500	12,600	6,960	4,120	2,650	1,160	663	354	243	197
26	254	a18,400	18,600	8,350	6,810	3,960	2,780	1,390	627	354	243	195
27	270	a20,000	36,400	6,600	19,200	3,940	2,400	1,310	610	354	243	193
28	357	a42,000	97,800	5,630	14,000	3,930	2,230	1,200	627	345	243	193
29	340	a30,000	44,900	4,930	-	4,000	2,270	1,130	722	351	246	191
30	1,690	a10,700	21,000	4,360	-	3,800	2,090	1,080	632	351	256	193
31	1,340	-	13,700	3,960	-	3,560	-	1,060	-	348	258	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	11,202	1,690	251	361	22,220
November.....	248,343	42,000	354	8,278	492,600
December.....	448,140	97,600	2,670	14,460	888,900
Calendar year 1945.....	1,767,535	97,600	231	4,843	3,506,000
January.....	277,450	23,700	3,000	8,950	550,300
February.....	181,280	19,200	3,250	6,474	359,500
March.....	203,080	20,200	3,560	6,551	402,800
April.....	88,810	3,990	2,090	2,960	176,200
May.....	47,840	2,090	1,060	1,543	94,890
June.....	24,839	1,050	610	828	49,270
July.....	13,847	606	345	447	27,470
August.....	8,445	339	243	272	16,750
September.....	6,920	376	191	231	13,730
Water year 1945-46.....	1,560,176	97,600	191	4,274	3,095,000

a No gage-height record; discharge computed on basis of records for Salmon River at Somebar and Trinity River near Hoopa.
 h Computed from staff-gage reading.

Measurements of stream flow in the Pacific slope basins in California made at points other than gaging stations are given in the following table:

Miscellaneous discharge measurements in the Pacific slope basins in California during water year October 1945 to September 1946

STREAMS SOUTH OF SAN FRANCISCO BAY

Cottonwood Creek at Morena Dam spillway, Calif.
Oct. 19, 0.3 second-foot

Tecate Creek at Cottonwood Creek, near Dulzura, Calif.

Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)
Jan. 28	5.3	Feb. 7	6.4	Mar. 4	3.8	Apr. 3	17
Boulder Creek at Cuyamaca Dam, near Julian, Calif.							
May 2	25	May 2	56	May 9	56	May 9	55

San Dieguito River below Hodges Dam, Calif.

Jan. 31	15	Feb. 27	4.0	Apr. 4	74		
Feb. 20	14	Mar. 25	8.9	Apr. 15	7.5		

Santa Ysabel Creek below Roden Canyon, near Ramona, Calif.
Oct. 1, 0.2 second-foot

Arroyo Seco at Nigger Canyon, near Temecula, Calif.

Oct. 15	0.01	Jan. 15	0.7	May 21	0.4	Aug. 16	0.03
Nov. 15	.02	Mar. 18	.8	June 18	.09		
Dec. 13	.09	Apr. 16	2.8	July 18	.05		

San Juan Creek above San Juan Mutual Water Co.'s diversion,
near San Juan Capistrano, Calif.

Oct. 2	2.9	Nov. 20	3.8	Dec. 4	3.5	Jan. 8	4.4
9	2.9	27	3.7	19	3.2		

Note.- Measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

San Juan Mutual Water Co.'s diversion near San Juan Capistrano, Calif.

Nov. 27	2.7	Jan. 8	†0.1	Apr. 18	1.3	June 1	2.2
Dec. 4	2.4	24	.6	May 7	†.5	July 20	2.9
19	2.6	Feb. 28	.6	23	2.6	Sept. 5	1.1

† Estimated.

Note.- Measurements furnished by Santa Margarita Ranch (U. S. Navy) and Pauba Ranch.

Santa Ana River at Yorba Bridge, near Yorba, Calif.

Dec. 23	1,680	Jan. 25	106	Mar. 4	45	Apr. 8	158
28	1,040	28	94	6	32	10	117
28	193	Feb. 1	76	11	14	12	114
31	176	4	351	15	8.2	15	128
Jan. 2	215	8	135	22	137	19	62
4	194	11	123	25	76	22	42
7	177	15	132	29	86	26	17
11	146	18	102	30	222	29	7.4
14	144	21	87	31	806	May 3	0
18	117	25	73	Apr. 3	243		
21	114	Mar. 1	45	5	205		

Note.- Measurements furnished by Orange County Flood Control District.

Santa Ana River at Jefferson Street Bridge, near Atwood, Calif.

Dec. 26	674	Jan. 21	26	Feb. 21	19	Apr. 5	85
28	49	25	28	25	7.0	10	40
31	42	28	18	Mar. 1	1.7	12	54
Jan. 2	51	Feb. 1	9.7	4	1.5	19	1.1
4	67	4	211	8	0	22	0
7	44	8	55	22	17	29	0
11	41	11	42	29	11		
14	42	18	37	31	625		

Note.- Measurements furnished by Orange County Flood Control District.

Santa Ana River at bridge on Anaheim-Olive road, near Olive, Calif.

Dec. 26	343	Jan. 21	0	Feb. 21	0	Apr. 8	5.8
28	7.3	25	†.2	25	0	10	.6
31	3.8	28	†.3	Mar. 1	0	12	1.4
Jan. 2	8.9	Feb. 1	†.5	4	0	15	4.0
4	9.1	4	47	8	0	19	0
7	5.1	8	3.0	31	306		
11	5.6	11	0	Apr. 3	10		
14	3.4	18	0	5	5.2		

† Estimated.

Note.- Measurements furnished by Orange County Flood Control District.

MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the Pacific slope basins in California during water year October 1945 to September 1946--Continued

STREAMS SOUTH OF SAN FRANCISCO BAY--Continued

Santa Ana River at Chapman Bridge, near Orange, Calif.

Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)
Dec. 28	1.1	Jan. 21	†0.5	Feb. 18	†0.1	Apr. 3	0
31	1.1	25	†.2	21	†.1	5	0
Jan. 2	2.8	28	0	25	†.1	10	0
4	2.4	Feb. 1	0	Mar. 1	†.2	12	†.3
7	1.8	4	13	4	†.1		
11	2.7	8	1.0	8	0		
14	1.1	11	†.1	31	112		

† Estimated.

Note.- Measurements furnished by Orange County Flood Control District.

Rising water about 500 feet east of Warm Creek at Colton Avenue, near Colton, Calif.

Dec. 7	0.3	Dec. 28	3.6	Feb. 25	2.3	Apr. 5	2.7
14	.5	Jan. 11	3.1	Mar. 8	2.6	12	1.6
21	.9	17	3.4	15	.2	18	.6
23	†15	Feb. 4	1.6	22	†.02	26	.04
24	†1.0	15	1.2	Apr. 1	1.9		

† Estimated.

Day Creek diversion near Etiwanda, Calif.

Oct. 5	3.1	Dec. 3	3.5	May 22	†.5	Aug. 1	2.4
18	3.8	Mar. 6	3.3	28	5.2	8	3.3
25	2.8	28	.4	June 10	4.5	16	3.1
31	4.4	Apr. 18	5.5	17	3.6	22	2.3
Nov. 9	4.0	25	5.1	24	3.4	Sept. 11	2.4
15	4.1	May 2	5.1	July 8	3.3		
23	3.7	10	5.5	15	2.8		
26	3.2	16	.2	25	2.7		

† Estimated.

San Gabriel River below Rogers Creek, near Azusa, Calif.

Jan. 3	491	Jan. 9	289	Jan. 18	214		
7	368	16	289				

Note.- Measurements furnished by Los Angeles County Flood Control District.

Gobernador Creek in canyon, near Carpinteria, Calif.

June 8, 0.5 second-foot

San Jose Creek above diversion 0.2 mile above Patterson Avenue Bridge, near Goleta, Calif.

Feb. 15, 0.5 second-foot

Tecolote Canyon Creek above diversion 4 miles above U. S. Highway 101, near Goleta, Calif.

Feb. 15	0.4	Apr. 18	1.0				
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Eagle Canyon Creek above diversion 3.3 miles above U. S. Highway 101, near Goleta, Calif.

Feb. 15	†0.02	Mar. 15	†0.01				
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† Estimated.

Eagle Canyon Creek at U. S. Highway 101, near Goleta, Calif.

Apr. 18, 0.2 second-foot (estimated)

Dos Pueblos Canyon Creek above diversion 2.7 miles above U. S. Highway 101, near Goleta, Calif.

Feb. 15	0.9	Mar. 15	0.8	Apr. 18	1.2		
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Santa Ynez River below Gibraltar Dam, near Santa Barbara, Calif.

Jan. 24, 1946, 3.4 second-feet

Santa Ynez River 1 mile above Hot Springs Canyon Creek, near Santa Barbara, Calif.

Aug. 2	†0.5	Aug. 13	†0.4				
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† Estimated.

Santa Ynez River above Santa Cruz Creek, near Santa Ynez, Calif.

July 3	†0.5	July 23	†0.2	Aug. 2	0		
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† Estimated.

Santa Ynez River below Santa Cota Creek, near Santa Ynez, Calif.

Jan. 9	29	July 3	2.5				
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Santa Ynez River at Solvang, Calif.

Oct. 9	4.0	Feb. 19	35	July 3	6.1	Sept. 3	3.6
Nov. 30	8.9	May 7	41	Aug. 2	4.5		
Jan. 9	32	June 11	7.1	Aug. 13	3.6		

Santa Ynez River at Buellton, Calif.

Oct. 1	0	May 7	34	July 2	0		
Dec. 4	5.8	June 11	1.9	Aug. 1	0		

Miscellaneous discharge measurements in the Pacific slope basins in California during water year October 1945 to September 1946--Continued

STREAMS SOUTH OF SAN FRANCISCO BAY--Continued

Santa Ynez River at proposed gage site 4.0 miles below Buellton, Calif.

Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)
Aug. 1	+0.2	Aug. 14	+0.3				

† Estimated.

Santa Ynez River at Donovan's, near Santa Rosa, Calif.

Dec. 4	5.2	Feb. 20	39	June 11	0.2		
Jan. 10	42	May 7	34				

Santa Ynez River 0.5 mile above Robinson Bridge, near Lompoc, Calif.

Aug. 1	+0.5	Aug. 14	+0.5				
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† Estimated.

Santa Ynez River at Rucker's crossing, near Lompoc, Calif.

Oct. 1	0	Jan. 10	44	May 7	35	July 1	0
Dec. 4	0	Feb. 20	40	June 11	.2	Aug. 1	0

Santa Ynez River at H Street Bridge, near Lompoc, Calif.

Oct. 1	0	May 7	38	July 1	0		
Dec. 4	+0.05	June 11	.2	Aug. 1	0		

† Estimated.

Santa Ynez River 2 miles above barrier, near Surf, Calif.

Jan. 10	48	Feb. 20	43				
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Santa Ynez River at barrier, near Surf, Calif.

Oct. 1	0.8	June 11	0.9	Aug. 14	0.8		
May 8	38	Aug. 1	+1	30	.4		

Santa Cruz Creek above Stake Canyon, near Santa Ynez, Calif.
Aug. 13, 0.5 second-foot

Hot Spring Canyon Creek at mouth, near Santa Barbara, Calif.

Oct. 8	0.5	Jan. 9	0.6	May 6	4.7	Aug. 2	+0.1
Nov. 30	.4	Feb. 10	.6	June 12	.4	13	+2

† Estimated.

Santa Cota Creek at mouth, near Santa Ynez, Calif.

Oct. 9	5.5	Feb. 19	6.4	July 3	+1.0	Sept. 3	3.8
Nov. 30	5.5	May 6	2.3	Aug. 2	+5		
Jan. 9	6.4	June 12	2.7	13	+5		

† Estimated.

Alamo Pintado Creek 1.1 miles above mouth, near Solvang, Calif.

Oct. 9	0.7	Feb. 19	1.5	July 3	0.6	Sept. 3	0.6
Nov. 30	.7	May 7	1.0	Aug. 2	.6		
Jan. 9	1.2	June 12	.8	13	+5		

† Estimated.

Alisal Creek at mouth, near Solvang, Calif.

Jan. 9	+0.2	Feb. 19	+0.2				
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† Estimated.

Nojoqui Creek at mouth, near Buellton, Calif.

Jan. 9	0	Feb. 19	+0.02				
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† Estimated.

Cuyama River below Cottonwood Creek, near Cuyama, Calif.

Dec. 5	15	Feb. 14	15	Apr. 22	9.5		
Jan. 3	15	Mar. 27	13	May 20	6.4		
Feb. 4	22	Mar. 21	10	Sept. 11	3.9		

Cuyama River below Gypsum Creek, near Cuyama, Calif.

Oct. 9	2.5	Feb. 4	25	Mar. 21	11	June 17	0.4
Dec. 5	11	14	10	Apr. 22	7.8	Sept. 11	.6
Jan. 3	14	27	10	May 20	4.9		

Cuyama River at mouth, near Santa Maria, Calif.
Apr. 4, 58 second-feet

Santa Maria River at confluence at Cuyama and Sisquoc Rivers, near Santa Maria, Calif.

Dec. 7	8.7	Feb. 5	26	Mar. 19	13	Apr. 23	3.9
Jan. 4	17	Mar. 6	4.7	Apr. 12	18		

MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the Pacific slope basins in California during water year October 1945 to September 1946--Continued

STREAMS SOUTH OF SAN FRANCISCO BAY--Continued

Santa Maria River at Suey Bridge, near Santa Maria, Calif.

Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)
Dec. 7	1.4	Feb. 6	3.1	Apr. 5	15		
Jan. 4	2.6	Mar. 19	†.2	12	3.1		

† Estimated.

Sisquoc River below Labrea Creek, near Sisquoc, Calif.

Feb. 5	20	Mar. 4	†0.01	Apr. 23	29		
12	4.1	Apr. 9	92				

† Estimated.

Sisquoc River at mouth, near Santa Maria, Calif.

Jan. 4	0	Apr. 4	35	Apr. 12	0		
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Arroyo Grande at county park 9 miles above U. S. Highway 101, near Arroyo Grande, Calif.

Dec. 6	2.6	Aug. 26	1.0				
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Arroyo Grande 5 miles above U. S. Highway 101, near Arroyo Grande, Calif.

Dec. 6	1.6	Aug. 26	1.1				
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Lopez Canyon Creek 4.5 miles above mouth, near Arroyo Grande, Calif.
Aug. 26, 1.9 second-feetLopez Canyon Creek 2 miles above mouth, near Arroyo Grande, Calif.
Dec. 6, 5.4 second-feet

SALINAS RIVER BASIN

Salinas River 4 miles upstream from Atascadero, Calif.

Oct. 15	19.3	July 9	38.9	Aug. 15	18.9	Sept. 18	20.2
Nov. 4	17.0	24	36.4	29	20.4		

Salinas River at bridge near Atascadero, Calif.

Oct. 15	22.7	July 9	5.6	Aug. 15	13.2	Sept. 18	15.5
Nov. 4	17.5	24	33.8	29	12.9		

Salinas River 1 mile upstream from Templeton, Calif.
July 24, 19.0 sec.-ft.

Salinas River at Templeton, Calif.

Oct. 16	20.4	July 24	18.4	Aug. 22	4.3	Sept. 25	2.6
Nov. 6	17.6	Aug. 7	4.8	Sept. 11	8.9		

Salinas River at San Miguel, Calif.

Oct. 16	16.1	July 10	0.02	Sept. 11	0	Sept. 25	0
Nov. 6	18.1	Aug. 22	0				

Salinas River above Nacimiento River, near Miguel, Calif.

Oct. 16	8.7	July 3	0	Aug. 22	0	Sept. 25	0
Nov. 6	15.7	10	0	Sept. 11	0		

Salinas River at highway bridge at Bradley, Calif.

Oct. 16	8.6	July 10	3.4	Aug. 22	1.5	Sept. 25	2.5
Nov. 6	19.7	Aug. 7	1.8	Sept. 13	2.0		

Salinas River at highway bridge at San Ardo, Calif.

Oct. 16	0	July 3	0	Aug. 24	0	Sept. 25	0
Nov. 6	0	17	0	Sept. 11	0		

Salinas River at bridge near San Lucas, Calif.

Oct. 16	1.1	July 3	0.5	Aug. 9	0.1	Sept. 11	0
Nov. 6	2.7	17	.2	24	.3	25	0

Salinas River at highway bridge at King City, Calif.

Oct. 18	0	Aug. 7	0.2	Sept. 11	0	Sept. 25	0
Nov. 7	0	24	.1				

Salinas River at highway bridge near Soledad, Calif.

Oct. 18	0	July 3	0	Aug. 7	0	Sept. 13	0
Nov. 7	0	17	0	24	0		

Miscellaneous discharge measurements in the Pacific slope basins in California during water year October 1945 to September 1946--Continued

SALINAS RIVER BASIN--Continued

Estrella Creek at mouth, near San Miguel, Calif.

Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)	Date	Discharge (sec.-ft.)
Oct. 16	0	June 19	0	Aug. 22	0	Sept. 25	0
Nov. 6	5.4	Aug. 7	0	Sept. 11	0		

Nacimiento River at mouth, near San Miguel, Calif.

Oct. 16	1.1	July 10	0.8	Aug. 22	0	Sept. 25	0
Nov. 6	1.1	Aug. 9	0	Sept. 11	0		

San Antonio River at mouth, near Bradley, Calif.

Oct. 16	0	June 19	0	Aug. 22	0	Sept. 25	0
Nov. 6	0	Aug. 7	0	Sept. 11	0		

PIT RIVER BASIN

Pit River 0.2 mile above Nelson Creek, near Big Bend, Calif.
Aug. 7, 57 sec.-ft.

Pit River below Pit No. 5 powerhouse, below Big Bend, Calif.
Apr. 18, 4,430 sec.-ft.; Aug. 7, 3,210 sec.-ft.

Nelson Creek near Big Bend, Calif.
Aug. 6, 20.6 sec.-ft.

Koak Creek near Big Bend, Calif.
Aug. 8, 46.0 sec.-ft.

COLUSA AND YOLO BASINS

Knights Landing Ridge Cut at site of former gaging station near Knights Landing, Calif.

Oct. 23	0	June 20	74	Oct. 7	3.4		
May 2	83	Aug. 20	76				

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