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W. C. MENDENHALL, Director

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Water-Supply Paper 860

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# SURFACE WATER SUPPLY *of the* UNITED STATES 1938

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PART 10  
THE GREAT BASIN

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## SURFACE WATER SUPPLY OF THE GREAT BASIN, 1938

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### 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, 1938. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of stream flow have been made at about 7,800 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July 1938, 3,830 gaging stations were being maintained by the Geological Survey and cooperating organizations. Many miscellaneous discharge measurements were made at 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. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 10.

### 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 water flowing in a channel when the cross-sectional area is 1 square foot and the 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 run-off is distributed uniformly both as regard time and area.

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

An "acre-foot", equivalent to 43,560 cubic feet, is the quantity of water required to cover an acre to the depth of 1 foot. 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 run-off of 0.0372 inches from one square mile.

"Stage-discharge relation" is an abbreviation for the term "relation of gage height to discharge."

"Control" is a term used to designate the natural section or reach of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

### 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 gage heights 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 gaging stations, equipped with water-stage recorder and measuring cable and car, are shown on plate 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge, from which the monthly and yearly mean discharge are computed.

The data presented for each gaging station in the area covered by this report usually comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. Skeleton rating tables are published except for those stations whose 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 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. Information under "Extremes" gives 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, and also the minimum discharge if useful; and the minimum gage height except when 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 represents the lowest discharge, unless otherwise qualified. The peak discharge for the year with the time of its occurrence is given below the table of monthly discharge for some stations. Selected lower peaks are also given if the peak discharge exceeded the mean discharge for that day by more than 10 percent. This supplementary information is generally not given for stations having drainage areas of less than 10 square miles or more than 10,000 square miles.

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

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures for that month given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity



A. ARTIFICIAL CONTROL, RECORDER HOUSE, AND MEASURING CABLE ON OLENTANGY RIVER, DELAWARE, OHIO.



B. RECORDER HOUSE AND MEASURING CABLE ON KAWEAH RIVER, THREE RIVERS, CALIF.

TYPICAL RIVER-MEASUREMENT STATIONS.

given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month.

#### ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation 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 daily records are accurate within 5 percent; "good", within 10 percent; "fair", within 15 percent; and "poor", within 20 percent or more.

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

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, so that 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 gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published, and that greater degrees of refinement in computations and records may be warranted with increased data and use of improved equipment.

#### 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 slope 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 in regard to 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 local offices of the water-resources branch of the Geological Survey as follows:

Augusta, Maine, Statehouse.  
 Boston, Mass., 945 Post Office Building.  
 Hartford, Conn., 203 Federal Building.  
 Albany, N. Y., 526 Federal Building.  
 Trenton, N. J., 228 Federal Building.  
 Harrisburg, Pa., 490 Education Building.  
 Charlottesville, Va., University of Virginia.  
 South Charleston, W. Va., Naval Ordnance Plant.  
 Asheville, N. C., 220 Post Office Building.  
 Columbia, S. C., 119 United States Courthouse.  
 Atlanta, Ga., Georgia School of Technology.  
 Ocala, Fla., Post Office Building.  
 Montgomery, Ala., 507 Post Office Building.  
 Chattanooga, Tenn., 442 Post Office Building.  
 Louisville, Ky., 641 Federal Building.  
 Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.  
 Indianapolis, Ind., 516 Federal Building.  
 Urbana, Ill., 14 Post Office Annex.  
 Madison, Wis., 357 N. State Capitol.  
 St. Paul, Minn., 806 New Post Office Building.  
 Iowa City, Iowa, 402 Hydraulic Laboratory, University of Iowa.  
 St. Louis, Mo., 906 Customhouse, 1114 Market Street.  
 Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.  
 Topeka, Kans., 305 Federal Building.  
 Fort Smith, Ark., 6 Post Office Building.  
 Austin, Tex., State Highway Building.  
 Santa Fe, N. Mex., 3 United States Courthouse.  
 Tucson, Ariz., 210 Post Office Building.  
 Denver, Colo., 230 Customhouse.  
 Salt Lake City, Utah, 303 Federal Building.  
 Idaho Falls, Idaho, 204 Federal Building.  
 Boise, Idaho, 429 Federal Building.  
 Helena, Mont., 412 Federal Building.  
 Tacoma, Wash., 406 Federal Building.  
 Portland, Oreg., 606 Post Office Building.  
 San Francisco, Calif., 208 Federal Office Building.  
 Los Angeles, Calif., G-31 Post Office and Courthouse.  
 Honolulu, Hawaii, 225 Federal Building.

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

Records of flow of streams in the United States have been published in the reports tabulated as follows:

Stream-flow data 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 Sept. 1890.
12th A, pt. 2	.....do.....	1884 to June 30, 1891.
13th A, pt. 3	.....do.....	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93)....	1888 to Dec. 31, 1893.
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 (also many data covering earlier years).	1895.
W 11.....	Gage heights (also gage heights for earlier years)	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895-96.



## Stream-flow data in reports of the Geological Survey--Continued

Report	Character of data	Year
W 15.....	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte Rivers, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28.....	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)...	1898.
W 35 to 39...	Descriptions, measurements, gage heights, and ratings.	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings.	1900.
22d A, pt. 4.	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings.	1901.
W 75.....	Monthly discharge.....	1901.

Note.- The reports that contain records after 1901 are given in the table on page 6.

The table on the following page gives, by years and drainage basins, the numbers of the papers on surface water supply published from 1899 to 1938. The data for any particular station will, in general, be found in the reports covering the years during which the station was maintained. For example, the data from 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.

Numbers of water-supply papers containing results of stream measurements, 1899-1938  
(For basins included see p. 3)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b 35, 36	36	36	36	c 36, 37	37	37	d 37, 38	38, e 39	38, f 39	38	38	38
1900 g...	47, h 48	43	45, i 49	49	49	49, j 50	50	50	50	51	51	51	51	51
1901 s...	65, 75	b 65, 75	65, 75	65, 75	k 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	97	b 97, 98	97	m 84, 97	k 84, 97	94	94	94	94	94	94	94	94	94
1903.....	127	q 127, 128	128	128	k 128, 130	130, r 131	k 128, 131	132	132	133, s 133	134	135	135	135
1904.....	126	q 126, 127	126	126	126	126	126	126	126	126	126	126	126	126
1905.....	167	q 167, 168	169	170	171	172	k 169, 173	174	175, t 177	176, s 177	177	178	178	178
1906.....	203	q 203, 204	205	206	207	208	k 206, 209	210	211, t 213	212, s 213	213	214	214	214
1907-8....	241	q 241, 242	243	244	245	246	k 246, 247	248	249	250, s 251	251	252	252	252
1909.....	261	262	263	264	265	266	267	268	269	270, s 271	271	272	272	272
1910.....	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912.....	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913.....	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914.....	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915.....	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916.....	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917.....	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918.....	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20...	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921.....	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922.....	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923.....	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924.....	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925.....	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926.....	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927.....	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928.....	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929.....	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930.....	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1931.....	713	714	715	716	717	718	719	720	721	722	723	724	725	726
1932.....	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1933.....	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1934.....	756	757	758	759	760	761	762	763	764	765	766	767	768	769
1935.....	781	782	783	784	785	786	787	788	789	790	791	792	793	794
1936.....	801	802	803	804	805	806	807	808	809	810	811	812	813	814
1937.....	821	822	823	824	825	826	827	828	829	830	831	832	833	834
1938.....	851	852	853	854	855	856	857	858	859	860	861	862	863	864

a Rating tables and index to Water-Supply Papers 35-59 contained in Water-Supply Paper 39. Tables of monthly discharge for 1909 in 21st Annual Report, part 4.  
b James River only.  
c Gallatin River.  
d Green and Gunnison Rivers and Colorado River above Gunnison River.  
e Mojave River only.  
f Kings and Kern Rivers and south Pacific slope basins.  
g Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 62. Monthly discharge for 1900 in 22d Annual Report, part 4.  
h San Joaquin and San Joaquin Rivers to James River.  
i Salado River.  
j Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.  
k Tributaries of Mississippi River from east.  
l Lake Ontario and tributaries to St. Lawrence River proper.  
m Hudson Bay only.  
n New England rivers only.  
o Hudson River to Delaware River, inclusive.  
p Susquehanna River to Yackin River, inclusive.  
q Platte and Kansas Rivers.  
r Plate Creek Basin in California, except Truckee and Carson River Basins.  
s The Great Junction with Gila River.  
t Below location with Gila River.  
u Rogue, Umpqua, and Siletz Rivers only.

From time to time 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 in alphabetical order by States and drainage basins.

Reports containing compilation of discharge by States and drainage basins

Water-Supply Paper	Year ending	State or drainage basin and title
STATE		
107	1903	Alabama, Water powers of, with an appendix on stream measurements in Mississippi.
298	1912	California, Water resources of, part 1, Stream measurements in Sacramento River Basin.
299	1912	California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.
300	1912	California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific coast river basins.
447	1918	California, Surface water supply of the southern Pacific slope of.
597e	1927	California, Surface water supply of Sacramento River Basin.
636d	1927	California, Surface water supply of San Joaquin River Basin.
636e	1927	California, Surface water supply of Pacific slope basins in.
637a	1927	California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.
74	1900	Colorado, Water resources of.
197	1905	Georgia, Water resources of.
415	1915	Massachusetts, Surface waters of.
230	1906	Nebraska, Surface water supply of.
370	1910	Oregon, Surface water supply of.
850	1937	Texas, Summary of records of surface waters of.
424	1916	Vermont, Surface waters of.
492	1919	Washington, Summary of hydrometric data in.
469	1921	Wyoming, Surface waters of, and their utilization.
DRAINAGE BASIN		
395	1914	Colorado River (Colo., Utah, etc.) and its utilization, 1916.
617	1927	Colorado River, upper (colo., Utah), and its utilization, 1929.
517	1920	Great Salt Lake Basin, Water powers of, 1924.
618	1926	Green River (Wyo., Utah) and its utilization, 1930.
198	1906	Kennebec River Basin (Maine), Water resources of, 1907.
		Milk River. (See St. Mary and Milk Rivers.)
536	1920	New-Kanawha River Basin (W. Va., Va., N. C.), Surface water supply of, 1925.
279	1909	Penobscot River Basin (Maine), Water resources of, 1912.
192	1906	Potomac River Basin (W. Va., Va., Md., etc.), 1907.
358	1913	Rio Grande Basin (N. Mex., Tex., etc.), Water resources of, 1888-1913.
491	1917	St. Mary and Milk Rivers (Mont. and Canada), Water supply of, 1920.
109	1904	Susquehanna River Basin (Pa., Md.), Hydrography of, 1905.

In addition to the records noted above, records of discharge have been published 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 compilation of records of discharge

State	Year ending	Report	Issued by
Alabama....	1915	Bull. 17, Water powers of Alabama....	Geological Survey of Alabama.
Arkansas....	1928	Stream gaging report 1.....	Arkansas Geological Survey.
Georgia....	1920	Bull. 38, Water powers of Georgia....	Geological Survey of Georgia.
Illinois....	1937	Stream flow data of Illinois.....	Division of Waterways.
Do.....	1911	Water resources of Illinois.....	Rivers and Lakes Commission.
Indiana....	1927	Pub. 72, Surface water supply of Indiana.	Department of Conservation.
Do.....	a1930	Pub. 112, Surface water supply of Indiana.	Do.
Iowa.....	1932	Stream-flow records of Iowa.....	Iowa State Planning Board.
Kansas....	b1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	c1924	.....do.....	Do.

## State reports containing compilation of records of discharge--Continued

State	Year ending	Report	Issued by
Kansas.....	<sup>d</sup> 1928	Surface waters of Kansas.....	Kansas State Board of Agriculture.
Do.....	<sup>e</sup> 1935	Stream-flow data of Kansas.....	Do.
Kentucky...	1920	Surface waters of Kentucky.....	Kentucky Geological Survey.
Minnesota...	1912	Water resources investigation of Minnesota.	State Drainage Commission.
Missouri...	1926	Reports of Bureau of Geology and Mines, vol. 20, 2d series, Water Resources of Missouri.	Missouri Bureau of Geology and Mines.
Nebraska...	1914	1st hydrographic report.....	Bureau of Water Power, Irrigation and Drainage.
Do.....	<sup>f</sup> 1928	2d hydrographic report.....	Do.
New Jersey.	1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	<sup>g</sup> 1934	Special Report 5, Surface water supply of New Jersey.	State Water Policy Commission.
New Mexico.	1925	Surface water supply of New Mexico...	Office of the State Engineer.
North Carolina.	1923	Bull. 34, Discharge records of North Carolina streams.	Department of Conservation and Development.
Do.....	<sup>h</sup> 1936	Bull. 39, Discharge records of North Carolina streams.	Do.
Oregon.....	1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	<sup>i</sup> 1924	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	<sup>j</sup> 1930	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	<sup>k</sup> 1936	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania	1911	Report of Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	<sup>l</sup> 1932	Stream-flow records of Pennsylvania..	Department of Forests and Waters.
Tennessee..	1924	Bull. 54, Water resources of Tennessee.	Department of Education.
Do.....	<sup>m</sup> 1930	Bull. 40, Surface waters of Tennessee	Do.
Utah.....	1905	5th Biennial Report, State Engineer..	Office of the State Engineer.
Virginia...	1927	Bull. 31, Water resources of Virginia	Conservation and Development Commission.
Washington.	1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin..	1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	<sup>n</sup> 1923	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

a Includes records for the year 1927-30.

b Includes records for the year 1895-1919.

c Includes records for the years 1919-24.

d Includes records for the years 1924-25.

e Includes records for the years 1925-26.

f Includes records for the years 1914-28.

g Includes records for the years 1928-34.

h Includes records for the years 1889-1936; records of daily and monthly discharge are not included.

i Includes records for the years 1914-24.

j Includes records for the years 1924-30.

k Includes records for the years 1930-36.

l Includes records for the years 1925-32.

m Includes average weekly discharge for the years 1920-30.

n Includes records for the year 1914-23.

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 discharges: California, Colorado, Idaho, Indiana, Missouri, Montana, Nebraska, New Mexico, New York (also New York City Board of Water Supply), North Dakota, Oregon, Pennsylvania, Utah, Washington, and Wyoming.

## RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The table on the following page contains a list of gaging stations for the area covered by this report at which records of daily discharge were collected during the water year October 1937 to September 1938 by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey.

## Records of daily discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Operated by	Remarks
Ana River.....	Below dam, about 6 miles northeast of Summer Lake, Oreg.	1929-38	Oregon State engineer.	1929-36 in Bulls. 8 and 9 of Oregon State engineer; 1937 and 1938 not published.
Centerville Creek..	Centerville, Utah, near mouth of canyon.	1937-38	Intermountain Forest & Range Experiment Station.	Unpublished.
Centerville Creek tributaries.	Near Centerville, Utah (at several gaging stations).	1937-38	....do.....	Do.
City Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1938	Salt Lake City....	(+)
Cottonwood Creek...	....do.....	1898-1938	....do.....	(+)
Deer Creek (tributary to Provo River).	Below Deer Creek Dam, Provo Canyon, Utah.	1938	Bureau of Reclamation.	Unpublished.
Emigration Creek...	Salt Lake City, Utah, near mouth of canyon.	1898-1938	Salt Lake City....	(+)
Ephraim Creek tributaries.	Near Ephraim, Utah (at two gaging stations).	1914-38	Intermountain Forest & Range Experiment Station.	Unpublished.
Farmington Creek tributaries.	Near Farmington, Utah (at several gaging stations).	1937-38	....do.....	Do.
Honey Creek.....	Near Flush, Oreg...	1910-15 1921-22 1930-38	Oregon State engineer.	1910-15, 1921-22 in Geol. Survey water-supply papers; 1930-36 in Bulls. 5, 8, and 9 of Oregon State engineer; 1937 and 1938 not published
Little Cottonwood Creek.	Salt Lake City, Utah, near mouth of canyon.	1898-1938	Salt Lake City....	(+)
Mill Creek.....	....do.....	1898-1938	....do.....	(+)
Otter Creek outlet.	Animony, Utah, (former Geological Survey gaging station published as near Coyote).	*1920-38	Sevier River water commissioner	In water commissioner's annual reports.
Parleys Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1938	Salt Lake City	(+)
Parish Creek.....	Centerville, Utah, near mouth of canyon.	1937-38	Intermountain Forest & Range Experiment Station.	Unpublished.
Parish Creek tributaries.	Near Centerville, Utah (at several gaging stations).	1937-38	....do.....	Do.
Provo River, North Fork.	At Wildwood, Provo Canyon, Utah.	1938	Bureau of Reclamation.	Unpublished.
Provo River and streams tributary to Deer Creek Reservoir area.	Near Charleston, Utah, above back-water of reservoir.	1938	....do.....	Do.
Provo River.....	Below Charleston, Utah, middle of Deer Creek Reservoir.	1938	....do.....	Do.
Do.....	Below Deer Creek Dam, Provo Canyon, Utah.	1938	....do.....	Do.
Do.....	Near Olmsted, Provo Canyon, Utah, above diversions.	1938	....do.....	Do.
Sevier River.....	Delta, Utah, former Geological Survey gaging station.	1920-38	Sevier River water commissioner.	In water commissioner's annual reports.
Strawberry tunnel outlet.	At West Portal....	1913-38	Spanish Fork Water Users' Association.	In reports of Strawberry Valley Project and of water commissioner.
Thompson Valley Reservoir.	12 miles south of Silver Lake, Oreg.	*1922-28 1930 1932-38	Oregon State engineer.	1922-28, 1930, 1932-36 in Bulls. 8 and 9 of Oregon State engineer; 1937 and 1938 not published.

\*Fragmentary.

†Records prior to 1913 published in water-supply papers of Geological Survey; those prior to 1930 published in reports of Salt Lake City; those after 1930 not published.

Note.- Records of discharge were also collected for many canals and ditches and miscellaneous and fragmentary records for several natural streams. These records are published in the reports of the projects and of the water commissioners for the following river basins: Bear, Beaver, Carson, Humboldt, Jordan, Ogden, Provo, Spanish Fork, Sevier, Truckee, Walker, and Weber.

## DIVISION OF WORK

## COOPERATION

The work in the several States was done under cooperative agreements as follows: In California, with the State Department of Public Works, Earl Lee Kelly, director, and Edward Hyatt, State engineer, and with San Bernardino and Los Angeles Counties; in Idaho, with the Department of Reclamation, R. W. Faris, commissioner; in Nevada, with the office of the State engineer, Alfred Merritt Smith; in Oregon, with the office of the State engineer, Charles E. Stricklin; in Utah, with the office of the State engineer, T. H. Humpherys; and in Wyoming, with the office of the State engineer, John D. Quinn.

Assistance in collecting records was rendered by the following organizations and corporations: In California, by the Walker River Irrigation District; in Oregon, by the U. S. Biological Survey; in Utah, by the U. S. Bureau of Reclamation, Utah Power & Light Co., and Logan, Hyde Park & Smithfield Canal Co.

Funds for the construction, repair, and improvement of gaging stations were allocated to the Geological Survey by the Federal Emergency Administration of Public Works.

## DIVISION OF WORK

The data for the stations in the several States were collected and prepared for publication under the supervision of the district engineers here named. In California (except for stations in Walker Lake Basin), H. D. McGlashan. In Idaho (except for stations on Bear River), Thomas R. Newell. In Oregon, G. H. Canfield, the work being done in collaboration with Charles E. Stricklin, State engineer. In Utah and Nevada and for stations in Walker Lake Basin in California and on Bear River in Idaho, A. B. Purton. In Wyoming, Robert Follansbee.

## GREAT SALT LAKE BASIN

## Gages on Great Salt Lake, Utah

Location.- Staff gages, lat.  $40^{\circ}46'30''$ , long.  $112^{\circ}10'20''$ , at Saltair, on southeast shore of lake, 15 miles west of Salt Lake City, and lat.  $41^{\circ}13'$ , long.  $112^{\circ}36'$ , at Midlake, on Lucin cut-off of Southern Pacific Railroad, 30 miles west of Ogden, Weber County, Utah. Zero of Saltair gage is 4,196.85 feet above mean sea level; zero of Midlake gage is 4,198.0 feet above mean sea level.

Records available.- September 1875 to December 1899, March to July 1904, and October 1912 to September 1938 in reports of Geological Survey. July 1903 to December 1934 in reports of U. S. Weather Bureau.

Extremes.- Maximum elevation during year, 4,196.5 feet June 1 at both gages; minimum, 4,194.65 feet Oct. 15 at Midlake gage and Nov. 15 at both gages.

1875-1938: Maximum elevation observed, 4,211.3 feet July 12, 1877; minimum, 4,193.75 feet Nov. 15, 1935 at Saltair gage.

Maximum elevation known, 4,212.5 feet (estimated) sometime in 1868 (year furnished by Marcus E. Jones, Salt Lake City).

Remarks.- Apparent inconsistencies in readings are probably due largely to the effect of wind, as the two gages are about 40 miles apart. Readings on Midlake gage furnished by Southern Pacific Railroad.

Gage-height, in feet, of Great Salt Lake, Utah, water year 1937-38

Day	Saltair	Midlake
Oct. 1	-1.95	-3.15
15	-2.15	-3.35
Nov. 1	-2.1	-3.25
15	-2.2	-3.35
Dec. 1	-2.1	-3.25
15	-1.95	-3.10
Jan. 1	-1.8	-2.9
15	-1.7	-2.85
Feb. 1	-1.65	-2.75
15	-1.5	-2.6
Mar. 1	-1.35	-2.5
15	-1.1	-2.25
Apr. 1	-.95	-2.1
	-.85	-2.0
May 1	-.7	-1.85
15	-.45	-1.6
June 1	-.35	-1.5
15	-.5	-1.65
July 1	-.7	-1.85
15	-.75	-1.9
Aug. 1	-.95	-2.1
15	-1.2	-2.35
Sept. 1	-1.45	-2.6
15	-1.7	-2.85

## Bear River near Evanston, Wyo.

Location.- Water-stage recorder, lat. 41°19', long. 111°01', in sec. 1, T. 15 N., R. 121 W., 300 feet upstream from highway bridge and  $\frac{3}{4}$  miles northwest of Evanston.

Drainage area.- 645 square miles.

Records available.- October 1913 to September 1938.

Average discharge.- 25 years, 241 second-feet.

Extremes.- Maximum discharge during year, 1,970 second-feet May 30 (gage height, 5.32 feet); minimum daily discharge, 5.4 second-feet Aug. 23-25.

1913-38: Maximum discharge, 3,690 second-feet June 14, 1921 (gage height, 6.35 feet); no flow during some periods in 1924, 1931, 1933, 1934.

Remarks.- Records excellent except those for periods of ice effect, Nov. 18-22, Nov. 29 to Mar. 3, which were computed on basis of two discharge measurements and weather records and are fair. Some diversions for irrigation above station.

Rating table, water year 1937-38 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used July 3 to Sept. 30)

0.8	5.8	1.3	53	2.6	370
.9	11	1.6	104	4.4	1,180
1.0	17	1.9	168	5.0	1,590
1.1	26	2.3	272	5.2	1,800

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	36	18	33	32	150	159	707	1,400	338	27	38
2	13	38	22	34	34	145	154	905	1,440	299	23	53
3	12	35	24	34	36	160	152	820	1,470	239	17	61
4	10	34	27	34	40	161	175	752	1,460	210	17	46
5	10	34	30	34	42	145	348	698	1,450	205	14	35
6	10	30	33	31	44	128	312	653	1,500	210	13	26
7	12	27	30	32	48	118	185	608	1,280	205	13	24
8	12	27	28	34	46	118	185	563	1,090	156	12	19
9	12	23	28	34	47	120	192	518	1,050	124	14	23
10	9.4	26	30	42	48	128	236	485	1,010	93	20	30
11	9.4	30	32	34	43	141	234	446	936	61	20	31
12	9.4	30	32	30	40	210	318	455	896	49	18	46
13	10	29	30	32	40	205	500	446	810	22	16	46
14	11	29	30	35	40	139	626	468	712	14	17	38
15	12	31	30	36	37	104	482	581	581	52	18	26
16	18	29	31	38	34	100	694	1,140	572	46	18	22
17	29	29	32	37	32	137	978	1,690	612	39	17	22
18	69	23	32	35	37	110	1,100	1,480	665	36	16	22
19	71	24	32	33	42	100	1,260	1,110	716	27	16	19
20	49	28	32	35	44	130	918	900	554	22	13	16
21	38	29	30	37	46	152	698	756	486	17	12	13
22	36	28	28	40	48	161	734	694	491	12	7.9	13
23	38	28	29	38	60	168	851	698	464	10	5.4	10
24	42	29	27	37	72	168	684	761	464	9.4	5.4	12
25	42	30	30	38	76	145	644	842	378	5.4	5.4	12
26												
28	43	28	32	42	80	141	666	1,020	345	6.8	5.8	12
27	42	27	34	45	90	145	644	1,250	318	8.4	10	12
28	39	28	32	44	120	192	590	1,450	324	14	13	12
29	35	29	34	31	-	156	576	1,570	378	13	18	11
30	35	17	38	28	-	163	594	1,480	390	19	27	11
31	36	-	36	30	-	161	-	1,310	-	26	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	924.2	71	9.4	26.6	1,630
November.....	865	38	17	28.8	1,720
December.....	933	38	18	30.1	1,850
Calendar year 1937.....	74,262.4	2,400	.3	203	147,300
January.....	1,101	45	28	35.5	2,180
February.....	1,398	120	32	49.9	2,770
March.....	4,481	210	100	145	8,890
April.....	15,779	1,250	152	526	31,300
May.....	27,206	1,690	446	978	53,960
June.....	24,243	1,500	318	908	49,090
July.....	2,591.0	338	6.8	83.6	5,140
August.....	473.9	27	5.4	15.3	940
September.....	761	61	10	25.4	1,510
Water year 1937-38.....	80,656.1	1,690	5.4	221	160,000

Peak discharge.- Apr. 19 (10:30 p.m.) 1,940 sec.-ft.; May 30 (10 a.m.) 1,970 sec.-ft.; June 6 (9 p.m.) 1,720 sec.-ft.



## Bear River at Border, Wyo.

Location.- Water-stage recorder, lat. 42°11', long. 111°03', in sec. 15, T. 14 S., R. 46 E., in Idaho, a quarter of a mile west of Wyoming State line and half a mile west of Border.

Drainage area.- 2,490 square miles.

Records available. - October 1937 to September 1938.

Extremes.- Maximum discharge during year, 1,780 second-feet May 19, 23 (gage height, 6.22 feet); minimum daily discharge, 100 second-feet Nov. 30.

Remarks.- Records excellent except those for periods of ice effect, Nov. 30, Dec. 1-4, 9-13, Dec. 18 to Mar. 11, which were computed on basis of two discharge measurements and weather records and are fair.

Rating table, water year 1937-38 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.2	93	2.5	322
1.4	115	3.0	480
1.6	144	4.0	860
2.0	218	6.5	1,900

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	171	130	155	120	155	358	1,560	1,550	621	187	189
2	111	169	140	160	125	160	315	1,570	1,570	518	178	194
3	109	167	160	160	130	160	313	1,610	1,580	514	167	202
4	111	162	175	150	140	165	367	1,570	1,570	514	164	228
5	111	167	178	135	150	165	466	1,570	1,550	507	158	240
6	111	173	185	120	160	170	564	1,560	1,560	499	155	212
7	111	180	193	120	170	170	529	1,530	1,530	491	149	208
8	110	180	187	127	170	170	507	1,550	1,520	451	149	200
9	111	175	165	140	170	120	529	1,280	1,490	537	148	212
10	118	178	168	158	174	190	541	1,180	1,460	526	140	230
11	126	175	175	130	160	205	548	1,080	1,430	451	136	226
12	126	171	185	115	145	218	567	1,040	1,350	405	134	238
13	129	173	185	120	145	232	640	1,060	1,280	341	134	226
14	130	171	185	130	145	282	704	1,080	1,190	332	132	214
15	140	173	187	135	135	291	735	1,060	1,110	329	129	202
16	149	171	184	140	125	318	845	1,080	1,050	332	129	194
17	162	173	178	140	120	433	940	1,270	1,010	339	129	187
18	182	182	175	130	125	415	1,090	1,550	952	318	130	184
19	182	176	160	125	125	398	1,220	1,770	888	304	129	184
20	175	175	145	130	130	529	1,430	1,720	822	291	129	191
21	171	189	135	140	135	602	1,540	1,720	765	268	126	184
22	167	193	130	150	140	632	1,540	1,740	605	248	125	176
23	167	182	125	140	145	640	1,580	1,760	564	236	123	176
24	166	178	120	140	145	681	1,600	1,750	585	228	122	175
25	162	173	120	140	160	609	1,550	1,630	579	238	126	175
26	160	184	130	150	150	571	1,570	1,460	529	214	132	169
27	160	167	135	170	150	533	1,470	1,370	510	202	132	165
28	166	173	140	160	150	533	1,430	1,380	473	200	134	162
29	167	167	145	115	-	462	1,460	1,420	462	193	134	162
30	167	100	140	105	-	398	1,510	1,610	469	189	144	164
31	167	-	145	110	-	364	-	1,540	-	191	162	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				4,437	182	109	143	8,800				
November.....				5,165	193	100	172	10,240				
December.....				4,902	193	120	158	9,720				
Calendar year .....												
January.....				4,237	170	105	137	8,400				
February.....				4,029	174	120	144	7,990				
March.....				11,051	681	155	356	21,880				
April.....				28,458	1,600	313	949	56,450				
May.....				44,720	1,770	1,040	1,445	89,700				
June.....				32,001	1,580	462	1,067	63,470				
July.....				11,027	621	189	356	21,870				
August.....				4,366	187	122	141	8,660				
September.....				5,870	240	162	196	11,640				
Water year 1937-38.....				160,243	1,770	100	439	317,800				

Peak discharge.- Mar. 23 (3 p.m.) 737 sec.-ft.; July 9 (6:30 p.m.) 628 sec.-ft.

## BEAR RIVER BASIN

## Bear River at Harer, Idaho

Location.- Water-stage recorder, lat. 42°11'50", long. 111°10'05", in NW¼ sec. 23, T. 14 S., R. 45 E., 400 feet downstream from Sheep Creek, three-quarters of a mile north of Harer siding on Oregon Short Line Railroad, and 5 miles east of Dingle.

Drainage area.- 2,780 square miles.

Records available.- June 1913 to September 1916, January 1919 to September 1938.

Average discharge.- 22 years, 539 second-feet.

Extremes.- Maximum daily discharge during year, 2,080 second-feet May 20; minimum daily, 131 second-feet Oct. 1.  
1913-16, 1919-38: Maximum discharge, 3,860 second-feet June 2, 1920 (gage height, 10.51 feet); minimum daily discharge, 26 second-feet Aug. 21-27, 1934.

Remarks.- Records good except those for periods of ice effect, Nov. 27 to Dec. 10, Dec. 18 to Mar. 10, which were computed on basis of two discharge measurements and unpublished records at Stewart Dam. Many diversions for irrigation above station. Records collected by Utah Power & Light Co., under general supervision of U. S. Geological Survey, in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	131	209	165	190	180	205	493	1,830	1,700	601	250	232
2	133	209	155	190	185	220	472	1,890	1,720	624	244	256
3	133	209	180	185	185	220	434	1,990	1,740	586	235	269
4	135	206	195	185	190	230	462	1,950	1,750	594	226	272
5	135	204	200	180	190	240	558	1,930	1,700	590	220	308
6	135	209	205	180	190	250	658	1,920	1,690	576	214	301
7	137	219	215	180	185	260	674	1,860	1,690	579	208	279
8	139	222	180	180	195	270	655	1,720	1,660	565	205	272
9	139	222	185	180	190	275	658	1,560	1,640	543	211	276
10	142	217	225	180	200	280	693	1,450	1,550	658	208	276
11	142	217	230	185	200	287	708	1,360	1,540	579	202	285
12	144	217	244	190	195	279	727	1,260	1,470	543	196	301
13	146	214	277	195	195	285	769	1,250	1,380	496	190	295
14	183	214	245	190	190	340	824	1,250	1,310	451	178	285
15	196	214	247	190	190	377	864	1,290	1,210	448	178	272
16	191	214	250	190	195	421	976	1,270	1,130	445	178	263
17	217	214	244	195	200	514	1,060	1,390	1,080	441	181	256
18	219	217	225	190	195	510	1,170	1,610	1,020	434	181	247
19	219	217	210	185	195	504	1,300	1,980	960	414	181	244
20	219	217	200	180	195	565	1,470	2,080	896	404	181	244
21	219	225	185	180	195	662	1,650	2,040	868	380	181	247
22	219	233	180	180	195	651	1,720	2,040	772	363	175	244
23	215	233	180	180	200	689	1,740	2,060	645	343	175	241
24	212	219	190	174	205	733	1,800	2,060	639	320	172	238
25	208	217	175	175	205	689	1,790	1,980	651	311	166	238
26	204	212	175	175	200	655	1,770	1,800	624	311	172	235
27	204	210	175	175	195	651	1,800	1,620	598	288	172	229
28	201	220	175	175	195	639	1,700	1,550	576	279	172	226
29	204	225	180	175	-	598	1,720	1,570	565	269	172	223
30	204	185	180	180	-	561	1,760	1,630	550	260	190	223
31	206	-	185	180	-	522	-	1,700	-	253	208	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	5,531	219	131	178	10,970
November.....	6,460	233	185	215	12,810
December.....	6,247	277	155	202	12,590
Calendar year 1937.....	166,800	2,190	124	457	330,800
January.....	5,669	195	174	183	11,240
February.....	5,420	205	180	194	10,750
March.....	13,587	738	205	438	26,950
April.....	33,075	1,800	434	1,102	65,600
May.....	52,900	2,080	1,250	1,706	104,900
June.....	35,302	1,740	550	1,177	70,020
July.....	13,948	658	253	450	27,670
August.....	6,022	250	166	194	11,940
September.....	7,777	308	223	259	15,430
Water year 1937-38.....	191,938	2,080	131	526	380,700

## Bear River at Alexander, Idaho

Location.- Water-stage recorder, lat.  $42^{\circ}39'$ , long.  $111^{\circ}42'$ , in NW $\frac{1}{4}$  sec. 17, T. 9 S., R. 41 E., 600 feet downstream from Soda hydroelectric plant of Utah Power & Light Co., half a mile southeast of Alexander, and 5 miles downstream from Soia Creek.

Drainage area.- 3,840 square miles.

Records available.- March 1911 to September 1916, April 1919 to September 1938.

Average discharge.- 23 years (1911-16, 1919-20, 1921-38), 809 second-feet.

Extremes.- Maximum daily discharge during year, 1,040 second-feet May 18; minimum daily, 46 second-feet Feb. 6.

1911-16, 1919-38: Maximum discharge, 4,590 second-feet May 9, 1922; maximum gage height, 15.95 feet Dec. 11, 1919; minimum discharge, about 28 second-feet at times when reservoir gates are closed.

Remarks.- Records good. Discharge for periods of missing gage heights, Jan. 20-26, Aug. 3-7, 14-17, 19-31, Sept. 4-7, 10-19, computed on basis of output of hydroelectric plant. Many diversions for irrigation above station. Regulation caused by storage in Bear Lake Reservoir and operations at Soda hydroelectric plant. Records collected by Utah Power & Light Co. under general supervision of U. S. Geological Survey in connection with a Federal Power Commission project.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	253	228	145	239	440	390	824	592	638	657	662
2	204	457	128	62	363	442	338	904	536	612	815	689
3	133	152	161	196	360	334	271	988	493	579	750	541
4	248	184	209	218	218	418	155	937	505	493	630	330
5	199	144	280	282	155	120	189	816	523	464	680	260
6	236	142	232	257	46	240	219	757	631	458	590	640
7	171	62	225	258	214	249	222	728	690	499	320	700
8	104	230	221	225	215	184	215	678	703	497	697	702
9	152	233	192	172	212	232	309	658	584	511	614	628
10	155	239	229	175	220	346	529	665	657	511	628	700
11	240	161	409	204	274	372	586	624	679	517	629	410
12	238	308	272	227	289	293	757	579	617	517	643	670
13	296	225	429	153	88	232	801	586	680	511	588	690
14	179	77	473	133	347	335	854	592	688	678	420	720
15	215	198	449	169	353	323	887	592	666	701	650	640
16	216	245	306	47	345	321	904	644	666	511	640	700
17	287	246	327	254	385	288	904	854	627	517	650	560
18	317	175	232	207	394	337	870	1,040	542	476	637	340
19	329	259	276	210	333	233	839	1,000	529	697	640	730
20	286	188	353	220	216	205	862	945	627	736	470	698
21	326	107	281	180	360	330	839	962	651	792	400	668
22	343	225	244	135	282	337	887	832	589	853	640	651
23	360	229	246	135	370	362	928	742	567	709	680	619
24	275	303	107	260	565	487	962	832	586	523	670	558
25	466	79	62	220	523	854	904	824	548	517	700	328
26	462	254	149	180	310	847	912	720	567	809	680	713
27	442	333	362	190	181	816	945	672	586	640	620	513
28	274	123	317	179	374	824	954	779	586	613	470	502
29	229	329	273	226	-	862	895	801	567	532	660	242
30	168	261	229	110	-	859	832	794	586	473	660	285
31	68	-	104	279	-	626	-	692	-	333	570	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	7,772	466	68	251	15,420
November.....	6,381	437	62	213	12,660
December.....	7,995	473	62	258	15,860
Calendar year 1937.....	152,874	1,070	54	419	303,200
January.....	5,908	282	47	191	11,720
February.....	8,236	565	46	294	16,340
March.....	13,128	862	120	423	26,040
April.....	20,159	962	155	672	39,980
May.....	24,061	1,040	579	776	47,720
June.....	18,068	703	493	602	35,840
July.....	17,917	853	333	578	35,540
August.....	19,098	815	320	616	37,880
September.....	17,029	730	242	568	33,780
Water year 1937-38.....	165,752	1,040	46	454	328,800

## Bear River near Weston, Idaho

Location.- Water-stage recorder, lat. 42°01'50", long. 110°55'15", in SW¼SE¼ sec. 17, T. 16 S., R. 39 E., at Weston-Fairview highway bridge, 3 miles east of Weston.

Records available.- October 1919 to December 1932 and February 1934 to September 1938. October 1889 to January 1917 at site near Preston, Idaho; records equivalent.

Average discharge.- 17 years (1919-32, 1934-38), 973 second-feet.

Extremes.- Maximum daily discharge during year, 1,850 second-feet Apr. 26, 27, May 1; minimum daily, 42 second-feet Oct. 3.

1919-32, 1934-38: Maximum discharge, 6,100 second-feet May 8 or 9, 1922 (gage height, 12.1 feet, from floodmarks), from rating curve extended above 4,000 second-feet; minimum daily discharge, 30 second-feet Apr. 29, 1934, and June 27, 1937.

Remarks.- Records fair. Discharge for periods of missing gage heights, Dec. 24-26, May 11-13, computed on basis of unpublished records for station at Onelda. West Cache canal and many irrigation ditches divert above station. Regulation caused by storage in Bear Lake Reservoir and operation of power plants above station. Records furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	214	392	461	289	435	567	1,120	1,850	1,000	232	398	355
2	70	567	331	265	682	519	777	1,800	819	246	446	267
3	42	447	533	380	676	637	704	1,680	732	358	385	282
4	85	567	338	341	424	830	668	1,630	534	492	474	309
5	472	403	561	483	477	630	597	1,400	446	444	546	278
6	410	526	431	406	293	519	480	1,370	474	390	377	294
7	375	367	396	427	446	427	472	1,230	693	382	452	331
8	382	193	512	546	546	504	458	1,140	435	411	271	377
9	181	396	478	419	432	510	501	1,000	438	329	444	498
10	481	354	512	367	546	495	597	1,250	543	293	452	463
11	181	437	540	300	513	561	752	850	390	334	460	313
12	416	564	906	430	534	742	972	775	375	278	522	289
13	561	324	969	466	416	668	1,180	885	421	268	507	555
14	396	490	801	427	452	905	1,810	710	449	446	424	728
15	416	307	700	377	654	621	1,680	784	377	466	341	570
16	416	454	798	498	690	654	1,480	763	338	295	362	441
17	434	561	745	403	714	840	1,530	948	441	262	416	273
18	630	526	619	513	570	988	1,560	1,250	360	276	427	388
19	688	756	633	534	543	707	1,660	1,490	341	579	393	612
20	577	490	745	385	561	766	1,750	1,660	367	416	414	336
21	692	454	422	311	721	606	1,770	1,410	365	458	472	282
22	285	342	561	393	579	637	1,750	1,300	511	332	276	483
23	752	413	594	377	549	765	1,750	1,050	265	240	382	549
24	734	552	540	341	634	798	1,800	936	220	242	679	477
25	776	487	290	446	441	552	1,840	916	200	224	848	585
26	555	416	370	472	1,170	1,000	1,850	972	254	234	766	278
27	703	502	574	430	579	752	1,850	1,170	334	306	770	375
28	689	552	564	406	224	1,140	1,780	1,130	250	406	570	552
29	546	584	661	424	-	1,280	1,710	980	273	385	463	348
30	450	454	686	346	-	948	1,620	952	252	388	469	398
31	403	-	584	419	-	1,070	-	944	-	287	411	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	14,022					776	42	452	27,610			
November.....	13,867					756	193	462	27,500			
December.....	17,855					969	290	576	35,410			
Calendar year 1937.....	221,139					1,590	30	606	438,600			
January.....	12,621					546	265	407	25,030			
February.....	15,451					1,170	224	553	30,710			
March.....	22,936					1,280	427	740	45,400			
April.....	38,448					1,850	458	1,282	76,260			
May.....	36,225					1,850	710	1,169	71,850			
June.....	12,697					1,000	200	423	25,180			
July.....	10,739					579	224	346	21,300			
August.....	14,597					848	271	471	28,950			
September.....	12,306					728	267	410	24,410			
Water year 1937-38.....	221,794					1,850	42	606	439,900			

## Bear River near Collinston, Utah

Location.- Water-stage recorder, lat. 41°49', long. 112°04', in W $\frac{1}{2}$  sec. 34, T. 13 N., R. 2 W., at Wheelon railroad siding, 1 mile downstream from Cutler plant of Utah Power & Light Co. and 4 miles north of Collinston.

Drainage area.- 6,000 square miles.

Records available.- July 1889 to September 1938.

Average discharge.- 48 years (1889-1905, 1906-38), 1,795 second-feet.

Extremes.- Maximum discharge during year, 5,520 second-feet Apr. 28 (gage height, 5.10 feet); minimum daily discharge, 16 second-feet on several days.  
1889-1938: Maximum discharge observed, 11,600 second-feet June 7-10, 1909 (gage height, 7.70 feet); practically no flow at midnight Aug. 5, 1920 (gage height, 0.42 foot).

Remarks.- Records good. Discharge for periods of missing gage heights, Oct. 16-18, 31, Nov. 1, Apr. 18, 19, computed on basis of output of power plant. Many canals divert above station. Flow regulated by storage in reservoirs and operation of power plants above station. Water-stage recorder graph and several discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	890	906	586	514	1,140	1,290	1,250	4,440	1,950	714	18	16
2	1,250	632	760	81	1,410	925	645	4,350	2,070	397	18	16
3	207	726	891	578	1,830	1,510	805	4,240	1,830	633	18	16
4	868	532	317	815	1,360	1,770	1,280	3,930	1,670	1,630	18	16
5	687	800	1,230	1,580	887	2,210	2,000	4,000	608	903	18	16
6	558	938	1,250	1,420	554	1,800	1,800	3,630	735	1,410	18	16
7	348	536	893	1,380	985	1,490	1,760	3,480	954	1,310	18	16
8	224	1,030	846	1,420	1,190	1,740	1,580	2,830	1,120	886	18	20
9	358	850	844	737	926	1,950	967	2,560	570	749	18	20
10	391	524	1,170	831	923	1,530	666	2,710	730	726	18	20
11	469	716	365	713	1,340	1,210	1,940	2,140	773	114	18	25
12	441	976	783	712	1,060	1,110	2,170	2,430	389	206	18	25
13	797	465	2,030	438	1,130	500	2,760	1,870	551	303	18	25
14	579	399	2,480	1,000	1,460	1,380	2,100	1,500	678	18	18	25
15	1,040	1,210	1,920	781	1,620	1,850	2,220	582	398	16	18	27
16	550	1,200	1,870	536	1,820	2,070	3,310	1,040	49	18	16	27
17	742	537	1,310	1,210	1,850	2,200	3,370	1,930	18	18	16	27
18	1,320	1,040	829	1,310	2,180	2,400	3,290	3,270	18	18	16	30
19	1,640	1,040	1,500	1,630	1,520	2,450	3,300	3,860	18	18	16	30
20	2,040	1,040	1,740	1,060	416	1,580	3,420	4,040	16	18	16	30
21	1,130	728	1,460	1,350	1,920	2,420	3,340	4,290	16	18	16	30
22	701	985	1,190	1,030	1,790	2,640	3,410	3,860	16	18	25	30
23	853	1,230	1,480	420	1,670	2,540	3,420	2,930	251	18	18	30
24	942	1,610	250	945	1,010	2,230	3,320	1,780	271	18	18	30
25	1,240	106	16	1,240	699	2,750	3,680	2,300	269	18	18	33
26	1,270	763	757	934	886	2,920	4,360	2,140	16	18	18	33
27	1,240	1,320	1,590	971	818	1,080	4,490	2,190	16	18	18	537
28	566	747	1,310	1,390	1,740	2,610	4,800	2,390	16	18	18	781
29	744	1,260	1,040	1,400	-	2,090	4,580	1,940	16	18	18	367
30	1,280	984	1,480	470	-	1,870	4,420	2,540	545	18	18	585
31	748	-	1,340	709	-	268	-	1,730	-	18	16	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						26,013	2,040	207	839	51,600		
November.....						26,110	1,610	106	870	51,790		
December.....						35,527	2,480	16	1,146	70,470		
Calendar year 1937.....						386,117	4,670	14	1,058	765,900		
January.....						29,625	1,630	81	966	58,760		
February.....						36,134	2,180	416	1,290	71,670		
March.....						56,383	2,920	268	1,619	111,800		
April.....						79,858	4,300	205	2,662	158,400		
May.....						86,922	4,440	582	2,804	172,400		
June.....						16,577	2,070	16	553	32,880		
July.....						10,503	1,630	16	332	20,440		
August.....						651	25	16	17.8	1,090		
September.....						2,889	781	16	96.3	5,730		
Water year 1937-38.....						406,887	4,800	16	1,115	807,000		

## Logan River above State Dam, near Logan, Utah

Location.- Water-stage recorder and concrete control, lat. 41°44'40", long. 111°47'00", in NE¼ sec. 36, T. 12 N., R. 1 E., at Logan plant of Utah Power & Light Co., 125 feet upstream from tailrace, half a mile upstream from State Dam, and 2½ miles east of Logan. Concrete control raised 1.10 feet and datum of gage raised 2.03 feet on Aug. 15, 1938.

Drainage area.- 218 square miles.

Records available.- May 1913 to September 1938. June 1896 to December 1912 at site a quarter of a mile downstream; flow at present site plus that of tailrace equivalent to flow at former site.

Average discharge.- 25 years (1913-38), 122 second-feet.

Extremes.- Maximum discharge during year, 910 second-feet May 17 (gage height, 4.97 feet); minimum daily discharge, 8 second-feet for several days during year.

1913-38: Maximum discharge 2,000 second-feet (estimated) Mar. 21, 1916 (gage height, 5.6 feet); minimum daily discharge, 8 second-feet for several days in 1931 and in period 1934-38.

Remarks.- Records poor except those above 100 second-feet and those for period after concrete control was raised, Aug. 15-Sept. 30, which are good. Water diverted from river and springs above station for power, irrigation, and municipal supply. Flow regulated by operation of power plants above station. Water-stage recorder graph and results of several discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	9	9	18	9	9	20	494	687	144	29	*14
2	8	9	8	19	9	11	19	422	657	164	25	*15
3	8	9	9	21	9	23	22	356	667	169	24	16
4	8	9	9	20	9	19	23	296	662	157	21	15
5	9	8	9	14	9	14	33	266	649	142	18	15
6	9	8	8	16	8	13	100	235	644	129	17	14
7	9	9	9	16	8	9	102	208	622	125	26	14
8	9	9	10	14	9	8	89	182	590	123	17	14
9	9	9	11	17	8	8	36	171	570	93	17	14
10	11	9	13	16	9	9	42	171	538	84	17	14
11	9	9	19	20	8	15	33	205	482	96	17	15
12	9	9	71	16	8	20	27	300	458	89	*17	15
13	9	9	45	17	8	22	48	411	419	59	*16	16
14	9	8	31	16	9	29	42	530	385	60	*16	15
15	12	8	28	17	8	26	40	562	356	52	16	29
16	10	9	27	20	8	25	82	740	342	52	16	20
17	15	9	27	21	9	34	100	815	325	46	15	14
18	14	9	28	19	8	36	266	735	315	48	15	14
19	12	12	22	15	8	35	478	590	300	48	14	15
20	10	14	24	9	9	36	502	510	272	48	16	14
21	9	23	18	9	9	41	486	482	278	44	14	13
22	9	14	20	10	9	31	546	470	309	41	14	13
23	8	13	22	10	9	31	502	490	224	55	15	13
24	8	11	18	9	9	31	422	534	208	41	16	14
25	8	10	18	9	9	22	474	578	190	35	16	15
26	8	10	18	9	9	19	422	657	182	39	21	14
27	8	9	17	9	9	20	329	707	171	39	24	14
28	8	9	17	9	9	26	332	745	157	35	16	14
29	8	9	17	11	-	24	454	750	150	32	16	13
30	9	9	17	9	-	18	502	689	153	27	14	16
31	9	-	17	9	-	18	-	671	-	25	*14	-
Month						Second-foot-days	Maximum	Minimum	Near	Run-off in acre-feet		
October.....						287	14	8	9.3	569		
November.....						298	23	8	9.9	521		
December.....						616	71	8	19.9	1,220		
Calendar year 1937.....						24,898	550	8	68.2	49,580		
January.....						446	21	9	14.4	885		
February.....						241	9	8	8.6	478		
March.....						682	41	8	22.0	1,560		
April.....						6,553	546	19	21.8	13,000		
May.....						14,961	815	171	48.3	29,670		
June.....						11,943	667	150	39.8	23,890		
July.....						2,341	169	25	75.5	4,640		
August.....						548	29	14	17.7	1,090		
September.....						446	29	13	14.9	886		
Water year 1937-38.....						39,362	815	8	108	78,070		

\*Gage height missing; discharge interpolated.

## Utah Power &amp; Light Co.'s tailrace near Logan, Utah

Location.- Water-stage recorder and wooden control, lat. 41°44'40", long. 111°47'00", in NE $\frac{1}{4}$  sec. 36, T. 12 N., R. 1 E., 100 feet downstream from power house of Utah Power & Light Co. and  $2\frac{1}{2}$  miles east of Logan.

Records available.- May 1913 to September 1938.

Average discharge.- 25 years, 103 second-feet.

Remarks.- Records good. Gage read twice daily during period when recorder clock was not running, Oct. 8 to Dec. 20. Discharge for days of missing gage heights, Aug. 31, Sept. 1, 6, interpolated. Flow regulated by operation of power plant above station. Water diverted by power canal from right bank of Logan River in SE $\frac{1}{4}$  sec. 29, T. 12 N., R. 2 E. and returned to that river 125 feet downstream from station above State dam. Water-stage recorder graph and results of several discharge measurements furnished by Utah Power & Light Co.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	115	102	90	91	88	92	174	171	171	171	145
2	106	119	100	90	91	92	92	174	171	170	171	145
3	106	115	103	90	90	92	92	174	171	170	171	144
4	107	114	102	90	90	92	92	173	171	170	173	141
5	110	114	104	90	90	92	80	173	171	170	173	132
6	112	114	95	90	90	92	2	173	170	170	173	130
7	110	114	90	90	90	92	1	173	171	171	173	128
8	114	114	90	90	90	92	27	173	170	170	171	126
9	113	114	90	92	90	92	92	173	168	168	173	128
10	123	114	90	89	90	92	92	173	167	168	171	127
11	124	113	90	90	90	92	126	173	167	171	170	127
12	114	114	92	89	90	92	159	173	166	171	170	128
13	114	112	90	89	89	92	168	173	167	171	166	124
14	112	110	90	90	89	92	174	173	167	171	166	126
15	124	113	90	90	88	92	174	171	167	170	167	108
16	130	112	90	95	88	92	174	173	167	170	167	115
17	130	104	90	90	90	92	174	173	168	170	163	123
18	148	107	90	89	86	92	59	173	170	170	161	123
19	134	112	92	90	83	92	2	173	170	170	160	123
20	135	112	90	90	87	92	2	173	170	170	161	122
21	130	135	90	87	89	92	2	173	170	170	159	119
22	130	128	90	87	89	92	2	173	168	170	156	120
23	127	109	90	90	90	92	105	173	170	170	152	119
24	124	117	90	90	90	92	173	173	167	170	153	119
25	122	110	90	90	89	92	173	173	168	168	150	118
26	117	112	90	86	88	92	171	173	168	170	149	120
27	117	112	90	80	87	92	173	173	168	168	149	113
28	117	109	90	83	87	92	173	171	168	173	148	114
29	119	109	90	89	-	92	171	171	171	173	144	113
30	117	109	90	91	-	92	173	171	171	173	145	108
31	119	-	90	92	-	92	-	171	-	171	145	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,708	148	103	120	7,350		
November.....						3,406	135	104	114	6,760		
December.....						2,860	104	90	92.3	5,670		
Calendar year 1937.....						45,906	178	58	126	91,060		
January.....						2,768	95	80	89.3	5,490		
February.....						2,491	91	83	89.0	4,940		
March.....						2,848	92	88	91.9	5,650		
April.....						3,190	174	1	106	6,330		
May.....						5,556	174	171	173	10,620		
June.....						5,069	171	166	169	10,050		
July.....						5,278	173	168	170	10,470		
August.....						5,021	173	144	162	9,960		
September.....						3,728	145	108	124	7,390		
Water year 1937-38.....						45,723	174	1	125	90,680		

Logan, Hyde Park & Smithfield canal near Logan, Utah

Location.- Water-stage recorder and concrete rating flume, lat. 41°44'45", long. 111°47'05", in SE¼ sec. 25, T. 12 N., R. 1 E., 1¼ miles below head of canal and 2¼ miles east of Logan.

Records available.- June 1904 to December 1907, January 1909 to September 1938.

Average discharge.- 15 years (1923-38), 30.3 second-feet.

Remarks.- Records good except those for periods of missing gage heights, Oct. 16-22, Nov. 1 to Dec. 30, Jan. 1, 2, 4, 23-31, Feb. 1 to Apr. 15, May 3-18, 18, which were computed on basis of observer's notes of gate changes at the head of canal and are fair. No diversions above gage. Flow regulated by head gates at diversion works. Canal diverts water from Logan River in NE¼ sec. 31, T. 12 N., R. 2 E., for irrigation and domestic supply in territory north of Logan. Results of several discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	28	6	5	5	6	6	6	17	122	108	47	37			
2	28	6	5	5	6	6	4	17	123	88	46	36			
3	28	6	5	5	6	6	1	17	125	72	47	36			
4	28	6	5	5	6	6	1	17	125	71	47	36			
5	26	6	5	5	6	6	1	17	124	70	46	36			
6	23	6	5	6	6	6	1	17	122	70	44	36			
7	23	6	5	6	6	6	1	17	123	70	44	36			
8	23	6	5	6	6	6	1	17	124	76	46	36			
9	23	6	5	6	6	1	6	17	122	88	46	36			
10	17	6	5	6	6	1	6	17	120	90	45	36			
11	12	6	5	6	6	1	6	17	117	90	45	35			
12	16	6	5	6	6	1	6	17	115	89	45	35			
13	16	6	5	6	6	4	6	17	117	87	41	35			
14	14	6	5	6	6	6	6	17	114	86	39	32			
15	9	6	5	5	6	6	6	2	17	108	86	40			
16	9	6	5	6	6	6	4	40	104	85	39	32			
17	8	6	5	6	6	6	4	66	104	86	39	32			
18	8	6	5	6	6	6	4	50	109	78	38	31			
19	8	6	5	6	6	6	3	28	108	73	38	31			
20	8	6	5	6	6	6	2	55	106	70	38	31			
21	7	6	5	6	6	6	2	58	103	69	38	31			
22	7	6	5	6	6	6	1	58	96	67	38	31			
23	7	6	5	6	6	6	6	80	114	63	37	31			
24	7	6	5	6	6	6	13	92	113	64	36	30			
25	7	6	5	6	6	6	16	101	112	64	37	30			
26	7	6	5	6	6	4	17	109	112	56	38	30			
27	7	6	5	6	6	1	17	115	111	53	38	30			
28	7	6	5	6	6	1	17	120	112	52	37	30			
29	7	6	5	6	-	1	17	122	112	52	37	30			
30	7	6	5	6	-	4	17	121	110	50	37	29			
31	6	-	5	6	-	6	-	121	-	50	37	-			
Month						Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....						431		28		6		13.9		855	
November.....						180		6		6		6.0		357	
December.....						155		5		5		5.0		307	
Calendar year 1937.....						10,948		126		0		30.0		21,720	
January.....						180		6		5		6.0		357	
February.....						143		6		1		5.1		284	
March.....						167		6		1		5.4		331	
April.....						164		17		1		5.5		325	
May.....						1,591		122		17		51.3		3,160	
June.....						3,427		125		96		114		6,800	
July.....						2,273		108		50		73.3		4,510	
August.....						1,272		47		37		41.0		2,520	
September.....						988		37		29		32.9		1,960	
Water year 1937-38.....						10,971		125		1		30.1		21,770	



Blacksmith Fork above Utah Power & Light Co.'s dam near Hyrum, Utah

Location.- Water-stage recorder, lat. 41°37'20", long. 111°44'25", in NE¼ sec. 8, T. 10 N., R. 2 E., three-quarters of a mile above diversion dam, 3¼ miles above power plant of Utah Power & Light Co., and 6 miles east of Hyrum.

Drainage area.- 260 square miles.

Records available.- July 1900 to December 1902, November 1913 to September 1938.

Average discharge.- 24 years (1914-38), 129 second-feet.

Extremes.- Maximum discharge during year, 810 second-feet Apr. 23 (gage height, 4.53 feet); minimum daily discharge, 67 second-feet Feb. 24, 25.  
1913-38: Maximum discharge, about 1,620 second-feet May 15, 1917 (gage height, 6.5 feet, former site and datum); minimum daily discharge, 29 second-feet Jan. 3, 1935.

Remarks.- Records excellent except those for periods of missing gage heights, Nov. 5-10, Dec. 21-24, 27-31, Jan. 1, 2, 21-26, 28, Feb. 17-23 (interpolated) and Feb. 26-28, Mar. 1-9, 22-28, 30, 31, Apr. 1-11 (computed on basis of discharge records for South Fork of Ogden River near Huntsville and Logan River near Logan), which are good. No large diversions above station. Low-water flow may be affected by operation of power plant upstream. Water-stage recorder graph and results of several discharge measurements furnished by Utah Power & Light Co.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

1.2	51	2.0	154	2.8	306	4.0	626
1.4	70	2.2	188	3.0	351	4.5	800
1.6	95	2.4	225	3.3	423	5.0	980
1.8	123	2.6	264	3.6	504		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	81	76	71	69	68	80	398	197	132	103	99
2	83	80	76	71	68	72	80	367	180	130	102	99
3	83	78	76	71	69	100	80	335	185	128	101	99
4	83	78	76	71	70	90	85	296	178	126	101	96
5	85	78	75	72	70	85	100	281	171	126	101	96
6	83	78	75	71	69	82	100	254	166	126	101	95
7	83	78	75	70	68	78	95	240	164	122	99	95
8	82	78	75	69	68	78	100	227	159	120	101	95
9	81	78	76	71	68	80	110	214	157	119	106	95
10	81	78	76	71	69	82	125	206	154	116	103	92
11	81	78	76	71	69	87	135	216	152	116	102	90
12	80	78	85	70	70	102	151	240	151	116	102	90
13	80	78	81	71	70	138	168	258	151	115	101	90
14	80	78	78	70	70	126	166	283	151	113	103	91
15	86	80	77	70	70	105	174	269	149	115	103	90
16	86	80	76	76	69	105	212	326	143	112	102	90
17	88	82	77	71	69	154	234	337	143	110	101	90
18	90	85	77	71	69	123	281	333	141	109	99	90
19	85	82	76	71	68	109	428	296	140	109	96	88
20	82	86	76	70	68	123	444	264	138	105	96	90
21	81	95	76	70	68	136	418	254	135	110	96	88
22	78	87	76	70	67	130	582	240	134	108	94	88
23	82	81	75	69	67	120	610	236	132	106	92	88
24	82	81	75	69	67	115	533	236	134	109	92	85
25	81	80	75	68	67	100	513	240	132	109	95	83
26	80	78	75	68	67	95	423	238	129	108	98	83
27	80	80	75	68	67	95	362	234	128	106	102	85
28	78	78	75	68	67	100	349	227	126	106	99	87
29	82	77	74	68	-	96	374	221	130	105	102	88
30	81	77	73	68	-	95	386	212	154	105	102	87
31	81	-	72	68	-	85	-	204	-	103	103	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,551	90	78	82.3	5,060
November.....	2,406	95	77	80.2	4,770
December.....	2,356	85	72	76.0	4,670
Calendar year 1937.....	45,418	554	55	119	86,110
January.....	2,174	76	68	70.1	4,310
February.....	1,917	70	67	68.5	3,800
March.....	3,154	154	68	102	6,260
April.....	7,898	610	80	263	15,670
May.....	8,202	398	204	265	16,270
June.....	4,491	197	126	150	8,910
July.....	3,538	132	103	114	7,020
August.....	3,098	106	72	99.9	6,140
September.....	2,722	99	83	90.7	5,400
Water year 1937-38.....	44,507	610	67	122	88,280

## West Side canal near Collinston, Utah

Location.— Water-stage recorder, lat. 49°50', long. 112°04', in SW $\frac{1}{4}$  sec. 27, T. 13 N., R. 2 W., at Wheelon siding on Oregon Short Line Railroad, 4,200 feet downstream from Cutler Dam and 4 miles north of Collinston.

Records available.— June 1912 to September 1938.

Average discharge.— 26 years, 223 second-feet.

Remarks.— Records excellent except those for period when recorder was not operating, Dec. 4 to Mar. 28, which were computed on basis of four discharge measurements and scattered gage readings and are fair. Canal diverts from west side of Bear River in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 26, T. 13 N., R. 2 W., at dam at which Hammond (East Side) canal and intake of Cutler power plant also divert. Water used for irrigation in eastern Box Elder County. Water-stage recorder graph and several discharge measurements furnished by Utah Power & Light Co.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	324	108	29	12	12	18	0	116	614	136	573	594
2	343	107	28	12	12	18	0	95	626	226	577	585
3	368	107	28	12	12	18	0	91	654	159	577	569
4	367	107	28	12	12	17	0	90	656	159	577	547
5	342	107	28	12	12	16	0	91	656	157	575	520
6	319	107	28	12	12	16	0	94	654	155	573	516
7	318	107	28	13	12	16	0	105	654	156	587	513
8	297	108	28	13	12	16	0	106	650	190	613	513
9	297	107	28	13	12	15	0	109	652	237	606	516
10	296	91	28	13	11	15	0	140	650	237	590	520
11	290	67	28	13	11	15	0	183	652	262	598	522
12	282	66	20	13	11	15	0	118	650	352	616	515
13	265	66	12	13	11	15	0	258	646	491	656	515
14	231	66	12	13	11	15	0	370	610	500	674	518
15	214	66	14	13	16	15	0	442	608	528	656	522
16	194	65	14	13	20	15	0	407	575	583	620	507
17	190	65	14	13	24	15	0	300	568	618	620	489
18	165	65	14	13	29	15	0	249	581	650	620	470
19	162	65	14	13	20	15	0	257	606	684	620	466
20	143	57	12	13	19	15	0	290	626	690	620	480
21	128	52	12	13	18	15	0	361	632	690	618	456
22	128	52	12	13	18	15	0	386	644	688	620	452
23	117	52	12	13	18	15	0	442	648	660	620	461
24	109	52	12	13	18	15	0	506	658	608	618	471
25	109	52	12	13	18	15	0	522	622	606	600	477
26	109	52	12	13	18	15	0	522	626	608	594	488
27	109	52	12	12	18	15	0	549	622	588	596	482
28	109	52	12	12	18	15	6	581	612	568	592	468
29	109	52	12	12	-	-	66	602	598	569	590	468
30	109	39	12	12	-	-	109	604	56	566	592	459
31	109	-	12	12	-	-	0	608	-	560	592	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	6,652	368	109	715	13,190
November.....	2,211	108	39	73.7	4,390
December.....	567	29	12	18.3	1,120
Calendar year 1937.....	82,495	653	0	226	163,600
January.....	392	13	12	12.6	778
February.....	435	29	11	15.5	863
March.....	442	18	0	14.3	877
April.....	181	109	0	6.0	359
May.....	9,593	608	90	309	19,030
June.....	18,286	656	56	610	36,270
July.....	13,881	690	136	448	27,530
August.....	18,785	674	573	606	37,260
September.....	15,079	594	452	503	29,910
Water year 1937-38.....	86,504	690	0	237	171,600

## Hammond (East Side) canal near Collinston, Utah

Location.- Water-stage recorder, lat. 41°50', long. 112°03', in SE¼ sec. 27, T. 13 N., R. 2 W., at wheelon siding on Oregon Short Line Railroad, 3,600 feet downstream from Cutler Dam and 4 miles north of Collinston.

Records available.- June 1912 to September 1938.

Average discharge.- 19 years (1917-21, 1922-23, 1924-38), 51.0 second-feet.

Remarks.- Records excellent. Canal diverts from east side of Bear River in NW¼SW¼ sec. 26, T. 13 N., R. 2 W., at dam at which West Side canal and intake of Cutler power plant also divert. Water used for irrigation in eastern Box Elder County. Water-stage recorder graph and several discharge measurements furnished by Utah Power & Light Co.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	20					0	29	139	0	139	127
2	72	20					0	27	140	0	139	128
3	79	20					0	27	137	0	139	128
4	81	20					0	27	137	0	140	128
5	72	20					0	29	139	0	141	128
6	68	20					0	30	139	0	143	127
7	69	20					0	29	138	8	140	128
8	59	20					0	29	139	30	140	129
9	48	20					0	18	140	46	140	101
10	52	19					0	0	140	58	140	105
11	52	18					0	29	139	75	140	115
12	52	18					0	46	139	92	139	126
13	50	18					0	69	139	118	139	125
14	50	18					0	68	139	121	140	122
15	26	18					0	69	139	128	140	114
16	25	18					0	73	141	137	139	114
17	22	18					0	62	141	136	139	113
18	0	18					0	48	140	140	140	112
19	0	18					0	38	140	147	140	112
20	0	15					0	53	138	148	139	114
21	0	0					0	64	139	148	139	114
22	0	0					0	56	138	147	138	114
23	8	0					0	63	138	142	139	114
24	26	0					0	87	139	140	139	114
25	17	0					0	104	138	146	140	114
26	20	0					0	119	139	143	140	115
27	20	0					0	128	139	142	140	115
28	20	0					0	128	139	136	140	114
29	20	0					27	128	138	139	134	113
30	20	0					39	127	69	138	126	107
31	21	-					-	130	-	137	124	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,117	81	0	36.0	2,220		
November.....						376	20	0	12.5	746		
December.....						0	0	0	0	0		
Calendar year 1937.....						17,725	154	0	48.6	35,170		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						0	0	0	0	0		
April.....						94	39	0	3.1	186		
May.....						1,936	130	0	62.5	3,840		
June.....						4,098	141	137	137	8,130		
July.....						2,942	148	0	94.9	5,840		
August.....						4,295	143	124	139	8,520		
September.....						3,550	129	101	118	7,000		
Water year 1937-38.....						18,368	148	0	50.4	36,480		

## Deep Creek below First Creek, near Malad, Idaho

Location.— Staff gage and wooden control, lat. 42°14', long. 112°11', in sec. 7, T. 14 S., R. 37 E., just downstream from proposed reservoir site, 1 mile north and 3½ miles east of Malad and 12 miles upstream from confluence with Malad River.

Records available.— October 1931 to September 1938.

Extremes.— Maximum discharge observed during year, 40.8 second-feet May 1; minimum discharge, 2.3 second-feet Oct. 1 and 4.  
1932-38: Maximum discharge observed, 172 second-feet July 8, 1937, from rating curve extended logarithmically above 40 second-feet; minimum observed, 0.3 second-foot Aug. 29, 1934.

Remarks.— Records good. Small diversions above station. Flow regulated at reservoir 2½ miles upstream. Gage read once daily.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	3.6	2.7	4.3	3.4	4.9	10	40	27	16	12	2.7
2	2.5	3.4	2.6	4.6	4.0	5.2	11	39	27	15	11	3.0
3	2.5	3.2	2.7	4.8	4.3	5.5	11	37	27	12	11	2.8
4	2.3	3.1	2.8	4.4	4.6	5.0	11	38	27	11	10	2.7
5	2.6	3.2	3.0	4.3	4.9	5.5	11	35	27	11	10	2.8
6	2.5	3.1	2.8	4.2	4.8	4.8	10	34	27	10	10	2.7
7	2.7	2.6	2.7	3.9	4.6	5.2	10	32	20	11	10	2.5
8	2.8	2.5	3.0	3.7	4.4	5.4	11	33	20	11	9.5	3.0
9	3.2	2.7	3.1	3.6	4.0	5.5	11	34	21	12	9.3	2.8
10	3.4	2.6	4.6	4.2	4.3	5.8	12	32	21	12	9.1	2.7
11	3.5	2.5	4.9	3.9	4.9	7.2	12	34	21	13	8.9	3.0
12	3.7	2.7	5.2	3.9	5.5	8.2	11	32	21	13	8.9	2.8
13	3.9	2.4	4.9	4.2	3.7	9.1	12	32	22	13	8.9	3.1
14	4.0	2.6	4.6	4.0	3.5	9.5	12	32	21	13	8.7	3.2
15	4.3	2.5	4.4	3.9	3.6	8.7	13	27	16	14	5.2	3.2
16	4.4	2.6	4.3	3.7	3.4	9.1	14	29	16	14	4.8	3.2
17	4.6	2.7	4.4	3.6	3.2	9.5	17	26	17	14	4.6	3.2
18	4.3	2.8	4.3	4.0	3.5	10	20	24	14	19	14	4.3
19	4.2	2.6	4.2	4.3	3.7	11	23	26	19	14	4.0	2.7
20	4.2	2.7	4.0	4.2	3.9	13	24	27	19	14	3.9	2.7
21	3.9	2.8	4.3	4.3	4.0	11	24	26	19	14	3.7	3.0
22	4.0	2.7	4.2	4.0	3.7	11	25	26	19	14	3.6	2.7
23	4.2	2.4	4.0	3.7	3.6	11	27	27	18	13	3.4	2.7
24	3.7	2.6	4.2	3.6	3.7	12	24	29	18	13	3.5	2.7
25	3.6	2.7	4.3	3.5	3.7	13	26	30	18	13	3.4	2.7
26	3.4	2.7	4.2	3.4	4.0	10	27	32	18	14	3.2	2.8
27	3.6	2.5	4.0	3.0	4.3	11	31	27	19	13	3.1	3.0
28	3.5	2.7	4.2	3.1	4.8	10	33	27	13	13	2.8	2.8
29	3.7	3.0	4.3	3.0	-	11	35	27	16	12	2.7	2.7
30	3.6	2.8	4.3	2.8	-	11	39	25	16	12	3.0	3.0
31	3.7	-	4.4	3.1	-	11	-	25	-	12	2.8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						108.8	4.6	2.3	3.51	216		
November.....						83.0	3.6	2.4	2.77	165		
December.....						121.6	5.2	2.6	3.92	241		
Calendar year 1937.....						4,019.8	58	1.2	11.0	7,970		
January.....						119.2	4.8	2.8	3.85	236		
February.....						114.0	5.5	3.2	4.07	226		
March.....						270.1	13	4.8	8.71	536		
April.....						557	39	10	18.6	1,100		
May.....						944	40	24	37.5	1,870		
June.....						609	27	13	27.3	1,210		
July.....						400	16	10	12.9	793		
August.....						199.3	12	2.7	6.43	395		
September.....						85.6	3.2	2.5	2.85	170		
Water year 1937-38.....						3,611.6	40	2.3	9.89	7,160		

## Weber River near Oakley, Utah

Location.- Water-stage recorder, lat. 40°44'10", long. 111°14'45", in NE $\frac{1}{4}$  sec. 15, T. 1 S., R. 6 E., near mouth of canyon, 2 miles downstream from South Fork of Weber River, 3 miles northeast of Oakley, and 6 miles upstream from Beaver or Kamas Creek.

Drainage area.- 163 square miles.

Records available.- October 1904 to September 1938.

Average discharge.- 32 years (1906-38), 241 second-feet.

Extremes.- Maximum discharge during year, 2,100 second-feet June 6 (gauge height, 4.08 feet); minimum, not determined.

1904-38: Maximum discharge observed, 4,000 second-feet July 6, 1907, June 5-7, 1909; minimum discharge recorded, 26 second-feet Aug. 27, 1934, Nov. 21, 1935.

Remarks.- Records good except those for period of ice effect, Nov. 5 to Mar. 9 (computed on basis of weather records) and those for period of missing gage heights, Sept. 6-15 (interpolated), which are fair. No large diversions above gage. Flow regulated slightly by storage at headwaters in several small lakes that serve as reservoirs and small reservoir on Smith and Morehouse Creek. Total capacity of all reservoirs, about 3,200 acre-feet.

Rating tables, water year 1937-38 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to June 6					June 7 to Sept. 30				
1.1	40	2.0	209	3.0	779	1.2	60	2.2	306
1.2	50	2.2	279	3.3	1,070	1.4	85	2.4	366
1.4	76	2.4	368	3.6	1,420	1.6	122	2.6	505
1.6	110	2.6	480	4.0	1,900	1.8	171	2.8	635
1.8	154	2.8	616	4.1	2,130	2.0	232	3.0	789

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	78				55	63	671	1,300	345	145	100
2	58	82				55	60	573	1,450	310	136	97
3	57	105				65	60	486	1,690	283	129	94
4	61	86				60	65	439	1,720	264	120	90
5	62	-				60	76	410	1,720	253	116	88
6	63	-				55	69	384	1,730	246	110	87
7	63	-				55	65	359	1,420	222	108	86
8	62	-				55	66	330	1,300	206	110	85
9	61	-				55	69	313	1,260	194	134	84
10	60	-				55	75	309	1,200	180	108	83
11	61	-				55	75	313	1,100	174	100	82
12	61	-				57	84	344	1,010	168	99	81
13	60	-				61	94	410	859	168	100	80
14	60	-				61	97	566	635	186	95	79
15	81	-				60	108	834	650	171	92	78
16	82	-				61	120	1,220	709	163	88	77
17	87	-				62	145	1,200	749	155	85	75
18	106	-				62	192	970	741	145	82	72
19	86	-				63	260	770	608	145	81	71
20	76	-				65	296	632	561	148	81	70
21	76	-				66	313	559	548	145	78	71
22	76	-				60	405	526	548	148	75	71
23	76	-				63	468	532	517	138	74	69
24	78	-				61	506	624	458	134	75	68
25	78	-				58	506	762	427	134	84	67
26	78	-				62	456	1,050	401	134	95	66
27	78	68				62	439	1,310	377	136	90	66
28	76	-				65	480	1,260	372	127	92	66
29	76	63				63	545	1,410	401	114	99	67
30	76	-				58	655	1,160	372	148	99	66
31	76	-				75	-	1,200	-	150	95	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,214	106	57	71.4	4,390		
November.....						2,250	-	-	75	4,460		
December.....						1,860	-	-	60	3,690		
Calendar year 1937.....						65,303	1,530	-	179	129,500		
January.....						1,705	-	-	55	3,380		
February.....						1,540	-	-	55	3,050		
March.....						1,876	75	65	60.5	3,720		
April.....						6,912	655	60	230	13,710		
May.....						21,926	1,410	309	707	43,490		
June.....						26,863	1,730	372	396	55,280		
July.....						5,654	345	114	182	11,170		
August.....						3,075	145	74	99.2	6,100		
September.....						2,336	100	66	77.9	4,650		
Water year 1937-38.....						78,191	1,730	-	214	155,100		

Peak discharge.- May 16 (2 a.m.) 1,310 sec.-ft.; May 29 (2 a.m.) 1,760 sec.-ft.; June 6 (4 a.m.) 2,100 sec.-ft.

## Weber River near Coalville, Utah

Location.- Water-stage recorder, lat. 40°53'40", long. 111°24'00", in NE $\frac{1}{4}$  sec. 20, T. 2 N., R. 5 E., at bridge  $\frac{1}{2}$  miles upstream from high-water contour for Echo Reservoir and  $\frac{1}{2}$  miles south of Coalville.

Drainage area.- 438 square miles.

Records available.- April 1927 to September 1938.

Average discharge.- 11 years, 215 second-feet. (Average discharge for 10 years, 1927-37, as given in Water-Supply Paper 830 is in error; it has been corrected to 209 second-feet.)

Extremes.- Maximum discharge during year, 1,660 second-feet June 6 (gage height, 4.18 feet); minimum, 47 second-feet Oct. 4 (gage height, 0.43 foot).  
1927-38: Maximum discharge observed, 1,980 second-feet June 17, 1929 (gage height, 4.30 feet); minimum discharge, 6 second-feet Sept. 20, 1934 (gage height, -0.23 foot).

Remarks.- Records good except those for period of ice effect or missing gage heights, Dec. 23 to Mar. 4, which were computed on basis of records for station at Echo corrected for storage and inflow from Chalk Creek and are fair. Many diversions for irrigation above and below station. Records do not include water diverted from Weber River Basin through Weber-Provo diversion canal. Flow slightly regulated by several small reservoirs above station.

Rating table, water year 1937-38 except period of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Aug. 9 to Sept. 19)

0.4	43	1.0	138	1.6	283	2.3	549	3.5	1,910
.6	72	1.2	179	1.8	348	2.6	695	4.0	1,530
.8	105	1.4	227	2.0	422	3.0	910	4.2	1,670

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	134	103	100	100	120	179	970	1,450	188	69	124
2	54	129	115	105	100	150	164	928	1,430	171	69	127
3	50	140	117	105	105	470	214	822	1,470	146	69	129
4	49	144	112	95	105	250	328	705	1,490	131	70	124
5	51	131	106	95	105	210	426	715	1,510	124	68	115
6	64	125	113	95	100	197	311	645	1,530	133	72	105
7	63	134	118	95	110	184	235	582	1,370	127	75	105
8	63	131	113	95	120	168	246	540	1,220	113	100	105
9	64	129	108	95	130	158	277	500	1,170	103	169	106
10	64	127	129	95	140	160	331	487	1,140	98	125	100
11	66	124	156	100	150	184	317	479	1,080	92	113	103
12	69	117	249	100	150	268	331	497	1,040	75	105	115
13	74	118	222	105	135	380	331	549	928	64	103	118
14	74	113	154	105	125	321	311	685	735	75	93	112
15	146	112	140	110	115	254	334	866	572	76	92	101
16	150	110	140	110	110	274	388	1,240	526	75	87	98
17	134	127	136	105	105	442	418	1,510	504	68	82	95
18	197	154	134	100	100	280	513	1,410	526	64	75	92
19	152	150	115	95	105	251	601	1,210	462	73	68	86
20	134	173	105	95	110	298	620	938	392	76	64	82
21	124	195	105	95	110	311	625	844	341	74	60	80
22	118	160	98	105	110	240	745	784	321	70	53	76
23	117	142	106	100	115	207	844	735	289	66	55	75
24	118	140	100	90	115	195	860	772	257	66	50	74
25	124	142	105	90	115	175	882	877	217	68	60	70
26	127	138	105	90	120	227	789	1,060	197	68	68	70
27	129	122	105	90	120	331	735	1,340	190	78	68	68
28	129	125	105	90	120	338	756	1,430	179	75	80	57
29	129	125	105	100	-	210	822	1,540	214	72	90	58
30	129	112	105	100	-	168	928	1,510	210	70	117	60
31	129	-	100	100	-	173	-	1,420	-	70	129	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,149	197	49	102	6,250
November.....	4,023	195	110	134	7,980
December.....	3,823	249	98	123	7,580
Calendar year 1937.....	85,166	1,370	31	233	168,900
January.....	3,050	110	90	98.4	6,050
February.....	4,245	150	100	116	6,440
March.....	7,594	470	120	245	16,060
April.....	14,861	928	164	495	29,480
May.....	28,630	1,540	479	924	56,790
June.....	22,660	1,530	179	765	45,540
July.....	2,854	188	64	92.0	5,660
August.....	2,598	129	50	83.8	5,160
September.....	2,828	129	57	94.3	5,610
Water year 1937-38.....	99,615	1,540	49	273	197,600

## Echo Reservoir at Echo, Utah

Location.- Staff gage, lat. 40°57'50", long. 111°26'00", in NW¼SW¼ sec. 30, T. 3 N., R. 5 E., near outlet works at left end of Echo Dam, 1 mile southeast of Echo.

Records available.- October 1930 to September 1938.

Remarks.- Reservoir was constructed by Bureau of Reclamation. It was completed in 1931 and has a capacity of 74,000 acre-feet. Gage read once daily.

Capacity table (gage height, in feet, and contents, in acre-feet)

Gage height	Content	Gage height	Content	Gage height	Content
5,450	0	5,490	6,890	5,530	36,080
5,455	50	5,495	9,250	5,535	41,330
5,460	170	5,500	11,960	5,540	47,040
5,465	440	5,505	15,100	5,545	53,060
5,470	990	5,510	18,570	5,550	59,530
5,475	1,930	5,515	22,390	5,555	66,320
5,480	3,190	5,520	26,660	5,560	73,430
5,485	4,830	5,525	31,210		

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31,350	28,900	28,720	31,120	32,150	37,670	55,730	63,300	69,960	71,250	53,700	32,870
2	31,160	28,950	28,760	31,160	32,300	38,090	56,990	63,430	70,890	71,110	52,940	32,480
3	31,070	28,950	28,810	31,260	32,440	38,560	56,120	63,500	71,590	71,040	52,130	32,150
4	30,880	29,000	28,850	31,300	32,580	39,680	56,380	63,570	71,970	70,960	51,330	31,820
5	30,560	29,040	28,900	31,300	32,620	40,280	57,030	63,710	72,550	70,960	50,540	31,350
6	30,240	29,040	28,950	31,300	33,010	40,780	57,760	63,910	72,850	71,040	49,760	30,880
7	29,960	29,090	29,000	31,300	33,160	41,160	57,760	63,980	73,140	71,250	48,980	30,370
8	29,680	29,090	29,000	31,300	33,400	41,490	57,950	64,190	73,140	71,110	48,210	29,820
9	29,400	29,140	29,000	31,300	33,600	41,820	57,950	64,260	73,280	70,740	47,560	29,220
10	29,180	29,140	29,000	31,300	33,800	42,100	58,080	64,390	73,500	70,180	47,040	28,720
11	29,040	29,140	29,090	31,350	34,090	42,490	58,210	64,530	73,660	69,540	46,460	28,180
12	28,950	29,140	29,180	31,400	34,390	43,000	58,340	64,670	73,730	68,760	45,890	27,680
13	28,860	29,140	29,780	31,440	34,630	43,840	58,740	64,940	73,730	67,920	45,310	27,140
14	28,810	29,140	30,140	31,490	34,780	44,740	59,130	65,220	73,730	67,150	44,740	26,750
15	28,810	29,090	30,320	31,540	35,030	45,420	59,400	65,490	73,730	66,320	44,180	26,360
16	29,000	29,090	30,370	31,640	35,280	46,000	59,660	65,840	73,730	65,560	43,560	25,960
17	29,040	29,090	30,520	31,680	35,480	46,920	59,930	66,460	73,730	64,800	42,940	25,560
18	29,090	29,140	30,650	31,820	35,630	47,920	60,200	67,150	73,730	63,910	42,320	25,170
19	29,040	29,220	30,740	31,820	35,780	48,570	60,730	67,220	73,730	63,230	41,660	24,780
20	29,040	29,270	30,790	31,820	35,980	49,220	61,130	67,290	73,730	62,490	40,940	24,390
21	29,000	29,360	30,790	31,870	36,180	50,060	61,400	67,360	73,660	61,800	40,170	23,970
22	28,950	29,320	30,740	31,870	36,340	50,780	61,540	67,570	73,500	61,000	39,360	23,550
23	28,950	29,220	30,740	31,960	36,490	51,330	62,080	67,710	73,210	60,260	38,620	23,130
24	28,760	29,090	30,790	31,960	36,690	51,820	62,210	67,850	72,920	59,530	37,830	22,760
25	28,760	28,950	30,790	31,960	36,900	52,260	62,480	68,060	72,550	58,740	37,000	22,350
26	28,760	28,810	30,840	31,960	37,050	52,690	62,480	68,200	72,340	57,950	36,340	21,910
27	28,810	28,810	30,880	31,960	37,260	53,310	62,620	68,480	72,120	57,290	35,630	21,460
28	28,810	28,810	30,980	31,960	37,460	54,070	62,890	68,760	71,830	56,640	34,930	20,970
29	28,860	28,810	31,020	32,010	-	54,530	62,960	68,830	71,540	55,920	34,240	20,470
30	28,860	28,810	31,070	32,060	-	55,220	63,100	69,110	71,390	55,160	33,550	19,940
31	28,860	-	31,120	32,100	-	55,470	-	69,250	-	54,380	33,260	-

## Weber River at Echo, Utah

Location.- Water-stage recorder, lat. 40°58'05", long. 111°26'15", in NE¼ sec. 25, T. 5 N., R. 4 E., 600 feet above Echo Creek, 2,400 feet downstream from Echo Dam, and 3,200 feet southeast of Echo.

Drainage area.- 732 square miles.

Records available.- April 1927 to September 1938.

Average discharge.- 11 years, 271 second-feet.

Extremes.- Maximum discharge during year, 2,090 second-feet May 29-30 (gage height, 5.80 feet); minimum daily discharge, 5 second-feet Mar. 12-23  
1927-38: Maximum discharge, 2,330 second-feet May 30 and 31, 1937 (gage height, 5.83 feet); minimum daily discharge, 3 second-feet Mar. 20-28, Mar. 31 to Apr. 8, 1938.

Remarks.- Records excellent. Many diversions for irrigation above and below station. One small diversion between gage and Echo Dam. Flow regulated by Echo Reservoir (capacity, 74,000 acre-feet).

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	148	120	110	80	45	105	1,400	1,430	332	458	360
2	163	150	108	110	43	45	144	1,380	1,560	275	470	367
3	182	148	105	110	43	20	154	1,150	1,620	238	478	367
4	232	148	108	110	43	5	154	923	1,630	214	478	374
5	252	148	108	110	43	15	204	911	1,690	189	470	359
6	243	148	108	110	44	25	313	829	1,760	146	466	400
7	250	148	124	110	44	33	246	705	1,710	214	466	407
8	224	148	135	110	44	33	284	660	1,400	346	466	407
9	212	148	135	110	44	33	322	620	1,260	419	446	404
10	180	146	135	110	44	21	322	600	1,260	482	434	392
11	146	146	150	110	44	7	326	615	1,230	522	419	381
12	146	146	88	110	39	5	326	640	1,200	550	407	370
13	127	146	45	110	31	5	326	720	1,090	550	404	364
14	124	146	94	110	40	5	360	939	950	522	404	346
15	124	146	107	110	43	5	374	1,240	730	512	400	316
16	156	146	107	111	43	5	404	1,610	650	522	404	306
17	171	144	107	111	43	5	494	1,900	650	517	419	300
18	235	144	108	111	43	5	580	1,930	650	504	419	300
19	216	144	108	111	44	5	670	1,730	615	482	430	300
20	187	180	108	111	44	5	705	1,580	548	470	442	300
21	187	219	108	111	44	5	768	1,090	508	478	454	294
22	187	230	108	111	44	5	862	1,020	482	470	462	294
23	187	230	108	111	44	5	1,040	944	504	470	466	294
24	163	227	108	111	44	6	1,120	1,030	522	466	470	294
25	152	227	108	111	44	6	1,250	1,200	434	474	466	297
26	150	178	108	111	44	6	1,150	1,400	381	482	458	297
27	148	152	108	111	44	6	944	1,730	378	474	450	322
28	148	152	108	111	45	6	998	1,950	385	466	458	336
29	148	152	110	111	-	13	1,150	2,020	399	462	450	336
30	148	152	110	111	-	54	1,300	1,980	385	458	407	309
31	148	-	110	111	-	76	-	1,640	-	458	342	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	5,479					252	124	177	10,870			
November.....	4,687					230	144	163	9,690			
December.....	3,405					150	45	110	6,750			
Calendar year 1937.....	106,542					1,840	6	292	211,300			
January.....	3,426					111	110	111	6,800			
February.....	1,239					80	31	44.2	2,460			
March.....	515					76	5	16.6	1,020			
April.....	17,395					1,300	105	580	34,600			
May.....	37,886					2,020	600	1,222	75,150			
June.....	28,001					1,760	378	933	55,540			
July.....	13,124					530	146	423	26,030			
August.....	13,663					478	342	441	27,100			
September.....	10,223					407	294	341	20,280			
Water year 1937-38.....	139,243					2,020	5	331	276,200			



## Weber River at Devils Slide, Utah

Location.— Water-stage recorder, lat.  $41^{\circ}03'40''$ , long.  $111^{\circ}34'25''$ , in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 23, T. 4 N., R. 3 E., 500 feet downstream from highway underpass,  $1\frac{1}{2}$  miles downstream from Lost Creek, and  $1\frac{1}{2}$  miles west of Devils Slide.

Drainage area.— 1,100 square miles.

Records available.— February 1905 to September 1938.

Average discharge.— 33 years, 477 second-feet.

Extremes.— Maximum discharge during year, 2,120 second-feet May 17 (gage height, 5.54 feet); minimum daily discharge, 76 second-feet Feb. 13.

1905-38: Maximum discharge observed, 6,000 second-feet May 22, 1920; minimum, 18 second-feet Sept. 23, 1934.

Remarks.— Records good except those for period of missing gage heights, Jan. 11 to Feb. 10, which were computed on basis of records for stations at Echo and Gateway and are fair. Numerous diversions above station for irrigation and domestic supply. Flow regulated by storage in Echo Reservoir (capacity, 74,000 acre-feet).

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

1.3	72	2.2	242	3.3	655	5.5	2,090
1.4	84	2.4	298	3.6	820	6.0	2,450
1.6	114	2.6	362	4.0	1,070		
1.8	150	2.8	435	4.5	1,400		
2.0	193	3.0	515	5.0	1,740		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	173	178	160	137	115	101	154	1,740	1,400	397	471	397
2	167	178	139	139	92	117	186	1,710	1,480	346	479	401
3	184	178	137	139	84	198	220	1,490	1,520	292	487	412
4	234	180	139	135	84	154	247	1,230	1,500	272	491	401
5	269	178	139	140	84	114	349	1,210	1,560	253	487	408
6	261	180	139	128	84	97	447	1,110	1,520	205	483	420
7	253	180	150	137	82	103	355	968	1,510	230	483	424
8	242	180	169	139	82	104	359	890	1,340	386	487	427
9	232	180	171	142	84	101	431	878	1,220	435	479	435
10	215	180	178	142	84	106	447	848	1,210	495	463	416
11	163	180	189	142	87	92	455	878	1,190	515	451	397
12	160	182	165	142	91	160	475	974	1,150	538	431	390
13	158	182	92	140	76	256	503	1,100	1,050	535	427	383
14	152	182	128	140	78	186	538	1,300	922	520	424	380
15	146	182	144	142	83	114	546	1,530	716	507	427	346
16	165	182	146	150	84	109	605	1,780	615	507	427	346
17	200	184	144	146	83	269	732	2,060	620	511	447	332
18	256	186	148	144	84	163	862	2,080	625	511	447	329
19	264	184	140	142	84	109	1,070	1,930	610	491	455	329
20	217	220	137	144	84	139	1,130	1,560	556	471	471	329
21	215	278	139	140	83	227	1,130	1,280	524	473	487	326
22	212	289	137	142	82	112	1,320	1,180	487	471	495	326
23	215	286	140	144	82	101	1,540	1,090	507	467	503	326
24	195	286	142	142	83	92	1,600	1,100	515	467	507	323
25	175	286	139	140	82	84	1,680	1,210	483	473	507	320
26	175	253	137	140	84	83	1,570	1,350	401	483	503	317
27	175	198	137	140	87	82	1,360	1,620	397	473	503	346
28	175	195	137	140	91	97	1,380	1,830	427	473	533	355
29	178	195	148	140	-	88	1,550	1,900	443	473	578	359
30	178	193	137	140	-	100	1,680	1,920	435	471	503	346
31	178	-	137	140	-	128	-	1,650	-	473	420	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						6,182		269	146	199	12,260	
November.....						6,115		289	178	204	12,130	
December.....						4,484		189	92	145	6,890	
Calendar year 1937.....						129,802		1,940	-	356	257,500	
January.....						4,358		150	128	141	8,640	
February.....						2,383		115	76	85.1	4,730	
March.....						3,986		269	82	129	7,910	
April.....						24,921		1,680	154	831	49,430	
May.....						43,396		2,080	848	1,400	86,070	
June.....						27,133		1,620	397	904	53,820	
July.....						13,636		538	205	440	27,050	
August.....						14,756		578	420	476	29,270	
September.....						11,046		435	317	368	21,910	
Water year 1937-38 .....						162,396		2,080	76	445	322,100	

## Weber River at Gateway, Utah

Location.- Water-stage recorder, lat. 41°08', long. 111°50', in NW¼SW¼ sec. 27, T. 5 N., R. 1 E., 800 feet below Union Pacific Railroad bridge, 2,500 feet below mouth of Strawberry Creek, and 2,500 feet above section house at Gateway.

Drainage area.- 1,610 square miles.

Records available.- June 1919 to September 1938. October 1889 to July 1903 site 1 mile downstream, published as Weber River near Uinta; records equivalent.

Average discharge.- 18 years (1920-38), 625 second-feet.

Extremes.- Maximum discharge during year, 2,990 second-feet May 17 (gage height, 5.30 feet); minimum daily discharge, 143 second-feet Feb. 18.  
1889-1903, 1919-38: Maximum discharge, 7,980 second-feet May 31, 1896; minimum, 45 second-feet Sept. 24, 1934.

Remarks.- Records excellent. Several diversions for irrigation above and below station. Flow affected by storage in East Canyon Creek and Echo Reservoirs (capacity, 28,000 and 74,000 acre-feet, respectively).

Rating tables, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 17					May 18 to Sept. 30				
O.S.	138	1.8	498	4.0	1,950	1.4	364	2.4	870
.9	163	2.0	595	4.5	2,350	1.6	448	2.6	990
1.0	191	2.3	755	5.0	2,750	1.8	542	2.8	1,110
1.2	255	2.6	940	5.5	3,150	2.0	645	3.0	1,230
1.4	327	3.0	1,220			2.2	755	3.3	1,440
1.6	408	3.5	1,570						

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	262	262	262	208	216	245	268	2,640	1,790	634	562	495
2	245	266	225	210	177	233	276	2,600	1,760	562	562	485
3	245	266	222	206	158	908	331	2,300	1,820	513	572	499
4	276	266	222	200	160	475	391	1,690	1,780	494	582	489
5	323	266	219	200	158	327	595	1,790	1,810	508	577	489
6	323	269	213	200	146	273	706	1,660	1,890	466	557	494
7	323	273	222	206	150	259	585	1,430	1,900	406	552	508
8	308	269	229	210	163	262	508	1,370	1,690	453	577	513
9	308	269	232	206	163	255	600	1,310	1,440	425	603	537
10	297	269	248	203	206	259	694	1,290	1,410	532	562	532
11	266	269	266	203	258	286	728	1,330	1,400	572	532	513
12	248	266	439	203	248	452	767	1,630	1,370	618	504	499
13	248	266	262	200	189	656	851	1,790	1,290	613	494	494
14	232	266	222	200	174	522	882	2,100	1,160	618	489	494
15	255	266	245	210	171	362	908	2,330	966	608	494	457
16	269	262	238	248	169	374	1,010	2,630	788	592	489	453
17	301	269	242	225	158	744	1,230	2,810	777	603	494	444
18	335	276	245	222	143	475	1,460	2,930	792	613	489	431
19	362	269	232	206	153	362	1,870	2,830	810	597	485	422
20	301	305	216	210	153	421	2,010	2,430	744	572	508	418
21	290	400	213	200	150	470	1,910	2,040	672	572	508	422
22	266	363	213	216	150	350	1,490	1,840	634	582	508	422
23	266	362	219	219	150	316	2,640	1,710	618	572	508	422
24	280	362	216	203	150	294	2,650	1,680	613	567	518	418
25	258	356	222	200	150	266	2,690	1,760	640	577	528	405
26	255	346	219	206	156	248	2,570	1,850	628	587	532	401
27	255	236	213	210	163	242	2,190	2,090	608	587	508	405
28	255	276	213	210	180	255	2,130	2,320	592	587	518	425
29	255	273	206	210	-	245	2,400	2,450	618	582	532	439
30	258	266	210	210	-	213	2,580	2,470	634	577	634	435
31	258	-	210	210	-	245	-	2,210	-	567	532	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	8,663	362	232	279	17,160
November.....	8,698	400	262	290	17,260
December.....	7,245	266	210	234	14,370
Calendar year 1937.....	228,485	3,120	124	626	453,200
January.....	6,468	248	200	209	12,330
February.....	4,761	258	143	170	9,440
March.....	11,343	908	213	366	22,500
April.....	39,908	2,690	268	1,330	79,160
May.....	63,680	2,930	1,280	2,054	126,300
June.....	33,564	1,900	592	1,118	66,550
July.....	17,435	634	405	562	34,580
August.....	16,510	634	485	533	32,760
September.....	13,851	537	401	462	27,470
Water year 1937-38.....	232,096	2,930	143	636	460,400

Peak discharge.- Mar. 3 (8 a.m.) 1,200 sec.-ft.; Mar. 17 (6 a.m.) 1,050 sec.-ft.

## Weber River near Plain City, Utah

Location.- Chain gage, lat. 41°18'42", long. 112°05'30", in NW¼NE¼ sec. 8, T. 6 N., R. 2 W., at county highway bridge, 1 mile downstream from Fourmile Creek. 1½ miles south of Plain City, and 6 miles above mouth.

Drainage area.- 2,060 square miles.

Records available.- May 1905 to September 1938. Records collected in 1904 by State engineer.

Average discharge.- 31 years (1906-19, 1920-38), 821 second-feet.

Extremes.- Maximum discharge observed during year, 3,960 second-feet Apr. 26 (gage height, 17.05 feet); minimum observed, 13 second-feet Aug. 19.

1904-38: Maximum discharge observed, 7,580 second-feet June 6, 1909 (gage height, 19.1 feet); practically no flow during latter part of several summers since that of 1915.

Remarks.- Records fair. In summer practically entire flow of Weber River above station is diverted for irrigation. Flow is affected by storage in Echo, East Canyon Creek, and Pineview Reservoirs. Gage read once daily.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	208	338	303	315	354	560	3,480	1,560	78	18	57
2	43	208	298	299	306	502	570	3,540	1,330	97	19	46
3	40	208	296	287	255	1,020	588	3,520	1,280	89	18	33
4	43	211	289	286	402	878	684	3,020	1,200	*86	20	27
5	43	211	281	281	296	698	803	2,560	1,180	82	19	31
6	43	218	303	281	292	602	837	2,260	1,160	76	18	28
7	42	218	313	282	273	537	878	2,170	1,160	65	16	89
8	41	218	316	286	252	526	896	1,980	1,000	55	15	32
9	39	218	325	286	282	526	940	1,790	785	49	19	34
10	44	216	385	279	303	611	998	1,520	770	38	34	46
11	55	215	440	294	420	527	1,040	1,500	735	33	33	54
12	53	218	637	289	436	572	1,090	1,560	725	33	31	49
13	51	218	609	282	345	992	1,190	1,620	658	32	28	42
14	53	218	477	286	316	896	1,320	1,830	607	32	25	36
15	89	225	*475	279	308	738	1,360	2,260	530	33	23	32
16	106	225	473	408	313	686	1,430	2,510	380	34	24	34
17	151	251	477	387	316	1,170	1,570	3,080	228	33	20	35
18	186	289	502	340	308	829	1,850	3,640	191	28	15	36
19	218	268	323	336	313	684	2,430	3,650	163	25	13	37
20	257	340	334	318	303	571	2,950	2,840	124	23	14	37
21	230	401	469	313	296	798	3,190	2,740	95	21	15	36
22	239	469	473	318	294	792	3,330	2,420	79	20	13	30
23	246	444	477	313	294	772	3,650	2,100	73	19	14	28
24	255	438	477	309	298	742	3,810	1,980	68	19	17	24
25	234	434	420	262	301	703	3,920	1,930	68	17	19	46
26	212	422	309	249	289	674	3,960	1,950	70	16	20	31
27	207	383	440	263	299	655	3,670	2,120	61	20	26	31
28	200	341	477	266	323	650	3,510	2,070	55	25	26	32
29	201	345	477	306	-	600	3,430	2,090	61	18	91	32
30	204	345	473	289	-	520	3,330	*2,010	64	18	30	34
31	204	-	318	299	-	528	-	1,930	-	18	76	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	4,073	257	39	131	8,080
November.....	8,602	469	208	287	17,060
December.....	12,701	637	281	410	25,190
Calendar year 1937.....	238,333	4,590	8	653	472,700
January.....	9,256	408	249	299	18,360
February.....	8,748	436	252	312	17,550
March.....	21,265	1,170	354	686	42,170
April.....	59,774	3,960	550	1,992	118,600
May.....	73,670	3,650	1,500	2,376	146,100
June.....	16,430	1,560	55	548	32,590
July.....	1,231	97	16	39.7	2,440
August.....	769	91	13	24.8	1,530
September.....	1,139	89	24	38.0	2,260
Water year 1937-38.....	217,656	3,960	13	596	431,700

\*Gage height missing; discharge interpolated.

## Chalk Creek at Coalville, Utah

Location.- Water-stage recorder, lat. 40°55'10", long. 111°23'55", in SE¼ sec. 8, T. 2 N., R. 5 E., 300 feet upstream from highway bridge in Coalville and a third of a mile upstream from confluence with Weber River.

Drainage area.- 253 square miles.

Records available.- October 1904 to December 1905 and April 1927 to September 1938.

Average discharge.- 11 years (1927-38), 55.3 second-feet.

Extremes.- Maximum discharge during year, 672 second-feet May 16 (gage height, 2.82 feet); minimum discharge observed, 6 second-feet Dec. 1 and Sept. 30, 1927-38: Maximum discharge observed, 696 second-feet May 4, 1929 (gage height, 4.00 feet); minimum, less than one second-foot for several days during June to November 1934.

Remarks.- Records fair. Discharge for Oct. 1 to Dec. 6 computed from once-daily readings of gage. Discharge for days of missing gage heights, Jan. 2, 4, 9, 20, Feb. 6, 8, 10, 17, interpolated. No diversions below station. Flow affected by diversions above station for irrigation.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	23	6	19	16	33	35	421	366	74	16	26
2	9	22	15	*19	20	33	26	328	334	71	14	33
3	9	22	14	20	20	79	36	274	320	69	12	29
4	10	20	16	*18	20	44	53	233	301	66	11	26
5	10	20	14	17	18	30	108	223	282	66	10	24
6	12	20	18	18	*22	24	96	199	271	69	9	22
7	14	21	22	17	26	25	60	181	240	68	9	21
8	14	21	18	17	*23	25	59	174	218	62	8	19
9	14	21	17	*18	20	23	66	170	202	58	9	19
10	13	22	25	18	*22	26	77	177	183	55	10	15
11	14	20	24	20	23	41	82	195	168	48	10	15
12	17	20	35	20	24	77	132	233	155	42	9	17
13	16	20	32	20	18	76	177	295	161	40	10	16
14	15	19	26	19	20	51	216	412	146	41	9	18
15	22	20	20	21	20	38	159	522	134	42	9	18
16	27	20	26	21	20	65	186	630	128	40	8	18
17	26	20	26	20	*19	97	209	640	116	39	8	18
18	33	22	24	18	18	48	248	514	107	37	8	16
19	29	22	15	14	20	52	290	415	101	36	8	16
20	26	24	14	*17	20	74	233	366	90	35	7	18
21	26	27	15	19	18	66	195	317	80	36	7	15
22	26	26	18	21	20	41	276	298	71	36	7	14
23	26	21	20	20	20	50	326	303	65	32	7	11
24	26	25	20	15	20	41	323	340	63	30	7	15
25	25	24	21	18	18	31	376	369	63	30	25	14
26	25	23	22	19	20	36	309	430	66	28	13	10
27	25	17	21	19	22	40	274	470	63	31	12	10
28	22	20	20	19	28	50	314	473	66	29	12	10
29	21	24	19	20	-	26	369	490	77	25	14	9
30	21	14	20	20	-	22	434	405	77	21	36	7
31	22	-	20	20	-	31	-	384	-	19	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	602	33	9	19.4	1,190
November.....	640	27	14	21.3	1,270
December.....	623	35	6	20.1	1,240
Calendar year 1937.....	21,797	463	4	59.7	43,230
January.....	581	21	14	18.7	1,150
February.....	575	26	16	20.5	1,140
March.....	1,598	97	22	44.9	2,760
April.....	5,750	434	26	192	11,400
May.....	10,881	640	170	351	21,580
June.....	4,704	366	63	157	9,330
July.....	1,377	74	19	44.4	2,730
August.....	367	36	7	11.8	728
September.....	518	33	7	17.3	1,030
Water year 1937-38.....	28,011	640	6	76.7	55,650

Peak discharge.- May 16 (6 a.m.) 672 sec.-ft.; May 29 (6 a.m.) 553 sec.-ft.; Aug. 25 (5 p.m.) 283 sec.-ft.; Aug. 30 (7 p.m.) 246 sec.-ft.

\*Gage height missing; discharge interpolated.

## East Canyon Reservoir near Morgan, Utah

Location.- Staff gage, lat. 40°55'20", long. 111°35'50", in NE¼ sec. 10, T. 2 N., R. 3 E., 500 feet east of East Canyon Dam, 9 miles southeast of Morgan.

Records available.- October 1937 to September 1938 in reports of Geological Survey.  
October 1932 to September 1938 in reports of Weber River water commissioner.

Remarks.- Gage read intermittently except during period May 15 to July 4, when it was read daily. East Canyon Dam, constructed by Davis & Weber Counties Canal Co. in 1896 (capacity, 3,850 acre-feet), was raised 30 feet in 1900 (capacity, 9,000 acre-feet) and 12 feet more in 1902 (capacity, 14,000 acre-feet). It was later re-constructed (capacity, 28,000 acre-feet). Stored water is used for irrigation in Davis and Weber Counties.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	-	-	-	-	-	11,560	-	28,690	26,520	-	-
2	0	-	-	-	-	-	-	-	28,690	26,180	-	-
3	0	-	2,400	-	-	-	-	-	28,690	25,830	19,660	15,780
4	0	-	-	-	-	7,400	-	-	28,730	25,560	-	-
5	0	1,040	-	-	5,510	-	-	-	28,730	-	-	-
6	0	-	-	-	-	-	-	23,520	28,730	-	19,020	15,450
7	0	-	-	4,220	-	-	-	-	28,730	24,580	-	-
8	0	-	-	-	-	-	12,950	-	28,730	-	-	-
9	0	-	-	-	-	-	-	25,020	28,730	-	18,530	15,100
10	0	-	2,680	-	-	-	-	-	28,730	24,020	18,310	-
11	0	-	-	-	5,820	7,960	-	-	28,730	-	-	-
12	0	1,350	-	-	-	-	-	-	28,730	-	-	14,760
13	0	-	-	-	-	-	-	26,130	28,730	23,460	18,100	-
14	0	-	-	4,340	-	-	-	-	28,730	-	-	-
15	0	-	-	-	-	-	14,860	26,740	28,730	-	-	14,420
16	0	-	-	-	-	-	-	27,170	28,730	22,080	17,720	-
17	0	-	3,180	-	-	-	-	27,650	28,730	-	-	-
18	0	-	-	-	6,220	9,350	-	28,260	28,730	-	-	14,100
19	-	-	-	-	-	-	-	28,470	28,730	22,340	-	-
20	-	-	-	-	-	-	-	28,500	28,730	-	17,370	-
21	-	-	-	4,850	-	-	-	28,520	28,730	-	-	13,730
22	-	1,750	-	-	-	-	17,770	28,520	28,730	21,710	16,990	-
23	-	-	-	-	-	-	-	28,560	28,730	-	-	-
24	-	-	3,490	-	-	-	-	28,600	28,730	-	-	13,340
25	-	-	-	-	6,580	10,640	-	28,650	28,730	21,080	16,580	-
26	-	-	-	-	-	-	-	28,650	28,300	-	-	-
27	-	1,980	-	-	-	-	-	28,650	27,870	-	-	13,000
28	-	-	-	5,180	-	-	-	28,650	27,480	20,590	18,260	12,890
29	-	-	-	-	-	-	20,840	28,690	27,170	-	-	12,770
30	-	-	-	-	-	-	-	28,690	26,830	-	-	12,700
31	-	-	3,910	-	-	-	-	28,690	-	20,090	16,070	-

Note.- Gates closed on Oct. 19.

## East Canyon Creek near Morgan, Utah

Location.- Water-stage recorder and Lyman rectangular weir, lat. 40°55'20", long. 111°35'20", in NW¼ sec. 10, T. 2 N., R. 3 E., 2,500 feet downstream from East Canyon Dam, 2½ miles upstream from Sheep Canyon, and 9 miles southeast of Morgan.

Drainage area.- 145 square miles.

Records available.- October 1937 to September 1938 in reports of Geological Survey.  
October 1932 to September 1938 in reports of Weber River water commissioner.

Extremes.- Maximum daily discharge during year, 187 second-feet May 19; minimum daily, 6 second-feet Dec. 1-5.  
1931-38: Maximum daily discharge, 412 second-feet Apr. 23, 1936; minimum daily, 5 second-feet Jan. 20 to Apr. 10, Nov. 4-19, 1935.

Remarks.- Records excellent. No diversions between station and East Canyon Reservoir.  
Flow completely regulated by reservoir above station (capacity, 23,000 acre-feet).

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	13	6	7	7	8	9	12	96	176	107	79
2	20	13	6	7	7	8	9	12	74	178	107	79
3	20	13	6	7	7	8	9	12	81	176	109	81
4	20	13	6	7	7	8	9	13	96	176	109	81
5	20	12	6	7	7	8	10	13	113	176	109	81
6	20	12	7	7	7	8	10	13	105	176	107	82
7	20	13	7	7	7	8	10	13	89	128	105	82
8	20	13	7	7	7	8	10	13	82	97	104	82
9	20	13	7	7	7	8	10	13	90	97	105	84
10	20	14	7	7	7	8	10	14	94	100	99	86
11	20	14	7	7	7	8	10	14	90	111	73	86
12	20	14	7	7	7	8	11	14	74	109	73	86
13	20	14	7	7	7	8	11	15	70	107	81	84
14	20	14	7	7	7	8	11	14	70	105	84	84
15	20	14	7	7	7	8	11	13	72	105	84	84
16	20	14	7	7	7	8	11	14	70	107	82	84
17	20	14	7	7	7	8	11	16	70	107	81	82
18	20	14	7	7	7	8	11	126	68	107	79	81
19	16	14	7	7	7	8	12	187	62	105	81	81
20	16	14	7	7	7	8	12	178	48	105	81	81
21	16	14	7	7	7	8	12	164	39	105	79	81
22	16	14	7	7	7	8	12	140	37	105	79	82
23	16	14	7	7	7	8	12	113	35	105	79	81
24	16	14	7	7	7	8	12	115	29	105	79	82
25	14	14	7	7	7	15	12	112	140	107	79	82
26	14	14	7	7	7	9	12	129	178	107	82	82
27	14	10	7	7	7	9	12	132	178	105	82	81
28	14	7	7	7	7	9	12	152	178	107	81	82
29	14	7	7	7	7	9	12	162	178	107	81	86
30	14	7	7	7	-	9	12	166	178	105	81	82
31	14	-	7	7	-	9	-	140	-	107	79	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						554	20	14	17.9	1,100		
November.....						384	14	7	12.8	762		
December.....						212	7	6	6.8	420		
Calendar year 1937.....						27,967	397	6	76.6	54,486		
January.....						217	7	7	7.0	430		
February.....						196	7	7	7.0	399		
March.....						261	15	8	8.4	518		
April.....						327	12	9	10.9	649		
May.....						2,234	187	12	72.1	4,430		
June.....						2,784	178	29	92.8	5,520		
July.....						3,713	178	97	120	7,360		
August.....						2,741	109	73	88.4	5,440		
September.....						2,471	86	79	82.4	4,900		
Water year 1937-38.....						16,094	187	6	44.1	31,920		

## South Fork of Ogden River near Huntsville, Utah

Location.— Water-stage recorder, lat.  $41^{\circ}16'$ , long.  $111^{\circ}40'$ , in SE $\frac{1}{4}$  sec. 12, T. 6 N., R. 2 E., half a mile downstream from Magpie Creek, 1 mile upstream from Huntsville Mountain canal, and  $5\frac{1}{2}$  miles east of Huntsville.

Drainage area.— 148 square miles.

Records available.— March 1921 to September 1938.

Average discharge.— 17 years, 110 second-feet.

Extremes.— Maximum discharge during year, 756 second-feet Apr. 22 (gage height, 3.96 feet); minimum, 28 second-feet Aug. 24.

1921-38: Maximum discharge, 1,780 second-feet May 4, 1936 (gage height, 5.45 feet), from rating curve extended above 900 second-feet; minimum discharge observed, 20 second-feet Nov. 25, 1931, and July 28, 1934.

Remarks.— Records good except those for periods of missing gage heights Nov. 30 to Jan. 27, Feb. 6 to Mar. 7, Mar. 22 which were computed on basis of weekly gage readings, weather records, and records for Blacksmith Fork near Hyrum and Logan River near Logan and are fair. Only small diversions above gage.

Rating tables, water year 1937-38 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 18						Apr. 19 to Sept. 30					
0.9	27	1.8	143	2.8	435	0.9	25	1.6	101	3.0	440
1.0	34	2.0	191	3.0	505	1.0	32	1.8	137	3.5	595
1.2	51	2.2	244	3.3	625	1.1	40	2.0	180	4.0	770
1.4	74	2.4	302	3.6	755	1.2	50	2.3	252		
1.6	104	2.6	366			1.4	73	2.6	329		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	39	39	40	40	45	88	616	217	74	44	44
2	36	39	39	40	33	55	78	542	208	73	44	44
3	36	39	38	40	31	90	81	452	198	69	43	43
4	36	39	38	40	40	80	86	391	187	88	42	42
5	36	39	37	40	40	75	98	351	173	69	41	39
6	37	40	37	39	40	74	101	308	167	69	44	40
7	37	40	38	39	40	72	96	282	158	67	43	38
8	38	39	39	40	40	72	101	260	150	65	47	39
9	38	39	40	41	42	73	115	252	137	62	52	40
10	38	39	40	41	43	72	135	267	131	60	43	40
11	40	39	42	41	45	80	152	319	124	59	43	41
12	38	38	50	40	48	105	184	400	118	59	42	40
13	38	38	48	40	45	141	214	491	115	59	42	40
14	40	39	45	39	43	122	217	570	108	59	42	40
15	44	39	44	40	42	104	217	602	103	58	41	39
16	42	39	43	45	40	106	287	623	98	56	41	41
17	48	42	42	42	36	154	340	602	96	53	41	39
18	52	44	42	42	32	128	435	545	95	53	40	38
19	44	42	42	42	34	117	595	464	95	51	39	38
20	42	47	42	42	36	128	588	400	90	51	38	38
21	41	56	42	42	37	132	548	361	88	51	36	38
22	41	46	42	42	37	125	728	340	95	50	39	38
23	41	44	42	42	37	113	760	342	83	48	49	36
24	40	44	42	42	37	108	707	359	81	46	31	36
25	40	42	42	42	37	101	700	351	80	47	42	35
26	40	42	42	42	37	96	606	334	77	45	44	36
27	40	40	42	42	38	96	539	321	76	45	42	37
28	40	40	42	42	40	101	548	300	73	44	43	36
29	40	40	42	44	-	96	612	277	76	42	53	36
30	39	39	41	46	-	93	644	252	76	43	42	37
31	39	-	40	46	-	87	-	234	-	44	42	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,238	52	36	39.9	2,460
November.....	1,232	55	38	41.1	2,440
December.....	1,285	50	37	41.5	2,550
Calendar year 1937.....	39,985	920	35	109	79,260
January.....	1,285	46	39	41.5	2,550
February.....	1,090	48	31	38.9	2,180
March.....	3,040	154	45	98.1	6,030
April.....	10,593	760	78	353	21,010
May.....	12,208	616	234	394	24,210
June.....	3,563	217	73	119	7,070
July.....	1,741	74	42	56.2	3,450
August.....	1,317	53	31	42.5	2,610
September.....	1,168	44	35	38.9	2,320
Water year 1937-38.....	39,760	760	31	109	78,860

## Pine View Reservoir near Ogden, Utah

Location.— Staff gage, lat.  $41^{\circ}15'20''$ , long.  $111^{\circ}50'25''$ , in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 16, T. 6 N., R. 1 E., at trash rack at Pine View Dam, 7 miles northeast of Ogden.

Records available.— November 1936 to September 1938.

Remarks.— Pine View Reservoir, completed by Bureau of Reclamation in 1937, has a capacity of 41,000 acre-feet. Capacity rating furnished by Bureau of Reclamation.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,060	10,890	12,390	10,750	14,070	16,010	26,110	33,430	41,840	39,280	35,040	28,660
2	10,020	10,890	12,390	10,960	14,240	16,090	26,110	34,290	41,840	39,240	34,810	28,400
3	9,970	10,910	12,380	11,080	14,320	16,570	26,110	34,430	41,840	39,200	34,570	28,240
4	9,920	10,940	12,380	11,220	14,430	17,650	26,140	34,660	41,840	39,160	34,300	28,060
5	9,880	10,960	12,370	11,360	14,480	17,910	26,350	35,120	41,840	39,160	34,060	27,920
6	9,860	10,980	12,370	11,500	14,520	18,120	26,900	35,660	41,840	39,210	33,870	27,760
7	9,860	11,000	12,360	11,590	14,570	18,320	27,130	36,130	41,840	39,200	33,690	27,600
8	9,850	11,010	12,340	11,660	14,600	18,470	27,130	36,670	41,870	39,160	33,470	27,570
9	9,790	11,040	12,340	11,750	14,680	18,600	27,130	36,750	41,500	39,110	33,100	27,430
10	9,770	11,040	12,320	11,820	14,740	18,710	27,160	36,860	41,280	39,100	32,790	27,270
11	9,750	11,080	12,420	11,860	14,880	18,840	27,210	36,250	41,080	39,050	32,630	27,130
12	9,720	11,100	12,560	11,950	15,010	19,020	27,650	39,330	40,990	39,000	32,480	27,020
13	9,750	11,120	12,600	12,030	15,130	20,030	27,920	40,570	40,860	38,840	32,350	26,970
14	9,770	11,110	12,720	12,100	15,280	20,910	28,330	42,360	40,820	38,700	32,230	26,930
15	9,890	11,130	12,630	12,230	15,500	21,540	28,500	42,530	40,740	38,540	31,990	26,820
16	10,010	11,150	12,430	12,460	15,590	22,030	28,800	43,590	40,660	38,270	31,760	26,640
17	10,100	11,180	12,160	12,620	15,660	22,730	30,370	45,370	40,600	38,090	31,510	26,480
18	10,440	11,520	11,850	12,760	15,700	23,680	30,710	45,190	40,660	37,950	31,320	26,360
19	10,500	11,660	11,930	12,890	15,700	24,200	30,920	45,010	40,600	37,590	30,980	26,220
20	10,650	11,710	11,990	12,990	15,720	24,910	31,630	44,650	40,520	37,390	30,840	26,030
21	10,710	11,910	11,860	13,070	15,740	25,700	31,760	44,300	40,420	37,230	30,740	25,860
22	10,730	11,980	11,660	13,170	15,780	25,840	32,040	43,760	40,330	37,050	30,560	25,760
23	10,730	12,060	11,600	13,280	15,800	25,950	32,350	42,880	40,220	36,880	30,370	25,680
24	10,770	12,110	11,330	13,370	15,820	25,980	33,090	42,360	40,120	36,590	30,200	25,580
25	10,810	12,260	11,280	13,440	15,910	26,110	33,460	42,100	40,030	36,410	29,990	25,440
26	10,820	12,330	11,260	13,510	15,950	26,110	33,600	42,010	39,870	36,200	29,880	25,310
27	10,830	12,350	11,240	13,600	15,990	26,110	33,290	41,920	39,740	35,970	29,600	25,230
28	10,830	12,370	11,090	13,690	16,010	26,110	32,670	41,870	39,640	35,800	29,400	25,120
29	10,830	12,380	10,890	13,810	—	25,900	32,090	41,840	39,490	35,640	29,160	25,010
30	10,850	12,390	10,760	13,880	—	26,110	32,790	41,840	39,330	35,470	29,020	24,910
31	10,870	—	10,710	13,970	—	26,110	—	41,840	—	35,240	28,800	—



## Ogden River below Pine View Dam, near Ogden, Utah

Location.— Water-stage recorder, lat. 41°15'17", long. 111°50'47", in NE¼SW¼ sec. 16, T. 6 N., R. 1 E., 1,500 feet downstream from Wheeler Creek, 2,000 feet downstream from Pine View Dam, and 6½ miles northeast of Ogden.

Records available.— October 1937 to September 1938. Prior to October 1937 records at same site, including flow diverted above station by Pine View pipe line, published as "Ogden River near Ogden, Utah."

Extremes.— Maximum discharge during year, 1,280 second-feet Apr. 25, 26 (gage height, 5.30 feet); minimum, 1 second-foot Dec. 4-9.

Remarks.— Records good. Flow regulated by Pine View Reservoir (capacity, 41,000 acre-feet). Pine View pipe-line diverts water above station for use in irrigation and power development. Diversions for irrigation and municipal supply above Pine View Reservoir.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3	4	3	2	3	5	74	870	227	21	23	21
2	3	4	3	2	3	5	74	883	142	14	23	18
3	3	4	2	2	3	51	29	795	97	14	17	16
4	3	4	1	2	3	18	12	573	38	13	12	14
5	3	4	1	2	2	10	20	435	37	13	27	13
6	3	4	1	2	2	8	15	375	35	12	33	12
7	3	4	1	2	2	7	32	363	33	12	33	12
8	3	4	1	2	2	7	122	364	30	12	33	14
9	3	4	1	2	2	6	125	208	28	24	33	14
10	3	4	3	2	3	6	133	24	27	24	27	14
11	3	4	5	2	4	8	133	24	25	24	26	14
12	3	4	28	2	4	24	150	26	24	24	27	15
13	3	3	8	2	3	37	184	33	24	23	24	5
14	4	3	5	2	3	21	240	194	21	23	26	2
15	4	3	4	4	3	14	289	447	21	23	26	10
16	3	3	4	4	3	21	303	593	21	23	25	14
17	4	4	4	3	3	35	361	1,030	22	23	24	14
18	4	4	3	3	3	16	442	1,100	20	23	21	15
19	4	4	3	3	3	11	703	1,040	18	23	21	15
20	3	5	2	3	3	19	1,060	935	18	23	21	14
21	3	7	2	3	3	75	1,200	842	21	23	21	13
22	3	4	2	3	3	173	1,210	780	20	24	21	10
23	3	3	3	3	3	173	1,210	730	18	24	22	10
24	3	3	2	3	3	177	1,210	795	19	23	23	12
25	3	3	2	3	3	177	1,230	744	17	23	24	14
26	4	3	2	3	3	177	1,240	653	16	23	23	15
27	4	3	2	3	3	175	1,220	573	22	24	22	16
28	4	3	3	3	3	171	1,210	498	24	24	22	12
29	4	3	2	3	-	142	995	382	24	24	23	9
30	4	3	2	3	-	105	856	291	24	24	23	8
31	4	-	2	3	-	77	-	224	-	23	22	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						104	4	3	3.4	206		
November.....						112	7	3	3.7	222		
December.....						107	28	1	3.5	212		
Calendar year .....												
January.....						91	4	2	2.6	161		
February.....						81	4	2	2.9	161		
March.....						1,951	177	5	62.9	3,870		
April.....						16,131	1,240	12	538	32,000		
May.....						16,826	1,100	24	543	33,370		
June.....						1,112	227	16	37.1	2,210		
July.....						650	24	12	21.0	1,290		
August.....						748	33	12	24.1	1,480		
September.....						385	21	2	12.8	764		
Water year 1937-38.....						36,287	1,240	1	105	75,900		

## Jordan River at Narrows, near Lehi, Utah

Location.- Water-stage recorders, lat. 40°26'40", long. 111°55'20", in SE¼NW¼ sec. 26, T. 4 S., R. 1 W., at Narrows, 5½ miles northwest of Lehi.

Drainage area.- 2,610 square miles.

Records available.- October 1934 to September 1938. May to December 1904 and July 1913 to September 1934, at outlet of Utah Lake, 7½ miles upstream.

Average discharge.- 25 years (1913-38), 384 second-feet.

Extremes.- Maximum daily discharge during year, 757 second-feet Aug. 9; minimum daily, 5 second-feet Nov. 28-30, Dec. 1-3, Mar. 29-31, Apr. 1-6.  
1913-38: Maximum daily discharge, 1,370 second-feet June 8, 1922 (gage height, 7.78 feet, at former site).

Remarks.- Records excellent. They give the combined flow of Jordan River, Utah & Salt Lake canal, and East Jordan canal. Flow completely regulated by gates and pumps at outlet of Utah Lake, pumps at Pelican Point, and diversion dam at Narrows.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	391	16	5	7	7	6	5	380	717	723	697	684
2	361	16	5	7	7	6	5	429	713	715	708	678
3	368	16	5	7	7	6	5	364	717	704	709	670
4	285	15	7	7	7	7	5	343	720	709	723	671
5	366	15	7	7	7	7	5	197	725	720	754	674
6	380	15	7	7	6	7	5	123	729	703	750	664
7	407	15	7	7	6	7	6	116	717	689	753	666
8	373	15	7	7	6	6	7	109	714	648	755	661
9	420	15	7	7	6	6	8	108	695	622	757	653
10	371	15	7	7	6	6	8	133	706	631	738	666
11	341	15	7	7	6	6	8	302	715	642	720	658
12	323	14	7	7	6	6	8	472	677	664	709	656
13	302	13	7	7	6	6	8	554	668	671	700	655
14	315	14	7	7	6	6	8	594	676	671	707	650
15	137	14	7	7	6	6	8	618	661	666	710	647
16	21	14	8	7	6	6	8	649	651	682	726	653
17	20	14	8	7	6	6	8	657	669	704	728	654
18	19	14	8	7	6	6	8	566	637	683	730	651
19	18	13	8	7	6	6	12	390	642	693	712	629
20	18	15	8	7	6	6	44	367	645	703	707	620
21	18	15	8	7	6	6	47	385	650	705	715	630
22	18	15	8	7	6	6	50	447	639	700	709	626
23	17	11	8	7	6	6	50	585	650	655	714	619
24	16	8	8	7	6	6	49	503	655	689	705	629
25	16	9	8	7	6	6	155	493	704	700	702	623
26	17	9	8	7	6	6	257	577	733	708	682	625
27	17	9	8	7	6	6	273	715	729	685	702	606
28	16	5	8	7	6	6	321	720	734	682	704	616
29	15	5	8	7	-	5	345	681	734	677	679	610
30	15	5	8	7	-	5	345	694	728	674	659	570
31	15	-	8	7	-	5	-	703	-	675	661	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				5,406		420	15	174	10,720			
November.....				384		16	5	12.8	762			
December.....				227		8	5	7.3	450			
Calendar year 1937.....				98,900		727	5	271	196,100			
January.....				217		7	7	7.0	430			
February.....				173		7	6	6.2	343			
March.....				137		7	5	6.0	371			
April.....				2,070		345	5	69.0	4,110			
May.....				13,974		720	108	451	27,720			
June.....				20,750		734	637	692	41,160			
July.....				21,214		723	622	684	42,080			
August.....				22,125		757	659	714	43,880			
September.....				19,314		684	570	644	38,310			
Water year 1937-38.....				106,041		757	5	291	210,300			

## Salt Creek near Nephi, Utah

Location.- Staff gage and Parshall rating flume, lat.  $39^{\circ}43'$ , long.  $111^{\circ}47'$ , in NW $\frac{1}{4}$  sec. 1, T. 13 S., R. 1 E., 50 feet downstream from tailrace of Nephi municipal power plant, 100 feet upstream from intake of Nephi Plaster Co.'s canal,  $2\frac{1}{2}$  miles downstream from South Fork, and  $3\frac{1}{2}$  miles east of Nephi.

Drainage area.- 95 square miles.

Records available.- April 1925 to February 1938 (discontinued).

Average discharge.- 12 years, 25.2 second-feet.

Extremes.- Maximum discharge observed during period, 44 second-feet Oct. 15; minimum observed, 12 second-feet for several days.

1925-38: Maximum discharge observed, about 800 second-feet July 17, 1932, from rating curve extended above 100 second-feet; minimum, 3 second-feet Dec. 2, 4, 1935.

Remarks.- Records fair. Gage read twice daily. A few small diversions above station.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	16	13	14	16							
2	15	15	13	14	16							
3	15	15	13	14	16							
4	15	15	13	13	16							
5	15	15	13	13	15							
6	15	15	13	13	15							
7	15	15	14	13	15							
8	15	15	14	13	14							
9	15	15	14	13	14							
10	15	15	17	13	12							
11	15	15	18	13	13							
12	15	15	42	13	14							
13	15	15	22	13	12							
14	15	15	16	13	12							
15	44	15	14	13	12							
16	18	15	14	13	12							
17	17	15	14	13	12							
18	23	15	14	13	12							
19	18	15	14	13	12							
20	17	15	14	13	13							
21	16	15	14	12	13							
22	16	15	14	12	12							
23	16	15	13	12	13							
24	16	15	12	12	13							
25	16	15	13	12	13							
26	16	15	13	15	13							
27	15	15	13	16	13							
28	16	14	13	16	13							
29	16	14	13	16	-							
30	16	13	14	16	-							
31	16	-	14	16	-							
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						527	44	15	17.0	1,050		
November.....						447	18	13	14.9	887		
December.....						465	42	12	15.0	922		
Calendar year 1937.....						13,491	177	7	37.0	26,770		
January.....						418	16	12	13.5	829		
February.....						375	16	12	13.4	744		
March.....												
April.....												
May.....												
June.....												
July.....												
August.....												
September.....												
The period.....										4,430		

## Spanish Fork at Thistle, Utah

Location.- Staff gage, lat. 40°00', long. 111°30', in SW $\frac{1}{4}$  sec. 28, T. 9 S., R. 4 E., at Thistle, 600 feet downstream from confluence of Soldier Fork and Thistle Creek to form Spanish Fork and  $2\frac{1}{2}$  miles upstream from Diamond Fork.

Drainage area.- 940 square miles.

Records available.- January 1908 to September 1925 and October 1936 to September 1938 in reports of Geological Survey. January 1933 to September 1938 in reports of Spanish Fork water commissioner.

Average discharge.- 22 years (1908-25, 1933-38), 103 second-feet.

Extremes.- Maximum discharge observed during year, 577 second-feet May 17; minimum observed, 28 second-feet Aug. 2.

1908-25, 1933-38: Maximum discharge observed, 1,250 second-feet May 26, 1922; minimum observed, 10 second-feet Sept. 17, 22, 25, Oct. 25, 1934.

Remarks.- Records fair. Gage read once daily. Small diversions for irrigation above station.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	37	39			*75	81	417	286	81	32	50
2	37	36	40			*70	68	426	281	63	28	51
3	41	38	40			*200	77	397	292	53	33	53
4	40	*39	41			*130	122	366	270	*50	*35	48
5	40	40	40			*90	141	377	239	*50	36	51
6	39	38	40			*75	103	294	204	63	33	53
7	40	40	39			*65	86	247	218	63	32	48
8	38	41	40			64	86	236	247	63	38	50
9	36	40	37			65	103	234	211	50	40	51
10	35	42	39			70	68	242	199	47	44	50
11	36	41	40			74	98	281	221	52	48	45
12	33	40	42	45		150	99	417	234	43	41	47
13	45	40	42			199	118	388	170	50	44	46
14	39	39	44			150	99	443	172	51	42	43
15	39	39	43			92	103	499	150	51	39	45
16	40	38	42			92	147	559	168	53	41	43
17	40	39	43			98	*175	577	147	*52	37	45
18	44	40	42			86	214	571	*125	50	39	40
19	44	46	40			141	286	508	108	47	40	42
20	42	44	*40			94	310	443	*105	37	38	40
21	40	42	*40		44	179	278	411	105	47	36	41
22	38	41	*40			112	357	382	96	34	40	36
23	39	40	46			81	356	382	105	32	37	40
24	37	40	44			*80	338	391	88	34	*100	36
25	38	41	*46			*80	365	429	94	37	59	42
26	39	40	42			*85	346	354	78	57	54	35
27	37	40	48			98	302	374	88	42	56	43
28	40	39	*47			84	354	366	88	*35	51	32
29	38	38	46			94	292	357	*80	33	52	30
30	39	37	*45			75	394	308	75	37	49	33
31	37	-	44			78	-	329	-	33	*50	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				1,206		45	33	38.9	2,390			
November.....				1,195		46	36	39.8	2,370			
December.....				1,301		48	37	42.0	2,580			
Calendar year 1937.....				38,951		750	13	107	77,240			
January.....				1,302		-	-	*42	2,580			
February.....				1,232		-	-	*44	2,440			
March.....				3,116		200	64	101	6,180			
April.....				5,985		394	68	200	11,870			
May.....				12,005		577	234	387	23,810			
June.....				4,944		292	75	165	9,810			
July.....				1,505		81	32	48.5	2,990			
August.....				1,344		100	28	43.4	2,670			
September.....				1,311		53	30	43.7	2,600			
Water year 1937-38.....				36,446		577	28	99.9	72,290			

\*Computed on basis of weather records and records for station at Castilla.

## Spanish Fork at Castilla, Utah

Location.- Water-stage recorder, lat.  $40^{\circ}02'$ , long.  $111^{\circ}32'$ , in SE $\frac{1}{4}$  sec. 12, T. 9 S., R. 3 E., 600 feet above outlet of Cold Springs, 1 mile northwest of Castilla railroad station,  $1\frac{1}{2}$  miles upstream from diversion dam of Bureau of Reclamation, and 2 miles below Diamond Fork.

Drainage area.- 670 square miles.

Records available.- May 1919 to September 1925 and October 1936 to September 1938 in reports of Geological Survey. January 1933 to September 1938 in reports of Spanish Fork water commissioner.

Average discharge.- 11 years (1919-25, 1933-38), 230 second-feet.

Extremes.- Maximum discharge during year, 694 second-feet May 17 (gage height, 5.87 feet); minimum, 25 second-feet Feb. 18.

1919-25, 1933-38: Maximum daily discharge, 1,520 second-feet May 22, 1920; minimum daily, 27 second-feet Oct. 26-31, 1934.

Remarks.- Records good. Discharge for periods of missing gage heights, Jan. 10-16, Feb. 3-5, computed on basis of weather records. Several small irrigation diversions above station. Flow is materially increased by water diverted from Colorado River Basin by tunnel from Strawberry Reservoir (capacity, 250,000 acre-feet) into Diamond Fork of Spanish Fork for irrigation of lands in Jordan River Basin.

Discharge, in second-feet, water year October 1937 to September 1938.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139	73	64	60	76	118	109	534	520	448	139	170
2	131	72	78	64	76	115	105	520	549	417	235	176
3	139	72	74	70	76	344	118	474	575	341	268	185
4	150	72	68	66	70	205	145	430	583	248	280	137
5	142	72	67	56	62	157	195	409	607	232	302	113
6	164	72	64	59	60	130	161	380	628	271	309	134
7	197	74	77	65	66	115	137	356	613	319	242	178
8	205	72	71	61	78	116	137	341	575	349	230	207
9	222	72	67	65	78	118	145	331	552	351	237	195
10	112	72	81	70	84	126	168	328	534	344	230	179
11	70	71	82	80	91	142	183	344	502	372	220	166
12	68	71	95	76	88	191	213	385	480	401	215	163
13	67	71	91	74	67	269	215	438	474	425	224	160
14	70	71	82	72	76	215	195	511	460	449	232	128
15	105	71	78	74	77	163	191	580	414	420	264	137
16	81	70	76	76	76	161	213	649	425	372	287	147
17	78	74	76	74	67	193	264	682	452	341	321	148
18	105	77	76	76	54	136	328	643	466	346	311	137
19	81	74	65	73	78	147	401	592	436	326	290	128
20	78	78	55	72	77	187	417	537	455	321	304	145
21	77	78	52	59	73	178	398	494	433	307	299	161
22	77	76	51	77	73	137	441	455	438	237	295	164
23	76	74	59	74	76	136	491	433	455	248	309	147
24	76	77	53	62	78	116	491	433	500	191	290	142
25	74	74	59	45	73	115	480	441	525	201	273	130
26	73	76	56	45	84	126	428	463	531	224	280	136
27	72	66	61	53	87	150	388	483	549	228	222	126
28	71	71	58	64	98	131	398	474	552	209	189	131
29	72	72	55	73	-	112	438	463	578	226	195	145
30	72	66	59	73	-	112	511	447	514	230	201	174
31	73	-	60	72	-	112	-	474	-	199	197	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,217	222	67	104	6,380		
November.....						2,181	78	66	72.7	4,330		
December.....						2,110	95	51	68.1	4,190		
Calendar year 1937.....						82,680	978	40	227	164,000		
January.....						2,080	80	45	67.1	4,130		
February.....						2,119	98	54	75.7	4,200		
March.....						4,762	344	112	154	9,450		
April.....						8,504	511	105	284	16,870		
May.....						14,524	682	328	469	28,810		
June.....						15,375	628	414	512	30,500		
July.....						9,653	468	191	311	19,150		
August.....						7,941	321	189	256	15,750		
September.....						4,549	207	113	152	9,020		
Water year 1937-38.....						77,015	682	45	211	152,800		

## Provo River at Vivian Park, Utah

(Formerly published as Provo River at Forks, Utah)

Location.- Water-stage recorder, lat. 40°22', long. 111°34', in NW¼ sec. 25, T. 5 S., R. 3 E., half a mile downstream from North Fork, 3,500 feet northeast of Vivian Park, and three-quarters of a mile upstream from South Fork.

Drainage area.- 600 square miles.

Records available.- November 1911 to September 1938.

Average discharge.- 26 years (1912-38), 360 second-feet.

Extremes.- Maximum discharge during year, 1,800 second-feet May 17 (gage height, 5.75 feet); minimum, 166 second-feet Oct. 4.

1911-36: Maximum discharge observed, 3,180 second-feet June 11, 1921; minimum discharge, 49 second-feet July 17, 1934.

Remarks.- Records excellent. Station is below diversions for irrigation in Heber Valley and above those for irrigation in vicinity of Provo. Flow slightly regulated at headwaters by small lakes that serve as reservoirs. Records include flow of Weber-Provo diversion canal. Records collected in cooperation with Bureau of Reclamation.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	176	230	226	226	230	364	281	1,020	1,250	394	231	216	
2	172	226	238	235	226	373	265	957	1,250	379	229	216	
3	170	224	243	240	224	826	283	809	1,240	373	227	209	
4	170	221	235	224	233	568	300	673	1,230	367	227	199	
5	176	219	230	210	233	386	415	673	1,160	373	222	199	
6	183	219	235	210	210	339	399	561	1,120	370	220	195	
7	185	233	245	210	214	316	316	505	1,030	364	216	193	
8	183	228	245	210	230	310	308	464	892	339	222	190	
9	183	221	235	219	230	308	316	419	816	317	250	199	
10	182	226	289	226	255	322	336	382	750	309	236	201	
11	180	233	300	233	291	348	342	370	703	291	234	209	
12	178	238	453	226	313	446	370	373	609	289	224	211	
13	180	243	339	230	253	573	408	425	570	304	222	214	
14	187	248	297	219	248	523	419	625	537	323	224	205	
15	226	253	283	228	243	386	399	877	468	334	222	201	
16	204	258	278	250	238	370	446	1,180	454	326	211	199	
17	208	263	268	240	224	464	471	1,630	464	320	211	199	
18	248	289	270	233	208	379	566	1,520	444	299	209	201	
19	240	286	250	226	230	348	706	1,270	432	283	205	201	
20	238	286	238	214	230	351	748	1,040	425	265	203	199	
21	235	302	226	204	226	402	710	900	407	275	203	192	
22	230	289	224	228	226	333	782	778	382	291	197	192	
23	228	270	245	238	226	339	895	735	403	293	197	186	
24	235	276	224	210	226	319	849	809	400	301	197	184	
25	235	276	243	197	214	294	849	863	403	310	201	180	
26	228	265	248	201	233	297	774	1,010	400	312	201	182	
27	226	255	248	201	240	319	689	1,210	379	318	197	182	
28	224	250	235	214	260	339	673	1,360	376	278	199	180	
29	221	248	226	230	-	302	718	1,410	428	262	203	177	
30	224	235	233	224	-	273	836	1,400	410	253	207	177	
31	224	-	233	224	-	281	-	1,240	-	236	211	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						6,379		248		170		206	12,650
November.....						7,510		302		219		250	14,900
December.....						7,982		453		224		257	15,930
Calendar year 1937.....						129,447		1,440		162		355	256,800
January.....						6,980		250		197		222	13,650
February.....						6,614		313		208		236	13,120
March.....						11,788		826		273		380	23,380
April.....						15,869		895		265		529	31,480
May.....						27,515		1,630		370		888	54,580
June.....						19,832		1,250		376		661	39,340
July.....						9,748		394		236		314	19,330
August.....						6,660		250		197		215	15,210
September.....						5,897		216		177		196	11,700
Water year 1937-38.....						132,674		1,630		170		363	263,200

Peak discharge.- Dec. 12 (11 a.m.) 556 sec.-ft.; Mar. 3 (7 p.m.) 991 sec.-ft.; May 17 (9 p.m.) 1,800 sec.-ft.; May 29 (9 p.m.) 1,570 sec.-ft.

## Provo River at Provo, Utah

Location.— Water-stage recorder, lat. 40°14'20", long. 111°41'40", in NE¼SE¼ sec. 3, T. 7 S., R. 2 E., 150 feet downstream from highway bridge, 2 miles west of city hall at Provo, and 2 miles upstream from mouth.

Records available.— January 1937 to September 1938. June 1933 to September 1934 at site a quarter of a mile downstream. May 1903 to June 1905 at site three quarters of a mile upstream. Records equivalent except that those at present site do not include flow diverted by three small ditches, two above station and one below.

Extremes.— Maximum discharge during year, 1,350 second-feet May 18 (gauge height, 4.44 feet); minimum daily discharge, 2 second-feet Aug. 1-31.

1903-05, 1933-34, 1937-38: Maximum discharge observed, 1,620 second-feet May 27, 1904; no flow during several periods.

Remarks.— Records fair. Discharge for Oct. 1-10 interpolated between two discharge measurements, that for May 11 estimated, and that for June 18 to Sept. 30 interpolated between field estimates made about once weekly. Station is below all diversions except one small ditch. At times entire flow is diverted above station for irrigation. Factory race diverts water above station into Provo Bay, an arm of Utah Lake, and Provo River water commissioner furnished following record of this diverted flow for 1937-38:

Month	Run-off in acre-feet	Month	Run-off in acre-feet
October.....	0	May.....	1,230
November.....	1,200	June.....	190
December.....	2,480	July.....	120
January.....	2,640	August.....	120
February.....	2,360	September.....	140
March.....	2,640		
April.....	1,360	Water year 1937-38.....	14,500

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Jul	Aug.	Sept.
1	15	166	188	207	205	280	238	528	664	3	2	3
2	20	173	188	207	205	338	245	577	680	3	2	3
3	25	173	189	213	201	612	266	513	660	3	2	3
4	30	173	188	207	205	604	268	372	652	3	2	3
5	35	170	186	193	207	384	324	366	592	3	2	3
6	40	163	186	193	197	321	357	321	535	3	2	3
7	45	166	188	193	195	288	298	234	478	3	2	3
8	45	173	189	186	207	282	273	203	378	3	2	3
9	50	177	189	201	209	275	282	152	318	3	2	3
10	50	188	221	201	217	282	310	50	256	3	2	3
11	52	201	252	205	245	295	290	25	217	3	2	3
12	55	207	338	203	278	360	298	16	163	3	2	3
13	54	226	300	201	241	492	329	14	79	3	2	3
14	53	226	258	201	228	517	343	124	47	3	2	3
15	105	217	243	203	224	363	316	399	17	3	2	3
16	153	182	232	219	221	329	354	542	10	3	2	3
17	148	184	224	221	213	396	399	1,060	5	3	2	4
18	193	205	226	205	195	360	474	1,220	3	3	2	5
19	186	215	217	203	213	318	580	1,000	3	3	2	5
20	179	217	211	197	209	310	580	747	3	3	2	4
21	175	221	211	184	207	352	520	608	3	3	2	4
22	175	221	215	193	209	310	531	444	3	3	2	4
23	172	205	230	197	209	302	600	353	3	3	2	4
24	172	207	219	184	207	292	584	369	3	3	2	4
25	173	209	221	173	205	273	569	378	3	3	2	4
26	173	203	230	177	203	266	510	457	3	3	2	4
27	173	205	230	179	213	273	399	616	3	3	2	4
28	175	203	217	172	221	292	332	765	3	3	2	4
29	158	199	213	205	-	268	305	810	3	3	2	5
30	165	191	217	201	-	245	318	828	3	3	2	5
31	166	-	211	199	-	243	-	684	-	3	2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,420	193	15	110	6,780		
November.....						5,866	226	163	195	11,640		
December.....						6,527	338	186	220	13,540		
Calendar year 1937.....						71,756	978	3	197	142,300		
January.....						6,123	221	172	198	12,140		
February.....						5,989	278	195	214	11,880		
March.....						10,527	612	245	340	20,880		
April.....						11,487	584	258	393	22,780		
May.....						14,785	1,220	14	477	29,330		
June.....						5,790	680	3	193	11,480		
July.....						93	3	3	3.0	184		
August.....						62	2	2	2.0	123		
September.....						108	5	3	3.6	214		
Water year 1937-38.....						71,077	1,220	2	195	141,000		

Peak discharge.— Mar. 3 (11 p.m.) 877 sec.-ft.; May 18 (1 a.m.) 1,350 sec.-ft.; May 30 (1 a.m.) 914 sec.-ft.

## Weber-Provo diversion canal near Woodland, Utah

Location.- Water-stage recorder and Parshall rating flume, lat. 40°36'40", long. 111°18'15", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 30, T. 2 S., R. 6 E., 100 feet above confluence with Provo River and  $\frac{1}{2}$  miles northwest of Woodland.

Records available.- October 1931 to September 1938.

Remarks.- Records good. Canal diverts water from Weber River in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 21, T. 1 S., R. 6 E., for irrigation in Jordan River Basin. Records show quantity of water reaching Provo River during periods when water was being diverted from Weber River. Records of daily discharge furnished by Provo River water commissioner.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									(*)	113		
2									(*)	112		
3									(*)	106		
4									(*)	100		
5									(*)	96		
6									(*)	89		
7									(*)	71		
8									(*)	47		
9									(*)	31		
10									(*)	23		
11									(*)	16		
12									(*)	17		
13									(*)	20		
14									18	26		
15									50	26		
16									92	26		
17									119	27		
18									118	20		
19									114	13		
20									104	10		
21									99	19		
22									104	26		
23									103	30		
24									103	26		
25									103	26		
26									104	26		
27									110	17		
28									115	6		
29									117	1		
30									114	(*)		
31									-	(*)		
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
November.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
December.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
Calendar year 1937.....						5,951	149	*0	16.0		11,600	
January.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
February.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
March.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
April.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
May.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
June.....						1,687	119	*0	56.2		3,350	
July.....						1,168	113	*0	37.7		2,320	
August.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
September.....						(*)	(*)	(*)	(*)	(*)	(*)	(*)
Water year 1937-38.....						2,855	119	*0	7.8		5,670	

\*No water being diverted from Weber River.



South Fork of Provo River at Vivian Park, Utah  
(Formerly published as South Fork of Provo River at Forks, Utah)

Location.— Water-stage recorder and Parshall flume, lat. 40°21', long. 111°34', in SE¼ sec. 26, T. 5 S., R. 3 E., a quarter of a mile southeast of Vivian Park and half a mile upstream from confluence with Provo River.

Drainage area.— 30 square miles.

Records available.— November 1911 to September 1938.

Average discharge.— 26 years (1912-38), 30.5 second-feet.

Extremes.— Maximum discharge during year, 60 second-feet May 18 (gage height, 1.46 feet); minimum daily discharge, 23 second-feet June 27.

1911-38: Maximum discharge observed, 123 second-feet May 27, 1922; minimum discharge, 13 second-feet several times in 1934, and 1935, and on Apr. 2, 1937.

Remarks.— Records good. Flow regulated by diversions, all of which are above station. Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	34	30	28	26	27	26	36	30	24	30	31
2	37	33	30	28	26	28	26	38	28	25	30	31
3	36	33	31	28	27	32	25	36	29	25	30	32
4	35	34	31	28	27	29	26	35	31	25	28	32
5	32	33	30	29	26	28	28	34	31	26	28	32
6	33	33	30	28	26	27	27	34	33	27	28	32
7	34	34	30	28	26	26	27	32	34	28	28	32
8	34	34	30	29	26	26	27	32	35	28	28	32
9	35	33	30	28	26	26	27	32	35	28	30	32
10	35	32	31	28	26	26	28	31	28	27	30	32
11	35	32	32	28	26	26	32	31	28	26	29	34
12	34	32	38	28	27	30	31	32	27	26	30	33
13	33	32	34	27	26	30	32	33	27	29	30	32
14	35	32	32	27	26	29	32	36	26	34	30	31
15	36	32	31	27	26	28	31	37	26	30	28	31
16	35	32	30	27	26	28	31	44	26	28	28	31
17	37	33	30	27	26	28	30	50	26	28	28	30
18	39	33	30	27	26	28	30	58	26	28	28	30
19	37	34	30	27	25	27	29	52	26	27	28	30
20	37	33	30	27	25	27	30	45	25	26	28	30
21	36	33	30	26	25	26	30	42	25	25	28	30
22	35	32	30	26	25	25	30	39	25	26	28	30
23	35	32	30	26	25	25	33	37	24	26	28	31
24	34	32	30	26	25	25	34	36	24	28	29	31
25	34	32	29	26	25	25	35	38	24	30	30	32
26	35	32	29	26	25	25	35	40	24	32	30	32
27	35	32	29	27	25	25	33	44	23	33	29	32
28	34	32	29	27	25	26	32	45	24	33	30	32
29	34	32	29	27	-	25	32	44	24	32	30	32
30	34	31	28	26	-	25	35	40	24	32	30	33
31	34	-	28	26	-	25	-	32	-	31	31	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						1,086		39	32	35.0	2,150	
November.....						978		34	31	32.6	1,940	
December.....						941		38	28	30.4	1,870	
Calendar year 1937.....						10,815		69	19	29.6	21,440	
January.....						843		29	26	27.2	1,670	
February.....						721		27	25	25.8	1,430	
March.....						633		32	25	26.9	1,650	
April.....						904		35	25	30.1	1,790	
May.....						1,195		58	31	38.5	2,370	
June.....						818		35	23	27.3	1,620	
July.....						873		34	24	28.2	1,750	
August.....						900		31	28	29.0	1,790	
September.....						945		34	30	31.5	1,870	
Water year 1937-38.....						11,037		58	23	30.2	21,880	

## Sevier River near Kingston, Utah

Location.- Water-stage recorder and concrete control, lat. 38°12', long. 112°12', in NW¼ sec. 16, T. 30 S., R. 3 W., 1 mile west of Kingston and 2 miles upstream from East Fork.

Drainage area.- 1,110 square miles.

Records available.- June 1914 to September 1938.

Average discharge.- 24 years, 151 second-feet.

Extremes.- Maximum discharge during year, about 3,000 second-feet (including flow of 380 second-feet, estimated, in overflow channel bypassing station) Mar. 4 (gage height, 5.20 feet), from rating curve extended above 600 second-feet; minimum daily discharge, 14 second-feet July 21, 22.

1914-38: Maximum discharge, that of Mar. 4, 1938; minimum daily discharge, 5 second-feet June 16-20, 1931.

Remarks.- Records good except those for periods of ice effect, Dec. 20 to Jan. 15, Jan. 21-23, Feb. 2-19 (computed on basis of one-weekly gage reading and weather records), those for periods of missing gage heights, May 4-7, June 7, 11, 18-20, Sept. 18-19, 21-24, 28-29 (computed on basis of records for Beaver River near Beaver), and that of Mar. 4 (partly estimated), all of which are fair. Many diversions above station; none between station and mouth of East Fork.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	132	141	147	138	277	141	648	538	110	15	167
2	107	118	153	147	135	344	141	532	522	107	15	156
3	96	107	167	147	135	489	147	511	494	80	16	147
4	91	104	177	147	130	1,500	173	450	475	67	15	135
5	89	104	170	147	125	382	220	400	468	48	15	126
6	91	104	160	147	123	273	217	350	463	22	15	118
7	91	118	160	147	125	228	187	300	430	23	15	112
8	87	115	170	145	130	220	167	273	411	18	17	104
9	89	115	173	145	135	205	187	248	363	20	36	99
10	94	115	167	146	145	194	167	256	344	19	53	104
11	99	120	184	147	150	194	180	240	320	17	50	118
12	101	120	209	150	148	220	213	232	286	17	80	112
13	101	118	209	155	147	281	202	252	264	17	59	107
14	104	118	184	165	145	273	202	325	236	16	37	101
15	118	118	170	180	135	228	191	416	202	17	29	107
16	118	132	163	187	130	209	180	505	156	18	22	104
17	112	138	153	177	125	325	198	544	132	19	24	102
18	107	144	153	177	120	256	252	604	120	19	23	100
19	99	144	147	173	125	220	339	637	110	18	24	99
20	94	141	147	173	141	240	411	559	100	16	20	91
21	94	144	147	155	129	348	442	576	96	14	19	95
22	91	144	147	145	126	194	473	532	94	14	17	98
23	87	144	147	140	126	170	538	463	87	15	17	102
24	78	144	147	135	129	184	593	382	96	15	19	104
25	78	147	147	132	132	213	637	367	94	15	20	107
26	80	147	147	138	132	202	582	401	87	16	22	104
27	84	147	147	132	141	177	494	447	89	16	29	102
28	84	144	147	141	163	163	416	505	89	16	29	100
29	87	144	147	147	-	160	432	576	224	16	80	98
30	87	141	145	141	-	153	505	582	170	15	104	96
31	96	-	145	138	-	144	-	522	-	15	118	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,949	118	78	95.1	5,850		
November.....						3,871	147	104	129	7,680		
December.....						4,990	209	141	161	9,900		
Calendar year 1937.....						67,444	963	13	185	133,800		
January.....						4,693	187	132	151	9,310		
February.....						3,765	163	120	134	7,470		
March.....						8,667	1,500	144	280	17,190		
April.....						9,207	637	141	307	18,260		
May.....						13,735	659	232	445	27,240		
June.....						7,563	538	87	252	15,000		
July.....						855	110	14	27.6	1,700		
August.....						1,054	118	15	34.0	2,090		
September.....						3,315	167	91	110	6,580		
Water year 1937-38.....						64,664	1,500	14	177	128,300		

Peak discharge.- Mar. 4 (3 a.m.) 3,000 sec.-ft.; Mar. 17 (12:30 p.m.) 457 sec.-ft.; Mar. 21 (11 a.m.) 457 sec.-ft.; May 1 (10 a.m.) 748 sec.-ft.; June 29 (1 p.m.) 256 sec.-ft.

## Piute Reservoir near Marysville, Utah

Location.- Staff gage, lat. 38°20', long. 112°12', in NW¼ sec. 3, T. 29 S., R. 3 W., at Piute Dam, 9 miles south of Marysville.

Records available.- March 1914 to September 1938.

Remarks.- Gage read once daily. Capacity of reservoir, 90,000 acre-feet. Gage-height record furnished by Piute Reservoir & Irrigation Co.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35,920	30,640	35,920	49,270	58,200	63,800	76,400	80,920	81,480	72,680	41,500	15,400
2	35,760	30,640	36,400	49,840	58,400	64,200	78,400	81,200	81,200	72,680	40,650	15,280
3	35,600	30,800	36,740	50,030	58,600	65,400	78,140	80,920	81,200	72,440	39,800	15,280
4	35,440	30,600	37,050	50,410	58,800	66,240	77,880	80,640	81,200	71,960	38,950	15,160
5	35,120	30,800	37,420	50,790	59,000	66,930	77,620	80,080	81,200	71,000	38,100	15,160
6	34,640	30,800	37,930	51,170	59,200	69,160	77,100	79,520	81,200	70,080	37,080	15,040
7	34,160	30,800	38,440	51,550	59,400	69,160	77,100	79,240	80,920	69,160	36,400	14,470
8	33,880	30,800	38,950	51,930	59,600	69,390	77,620	78,960	81,200	67,780	35,920	13,920
9	33,200	30,960	39,460	52,120	60,000	69,850	77,360	78,140	81,480	66,200	35,600	13,370
10	32,680	30,960	39,970	52,310	60,200	70,310	77,360	77,620	81,200	64,800	35,440	12,520
11	32,400	31,120	40,650	52,500	60,400	70,640	77,360	77,100	81,200	63,400	35,120	12,270
12	31,920	31,280	41,160	52,690	60,600	70,770	77,100	76,580	81,200	62,000	34,640	11,720
13	31,500	31,440	41,670	53,070	60,800	71,240	77,100	76,320	80,920	60,600	34,160	11,500
14	31,280	31,760	42,180	53,260	61,000	71,480	77,100	76,060	80,640	59,200	33,360	10,700
15	30,960	31,920	42,690	53,450	61,400	71,960	77,100	75,580	80,640	58,000	32,400	10,100
16	30,640	32,080	43,200	53,830	61,600	72,440	77,100	77,100	80,360	57,000	31,440	9,500
17	30,640	32,240	43,740	54,210	61,800	72,920	76,840	77,620	80,080	55,800	30,320	8,700
18	30,640	32,400	44,280	54,600	62,200	73,400	77,100	78,400	79,520	54,800	29,100	7,960
19	30,640	32,720	44,640	55,000	62,400	73,880	77,360	79,240	78,680	53,850	27,900	7,280
20	30,300	33,200	45,000	55,400	62,600	74,360	77,880	80,360	78,140	53,070	26,700	6,640
21	30,800	33,520	45,360	55,500	62,800	74,640	78,400	81,200	77,580	52,120	25,500	6,000
22	30,960	33,680	45,720	55,200	63,000	75,320	78,960	81,200	77,360	51,170	24,300	5,360
23	30,960	33,680	46,080	55,400	63,000	75,800	79,520	81,200	76,840	50,080	22,950	4,780
24	31,120	33,840	46,440	55,600	63,000	76,060	80,080	81,200	76,320	49,080	21,660	4,260
25	31,120	34,000	46,800	55,800	63,200	76,320	80,640	81,200	75,560	48,130	20,400	3,720
26	30,960	34,160	47,180	57,000	63,200	76,580	81,480	81,200	74,840	46,800	19,180	3,180
27	30,960	34,320	47,370	57,200	63,200	76,840	81,200	81,200	73,880	45,900	17,800	2,650
28	30,800	34,640	47,750	57,400	63,400	77,100	80,940	81,200	73,400	45,000	16,960	2,200
29	30,800	34,960	48,130	57,600	-	77,360	80,360	81,200	72,920	44,100	16,240	1,800
30	30,640	35,440	48,510	57,800	-	77,880	80,640	81,200	72,920	43,200	15,640	1,400
31	30,640	-	48,890	58,000	-	78,140	-	81,200	-	42,350	15,400	-

## Sevier River below Piute Dam, near Marysville, Utah

Location.- Water-stage recorder, lat.  $38^{\circ}20'$ , long.  $112^{\circ}11'$ , in sec. 34, T. 28 S., R. 3 W., three-quarters of a mile downstream from Piute Dam and 8 miles south of Marysville.

Drainage area.- 2,440 square miles.

Records available.- May 1911 to September 1938.

Average discharge.- 26 years (1912-38), 255 second-feet.

Extremes.- 1911-38: Maximum discharge, 2,600 second-feet May 23, 24, 1922; practically no flow at times when reservoir gates are closed.

Remarks.- Records excellent. Discharge for periods when recorder was not working, Feb. 16-20, Mar. 17-27, June 22 to July 4, computed from staff-gage readings made once or twice daily. One small diversion between station and Piute Dam. Flow regulated by operation of gates in dam.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Sept. 6-30)

0.2	7	0.8	77	1.8	295	2.8	600
.3	15	1.0	111	2.0	350	3.0	670
.4	25	1.2	150	2.2	408	3.2	740
.5	36	1.4	195	2.4	469	3.4	810
.6	48	1.6	244	2.6	533	3.5	845

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	246	205	44	15	71	119	21	469	485	264	520	300
2	266	205	38	16	71	117	142	593	546	226	517	282
3	289	205	35	16	71	64	234	666	553	264	475	279
4	298	205	34	16	71	110	232	628	523	359	438	279
5	330	205	34	15	71	190	232	586	514	517	339	279
6	359	205	26	14	71	195	234	563	507	628	339	367
7	370	205	21	14	71	141	234	533	450	553	336	472
8	396	205	21	14	71	20	234	511	277	698	336	469
9	394	184	20	14	71	20	234	495	353	730	287	469
10	379	104	20	14	71	20	234	479	432	782	344	469
11	328	98	20	14	71	20	234	479	379	805	344	469
12	300	64	20	14	71	20	234	472	370	831	344	466
13	298	90	20	14	71	20	234	460	322	803	423	466
14	298	115	20	14	71	20	234	444	282	768	476	466
15	298	119	20	14	71	20	234	447	277	690	635	469
16	298	140	23	14	71	20	234	450	322	638	638	514
17	298	140	34	14	71	20	234	379	379	635	674	504
18	224	140	34	14	71	20	234	285	408	593	668	498
19	161	140	34	14	71	20	234	444	411	507	691	488
20	161	140	34	14	71	20	234	342	311	501	691	469
21	161	91	34	14	71	20	239	429	308	566	691	460
22	161	98	34	15	82	20	325	583	333	573	688	450
23	161	138	34	52	128	20	336	614	402	597	670	435
24	161	186	34	90	119	20	376	604	457	610	663	423
25	161	177	34	79	119	20	438	514	457	607	652	411
26	186	154	34	71	119	20	590	463	457	607	638	394
27	205	126	34	71	119	20	782	466	504	586	621	376
28	236	76	34	71	119	20	614	457	350	517	614	359
29	264	48	34	71	-	19	457	457	303	520	604	344
30	259	47	29	71	-	16	450	485	303	517	501	328
31	202	-	21	71	-	18	-	437	-	514	350	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	8,148	396	161	263	16,160
November.....	4,255	205	47	142	8,440
December.....	908	44	20	29.3	1,800
Calendar year 1937.....	78,722	700	14	216	156,100
January.....	964	90	14	31.1	1,910
February.....	2,296	128	71	62.0	4,550
March.....	1,409	195	16	45.5	2,790
April.....	8,913	722	21	257	17,690
May.....	15,214	658	285	421	30,180
June.....	11,985	563	277	400	23,770
July.....	18,027	831	226	582	35,760
August.....	16,226	691	287	523	32,180
September.....	12,473	514	279	416	24,740
Water year 1937-38.....	100,823	831	14	276	200,000

## Sevier River near Vermilion, Utah

Location.- Water-stage recorder, lat. 38°52', long. 111°57', in SW¼ sec. 19, T. 22 S., R. 1 W., at highway bridge half a mile downstream from Rockyford Dam, 2 miles north-east of Vermilion, and 5 miles upstream from Lost Creek.

Drainage area.- 3,340 square miles.

Records available.- July to September 1912, July 1914 to September 1938.

Average discharge.- 24 years (1914-38), 117 second-feet.

Extremes.- Maximum discharge during year, 515 second-feet May 25 (gage height, 3.22 feet); minimum, less than 1 second-foot July 4-15, when reservoir gates were closed. 1914-38: Maximum discharge, 2,400 second-feet May 30, 1922 (gage height, about 8.1 feet, former datum) from rating curve extended above 600 second-feet; practically no flow (seepage only) when Rockyford gates are closed.

Remarks.- Records good except those for periods of missing gage heights, Mar. 6-8, June 4-9, July 8-15, Sept. 23-25, which were computed on basis of gage changes at Rockyford Reservoir and records for station near Gunnison and are fair. Entire flow usually diverted during low-water season. Flow past station at such times presents seepage and return flow from canals. Flow also regulated by dams and reservoirs above station.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 13 to Aug. 30)

0.7	1	1.1	17	1.5	57	2.3	216
.8	3	1.2	24	1.6	71	2.6	301
.9	6	1.3	33	1.8	105	3.0	434
1.0	11	1.4	44	2.0	145	3.3	545

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	85	82	120	174	251	120	246	348	118	60	355
2	2	89	82	118	179	221	120	257	304	61	34	323
3	52	91	82	120	179	224	122	274	240	11	25	268
4	84	94	82	120	179	249	122	295	190	1	10	221
5	79	94	81	118	181	230	219	310	170	1	12	214
6	65	101	79	116	181	230	277	352	160	1	21	206
7	63	109	79	114	179	230	251	355	160	1	102	174
8	60	114	79	111	179	235	238	326	160	1	186	160
9	57	118	79	107	179	216	235	263	140	1	160	184
10	53	120	77	105	184	174	238	209	81	1	145	181
11	56	126	85	111	181	153	238	179	61	1	134	184
12	68	128	89	116	181	141	240	100	63	1	111	184
13	74	124	94	118	177	145	224	32	85	1	71	201
14	79	124	100	120	172	154	194	8	172	1	27	196
15	81	120	103	120	167	156	137	3	174	1	3	191
16	105	116	103	124	172	156	116	3	147	2	3	172
17	118	107	103	134	174	154	169	219	63	96	4	165
18	120	96	149	147	174	158	184	323	44	147	9	199
19	124	103	219	158	169	154	189	277	25	149	9	223
20	126	103	120	165	177	149	186	240	21	137	5	232
21	126	103	89	163	179	143	179	268	23	87	4	240
22	124	94	84	154	172	149	100	284	25	28	3	249
23	122	87	84	147	172	139	29	295	18	18	4	250
24	120	89	92	141	172	137	6	345	2	15	33	240
25	118	92	94	132	191	74	37	417	2	13	67	235
26	116	96	98	154	196	23	87	466	2	5	74	232
27	109	87	105	169	196	72	134	423	51	49	103	211
28	92	87	120	183	196	118	154	365	103	68	167	177
29	76	82	124	172	-	116	215	348	154	65	196	156
30	82	82	128	172	-	116	251	358	149	82	243	116
31	85	-	124	174	-	120	-	375	-	101	326	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,638	126	2	85.1	5,230		
November.....						3,061	128	82	102	6,070		
December.....						3,109	219	81	100	6,170		
Calendar year 1937.....						31,656	387	1	86.7	62,780		
January.....						4,203	174	105	136	8,340		
February.....						5,012	196	167	179	9,940		
March.....						4,987	251	23	161	9,890		
April.....						5,012	277	6	167	9,940		
May.....						8,215	466	3	255	16,290		
June.....						3,337	348	2	111	6,620		
July.....						1,264	149	1	40.8	2,510		
August.....						2,351	325	3	75.8	4,660		
September.....						6,339	355	116	211	12,570		
Water year 1937-38.....						49,528	466	1	136	98,230		

## Sevier River below San Pitch River, near Gunnison, Utah

Location.- Water-stage recorder, lat.  $39^{\circ}09'$ , long.  $111^{\circ}52'$ , in NE $\frac{1}{4}$  sec. 14, T. 19 S., R. 1 W., 1,000 feet downstream from San Pitch River and 3 miles west of Gunnison.

Drainage area.- 4,880 square miles.

Records available.- October 1917 to September 1938.

Average discharge.- 21 years, 223 second-feet.

Extremes.- Maximum discharge during year, 874 second-feet May 28 (gage height, 3.22 feet); minimum daily discharge, 53 second-feet July 12.  
1917-38: Maximum discharge, 2,620 second-feet June 1, 1922 (gage height, 5.32 feet); minimum daily discharge, 8 second-feet July 13-17, Sept. 6, 1934.

Remarks.- Records excellent except those for periods of missing gage heights, Nov. 2-7, 9-14, 16-19, 23, 27, Feb. 5, 6, Mar. 7, 14-21, 29-31, Apr. 1, 2, 13, 14, 23, 24, Aug. 3, which were computed on basis of records for station near Vermilion and are good. Flow regulated by operation of reservoirs and by many diversions for irrigation above station. Most of flow diverted above station during irrigation season.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

0.6	32	1.6	242	2.6	500
.8	56	1.8	287	2.8	556
1.0	91	2.0	335	3.0	612
1.2	135	2.2	389	3.2	668
1.4	190	2.4	444	3.3	696

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	130	167	184	230	298	325	212	432	592	195	128	408
2	128	170	193	234	289	346	212	435	590	164	112	402
3	126	175	217	254	292	362	212	389	562	119	100	384
4	156	175	212	254	287	381	204	376	480	95	91	338
5	178	180	201	251	290	384	206	367	419	82	87	294
6	178	180	193	242	290	373	294	373	381	76	83	285
7	167	190	195	237	287	370	335	402	376	67	97	285
8	161	206	198	232	301	370	330	421	357	69	140	281
9	161	210	204	230	303	378	322	419	348	67	187	276
10	167	210	212	224	303	359	312	348	320	59	178	298
11	173	210	214	230	301	308	318	322	256	55	176	294
12	164	215	254	237	292	294	328	276	176	53	181	301
13	176	215	303	237	294	287	310	247	187	59	161	308
14	184	210	276	237	292	295	295	287	170	64	135	325
15	204	206	254	249	298	310	276	303	214	64	108	308
16												
18	212	200	249	260	294	310	217	367	237	66	83	303
17	224	195	247	263	296	310	237	294	227	64	82	296
18	222	185	240	276	298	300	287	382	138	112	83	287
19	220	180	260	292	296	305	289	468	117	181	83	310
20	214	201	303	301	298	285	312	517	104	204	72	338
21	138	198	254	292	298	270	301	478	93	195	62	346
22	195	193	230	285	298	265	287	430	85	140	67	362
23	201	195	224	283	289	265	220	435	82	106	74	362
24	201	184	224	269	287	247	185	435	78	106	80	346
25	198	176	224	251	287	249	193	461	70	102	102	332
26												
26	190	185	222	242	298	204	190	503	64	99	148	303
27	190	190	220	254	312	178	195	590	62	80	170	292
28	181	181	222	276	315	201	214	657	82	67	195	276
29	164	193	224	285	-	205	247	654	173	95	234	247
30	151	197	230	292	-	205	325	632	212	91	258	224
31	156	-	230	292	-	210	-	606	-	110	338	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						6,570	224	126	180		11,050	
November.....						5,762	215	167	192		11,430	
December.....						7,113	303	184	229		14,110	
Calendar year 1937.....						68,413	503	39	187		135,700	
January.....						7,991	301	224	258		15,850	
February.....						8,283	315	287	296		16,430	
March.....						9,151	384	178	295		18,150	
April.....						7,865	335	185	262		15,600	
May.....						13,276	657	247	428		26,330	
June.....						7,232	592	82	241		14,340	
July.....						3,109	204	53	100		6,170	
August.....						4,095	338	82	132		8,120	
September.....						9,361	408	224	312		18,570	
Water year 1937-38.....						88,808	657	53	243		176,200	

## Sevier Bridge Reservoir near Juab, Utah

Location.- Staff gage, lat. 39°22', long. 112°02', in NW¼ sec. 1, T. 17 S., R. 2 W., at Sevier Bridge Dam, 13 miles southwest of Juab.

Records available.- January 1914 to September 1938.

Remarks.- Reservoir has a capacity of 236,000 acre-feet. Gage-height record and capacity table furnished by Consolidated Sevier Bridge Reservoir Co. Gage read once daily.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15,270	20,040	25,610	41,120	58,080	74,540	89,920	89,760	88,100	77,710	57,690	44,120
2	15,550	19,710	26,070	41,680	58,610	75,140	90,430	89,260	88,100	77,410	57,420	44,120
3	15,840	19,390	26,530	42,140	59,410	75,890	90,760	89,420	87,940	77,410	57,160	44,560
4	16,140	19,080	26,980	42,610	60,080	76,640	91,100	89,420	87,780	77,100	56,500	44,590
5	16,430	18,740	27,450	43,080	60,490	77,260	91,430	89,420	87,460	77,100	55,960	44,590
6	16,800	18,340	27,830	43,770	61,300	77,860	91,770	89,420	86,970	76,800	55,210	44,590
7	17,180	17,800	28,210	44,480	62,110	78,630	92,100	89,090	86,320	76,490	54,950	44,560
8	17,570	18,040	28,680	44,950	62,520	79,240	92,610	88,920	85,840	76,190	54,690	44,120
9	17,960	18,190	29,150	45,070	63,210	79,860	93,340	88,430	85,200	75,890	54,430	44,120
10	18,270	18,340	29,540	45,780	64,030	80,480	94,040	88,100	84,720	75,290	54,430	44,120
11	18,580	18,420	30,030	46,250	64,580	81,260	94,570	87,300	84,410	74,540	54,180	44,560
12	18,580	18,580	30,620	46,730	65,150	81,880	94,930	86,490	84,410	73,790	54,180	44,590
13	18,580	18,740	31,100	47,220	65,850	82,350	95,460	85,680	84,090	72,760	54,180	44,530
14	17,740	18,820	31,810	47,700	66,270	82,820	96,180	84,880	83,930	71,440	53,920	45,070
15	18,820	18,900	32,710	48,190	66,830	83,300	96,740	83,930	83,620	70,260	53,920	45,300
16	19,310	19,230	33,120	48,790	67,390	83,930	97,120	82,980	83,300	68,540	53,670	45,300
17	19,800	19,710	33,530	49,410	67,970	84,410	97,120	82,350	82,980	67,390	53,280	45,780
18	20,200	20,200	34,060	49,900	68,540	84,720	97,120	81,580	82,980	66,690	52,910	46,080
19	20,620	20,620	34,570	50,520	69,120	85,200	97,310	81,260	82,820	65,990	52,650	46,250
20	20,880	21,050	35,200	51,140	69,690	85,680	97,120	81,580	82,500	65,430	51,640	46,490
21	21,140	21,560	35,840	51,760	70,260	86,160	96,930	81,880	82,040	64,580	51,140	46,860
22	21,390	21,980	36,480	52,280	70,850	86,650	96,550	82,660	81,420	63,760	50,150	47,220
23	21,480	22,420	36,910	52,650	71,440	86,970	96,180	83,300	80,790	62,660	49,160	47,700
24	21,480	22,830	37,340	53,160	71,880	87,460	96,260	83,930	80,170	61,570	48,430	48,670
25	21,390	23,290	37,780	53,920	72,320	87,780	94,220	84,570	79,550	60,760	47,460	49,410
26	21,300	23,640	38,220	54,430	72,900	88,100	93,340	85,200	78,930	60,080	46,490	50,150
27	21,220	24,080	38,660	54,690	73,500	88,590	92,630	85,840	78,630	59,820	45,660	50,890
28	21,050	24,530	39,210	55,210	73,940	88,750	91,940	86,160	78,320	59,140	45,070	50,040
29	20,880	24,890	39,540	55,730	-	89,090	91,100	87,130	77,020	59,000	44,590	51,890
30	20,710	25,250	40,220	56,240	-	89,420	90,260	87,460	77,710	58,480	44,360	52,520
31	20,290	-	40,670	57,030	-	89,590	-	87,780	-	57,950	44,120	-

## Sevier River near Juab, Utah

Location.- Water-stage recorder, lat. 39°22', long. 112°02', in NW¼ sec. 1, T. 17 S., R. 2 W., 300 feet downstream from Sevier Bridge Dam and 13 miles southwest of Juab.  
Prior to Apr. 12, 1938, water-stage recorder at site a quarter of a mile downstream at different datum.

Drainage area.- 5,120 square miles.

Records available.- September 1911 to September 1938.

Average discharge.- 27 years, 260 second-feet.

Extremes.- Maximum discharge during year, 980 second-feet July 15 (gage height, 3.70 feet); minimum daily discharge, 2 second-feet November 21 to Apr. 11.  
1911-38: Maximum discharge, 2,140 second-feet June 2, 1922 (gage height, 8.50 feet, former site and datum); practically no flow when reservoir gates are closed.

Remarks.- Records good except those prior to Apr. 15, which are fair. Discharge for periods when reservoir gates were closed, Nov. 18 to Apr. 14, Sept. 26-30, computed on basis of three discharge measurements and observer's notes. No diversions between this station and station near Gunnison. Flow regulated by Sevier Bridge Reservoir (capacity, 236,000 acre-feet).

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	328					2	715	542	194	266	329
2	5	328					2	595	665	171	266	329
3	5	328					2	395	665	172	320	329
4	5	326					2	395	665	172	381	334
5	5	355					2	376	625	170	381	334
6	5	388					2	376	590	180	292	329
7	5	243					2	523	590	230	205	329
8	5	122					2	675	590	230	205	329
9	5	142					2	675	561	262	205	241
10	7	162					2	710	528	329	205	191
11	122	162					2	750	385	338	205	191
12	169	162					6	750	275	465	205	191
13	169	166					6	760	275	665	205	191
14	172	169					8	800	275	815	205	194
15	59	82					72	800	275	870	205	194
16	6	6					191	800	275	725	205	172
17	6	6					159	710	275	470	202	163
18	6	6					189	710	275	470	199	163
19	40	6					292	480	275	470	338	163
20	103	4					404	258	275	537	409	163
21	97	2					428	184	343	615	404	142
22	140	2					442	101	404	595	432	128
23	208	2					600	101	390	576	504	79
24	238	2					705	101	362	523	508	10
25	251	2					765	101	376	404	556	10
26	268	2					670	183	315	352	586	9
27	268	2					590	227	194	266	576	9
28	268	2					620	301	194	266	470	9
29	296	2					640	301	194	266	329	9
30	337	2					640	301	194	266	329	9
31	332	-					-	352	-	266	329	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							3,645	337	5	118	7,230	
November.....							3,491	388	2	116	6,920	
December.....							62	-	-	2	125	
Calendar year 1937.....							62,631	948	2	172	124,200	
January.....							62	-	-	2	125	
February.....							56	-	-	2	111	
March.....							62	-	-	2	125	
April.....							7,421	765	2	247	14,720	
May.....							14,506	800	101	468	28,770	
June.....							11,847	665	194	395	23,500	
July.....							12,330	870	170	398	24,460	
August.....							10,127	556	199	327	20,090	
September.....							6,273	334	9	176	10,460	
Water year 1937-38.....							68,682	870	2	189	136,600	



## East Fork of Sevier River near Kingston, Utah

Location.- Water-stage recorder, lat.  $38^{\circ}12'$ , long.  $112^{\circ}09'$ , in SW $\frac{1}{4}$  sec. 13, T. 30 S., R. 3 W., 1 mile downstream from highway bridge and 2 miles east of Kingston.

Drainage area.- 1,260 square miles.

Records available.- April 1913 to September 1938. March 1913 to April 1914 at site  $\frac{1}{4}$  miles upstream from Rockyford Bridge. May to September 1912 at site three-quarters of a mile north of Kingston.

Average discharge.- 25 years, 90.2 second-feet.

Extremes.- Maximum discharge during year, 331 second-feet Apr. 24, 25 (gage height, 4.40 feet); minimum daily discharge, 14 second-feet Jan. 4-13, 22-30, 1913-38; Maximum discharge, about 2,000 second-feet Aug. 27, 1929, from rating curve extended above 400 second-feet; minimum, 6 second-feet Oct. 30, 1930.

Remarks.- Records fair. Discharge for period of ice effect, Dec. 15-31, Jan. 1, 6-14, 22-30, Feb. 8-8, 16-18, computed on basis of weather records and records of outflow from Otter Creek Reservoir. Discharge for June 18-22, Sept. 7, 8 interpolated. Station is above all diversions for irrigation in vicinity of Kingston. Flow regulated at Otter Creek Reservoir (capacity, 52,600 acre-feet), 8 miles above station.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	57	46	16	15	25	19	256	95	39	40	51
2	147	54	47	16	16	26	19	126	95	39	38	57
3	30	51	48	15	16	51	19	50	97	39	35	43
4	29	51	47	14	16	39	19	38	97	39	34	38
5	31	50	45	14	16	26	19	32	93	39	32	37
6	29	48	44	14	16	23	20	35	89	38	34	35
7	29	47	46	14	16	21	19	38	63	37	35	37
8	29	45	47	14	16	20	18	43	62	36	35	39
9	31	42	48	14	16	20	18	46	55	35	41	42
10	29	38	52	14	18	20	18	58	53	35	43	45
11	28	38	54	14	21	20	18	77	52	36	41	59
12	25	38	62	14	25	21	18	81	48	38	45	58
13	25	40	66	14	21	22	18	91	46	44	59	44
14	25	41	58	16	18	21	18	131	47	44	46	42
15	25	42	56	18	18	20	18	235	47	41	40	39
16	24	42	54	18	17	20	18	294	47	39	37	38
17	24	43	50	17	16	20	20	315	44	41	38	38
18	24	45	48	16	16	20	23	308	41	42	36	38
19	24	45	46	16	16	19	69	235	38	38	32	41
20	26	45	46	16	17	19	175	219	36	33	31	43
21	54	44	46	16	16	19	212	215	34	28	31	42
22	52	44	46	14	17	18	215	209	32	28	32	42
23	52	45	20	14	18	18	273	190	30	28	32	42
24	52	45	16	14	18	18	294	155	29	28	32	42
25	52	45	16	14	17	18	308	136	28	32	37	43
26	52	45	16	14	18	18	219	73	28	32	35	42
27	52	42	16	14	18	18	95	67	27	32	35	41
28	53	42	16	14	20	18	75	70	27	32	40	39
29	54	42	16	14	-	18	80	53	33	31	41	36
30	55	42	16	14	-	18	164	58	42	31	50	36
31	54	-	16	15	-	19	-	77	-	39	57	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						1,368		152	24	44.1	2,710	
November.....						1,338		57	38	44.6	2,650	
December.....						1,250		66	16	40.3	2,490	
Calendar year 1937.....						23,304		408	14	63.8	46,220	
January.....						461		18	14	14.9	914	
February.....						488		25	15	17.4	968	
March.....						673		51	18	21.7	1,350	
April.....						2,518		308	18	83.9	4,990	
May.....						4,011		315	32	129	7,960	
June.....						1,555		97	27	51.8	3,080	
July.....						1,113		44	28	35.9	2,210	
August.....						1,194		59	31	38.5	2,370	
September.....						1,271		59	35	42.4	2,520	
Water year 1937-38.....						17,240		315	14	47.2	34,180	

## BEAVER RIVER BASIN

Beaver River near Beaver, Utah

**Location.**— Water-stage recorder, lat.  $38^{\circ}17'$ , long.  $112^{\circ}34'$ , in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 17, T. 29 S., R. 8 W., at Fishlake National Forest boundary, three-quarters of a mile downstream from East Fork Bakers Canyon, and  $4\frac{1}{2}$  miles east of Beaver. Prior to Oct. 16, 1937, water-stage recorder at site 1,000 feet downstream at different datum.

**Drainage area.**— 82 square miles.

**Records available.**— June to September 1906 and March 1914 to September 1938.

**Average discharge.**— 24 years (1914-38), 56.1 second-feet.

**Extremes.**— Maximum discharge during year, 460 second-feet May 27, (gage height, 3.3 feet), from rating curve extended above 250 second-feet; minimum daily discharge, 15 second-feet Feb. 18.

1914-38: Maximum discharge, 1,080 second-feet July 22, 1936 (gage height, 7.27 feet, former site and datum), from rating curve extended above 500 second-feet; minimum, about 5 second-feet Aug. 29, 1931.

**Remarks.**— Records good except those for periods of ice effect, Dec. 20 to Feb. 7, Feb. 16-20, which were computed on basis of weather records and are fair. No diversions for irrigation above station. Water diverted by Telluride Power Co. but returned to stream several miles above station. Flow slightly regulated by operation of power plants and by storage in several small reservoirs.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	27	22	20	18	24	22	146	347	90	34	32
2	24	27	22	20	18	25	18	125	343	93	34	33
3	24	26	20	20	18	36	21	106	349	94	33	27
4	25	26	22	19	17	22	26	94	326	90	32	26
5	27	22	25	18	17	22	33	86	303	86	32	25
6	23	24	27	18	17	22	29	82	281	85	37	25
7	22	25	23	18	17	21	23	78	252	86	43	26
8	22	18	22	18	17	21	27	77	229	89	42	26
9	22	25	22	18	17	21	30	79	218	86	38	25
10	22	29	24	18	21	20	34	93	208	85	36	22
11	22	25	27	18	18	20	43	111	197	82	33	33
12	24	29	37	19	17	25	51	149	180	80	32	27
13	23	22	33	19	17	26	45	186	164	90	32	20
14	25	22	29	19	19	21	37	279	149	80	31	23
15	26	23	28	20	19	23	36	326	143	79	32	22
16	27	22	26	20	19	25	46	338	140	75	30	22
17	27	25	24	20	17	27	68	295	138	69	28	21
18	24	23	25	19	15	22	90	248	138	68	27	24
19	22	20	24	18	16	22	131	227	128	66	26	24
20	22	27	22	18	17	22	128	199	114	63	27	29
21	24	25	21	17	17	24	117	180	107	52	27	28
22	22	16	21	17	19	19	136	172	110	48	30	27
23	22	22	22	17	20	24	144	186	107	50	28	24
24	22	25	22	17	17	23	159	218	111	52	30	23
25	23	24	22	16	19	23	146	267	106	50	32	17
26	22	22	21	17	21	22	116	330	100	43	32	21
27	23	18	20	17	20	23	106	383	102	41	32	22
28	23	18	20	18	26	27	121	405	107	39	31	22
29	19	20	20	18	—	22	148	381	121	38	34	21
30	25	21	19	17	—	21	181	359	99	35	35	21
31	29	—	19	18	—	20	—	359	—	35	34	—
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						733	29	19	23.6	1,450		
November.....						698	29	16	23.3	1,380		
December.....						731	37	19	23.6	1,450		
Calendar year 1937.....						28,130	693	—	77.1	55,800		
January.....						566	20	18.3	18.3	1,120		
February.....						510	28	15	18.2	1,010		
March.....						714	36	19	23.0	1,420		
April.....						2,312	181	18	77.1	4,590		
May.....						6,559	405	77	71.2	13,010		
June.....						5,417	349	99	181	10,740		
July.....						2,119	94	35	88.4	4,200		
August.....						1,004	43	26	32.4	1,990		
September.....						738	33	17	24.6	1,460		
Water year 1937-38.....						22,101	405	15	60.6	43,820		

**Peak discharge.**— Feb. 17 (2 a.m.) 398 sec.-ft.; Apr. 29 (10 p.m.) 200 sec.-ft.; May 15 (10 p.m.) 398 sec.-ft.; May 27 (9 p.m.) 460 sec.-ft.; May 31 (9 p.m.) 420 sec.-ft.

## Beaver River at Adamsville, Utah

Location.— Water-stage recorder, lat.  $38^{\circ}16'$ , long.  $112^{\circ}48'$ , in S $\frac{1}{2}$  sec. 30, T. 29 S., R. 8 W., 800 feet downstream from highway bridge on road from Milford to Beaver, a quarter of a mile upstream from Indian Creek, and three-quarters of a mile south of Adamsville. Prior to Sept. 30, 1936, water-stage recorder at site 300 feet upstream at different datum.

Drainage area.— 272 square miles.

Records available.— December 1913 to September 1936 and October 1937 to September 1938.

Average discharge.— 22 years (1914-36), 37.0 second-feet.

Extremes.— Maximum discharge during year, 499 second-feet May 28 (gage height, 2.78 feet), from rating curve extended above 800 second-feet; minimum daily discharge, 5 second-feet July 21, 30-31, Aug. 1-8, 22-24.

1913-36, 1937-38: Maximum discharge, 989 second-feet Sept. 1, 1936 (gage height, 5.79 feet, former site and datum), from rating curve extended above 500 second-feet; no flow during periods in 1924, 1931, 1934 and 1935.

Remarks.— Records good except those for periods of missing gage heights, which are fair.

No diversions between station and storage reservoir of Beaver County Irrigation Co. Several ditches above station divert practically entire flow during irrigation season to supply Adamsville and Beaver districts.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	50	*44	*47	*50	56	35	38	276	20	5	70
2	-	42	*44	50	*49	50	34	27	238	16	5	46
3	-	41	*42	50	48	108	32	23	279	12	5	38
4	-	41	48	*50	46	77	29	17	289	12	5	25
5	-	43	50	*48	43	58	31	16	241	12	5	16
6	-	50	50	*46	43	50	36	15	215	12	*5	14
7	-	55	49	*46	46	49	35	15	182	11	*5	14
8	-	53	*48	*46	46	45	33	13	139	10	*5	11
9	-	35	*50	*46	45	45	32	12	123	10	9	11
10	-	53	73	48	46	39	31	11	96	11	36	13
11	-	53	*78	48	42	35	32	9	86	12	20	16
12	-	50	*80	46	41	36	29	8	66	10	17	16
13	-	49	*75	52	39	40	31	10	56	9	16	13
14	-	49	70	45	39	46	26	64	52	9	14	13
15	-	50	66	*48	41	45	26	174	48	9	11	13
16	30	52	64	*48	39	41	27	283	41	8	10	13
17	31	52	56	48	39	40	32	225	27	8	10	14
18	30	53	53	*43	39	42	49	151	21	8	9	14
19	31	49	*50	*48	41	40	77	222	20	8	9	16
20	30	52	*45	*48	42	41	99	129	21	6	8	17
21	29	49	43	*46	42	40	73	92	21	5	6	18
22	30	47	*42	*48	43	41	75	86	*17	6	5	18
23	29	47	*48	*45	45	42	71	70	13	7	5	18
24	27	49	*46	*46	49	41	81	94	12	6	5	17
25	22	*48	*48	*46	46	40	90	132	10	6	12	16
26	14	46	*48	*47	43	38	50	225	11	7	14	16
27	14	38	49	48	46	39	25	312	9	8	16	16
28	14	*38	52	*50	*52	42	18	400	8	7	16	16
29	14	*40	48	*50	-	42	16	412	27	6	18	16
30	15	*42	*44	*46	-	41	35	345	27	5	36	18
31	30	-	*44	*48	-	40	-	301	-	5	49	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 16-31.....	390	31	14	24.4	774
November.....	1,434	55	38	47.8	2,840
December.....	1,646	80	42	53.1	3,260
Calendar year .....					
January.....	1,477	52	43	47.6	2,930
February.....	1,229	62	38	43.9	2,440
March.....	1,428	108	55	46.1	2,850
April.....	1,250	99	16	43.0	2,560
May.....	3,631	412	8	127	7,600
June.....	2,621	279	8	87.4	5,200
July.....	281	20	5	9.1	557
August.....	391	49	5	12.6	776
September.....	572	70	11	19.1	1,130
The period.....					33,100

Peak discharge.— Apr. 25 (4 a.m.) 132 sec.-ft.; May 16 (6 a.m.) 345 sec.-ft.; May 28 (6 a.m.) 499 sec.-ft.; Aug. 30 (4 p.m.) 215 sec.-ft.

\*Gage height missing; discharge computed on basis of weather records and records for station near Beaver.

## Beaver River at Rockyford Dam, near Minersville, Utah

Location.- Water-stage recorder and concrete control, lat.  $38^{\circ}14'$ , long.  $112^{\circ}51'$ , in NW $\frac{1}{4}$  sec. 11, T. 30 S., R. 9 W., half a mile downstream from Rockyford Dam and 4 miles east of Minersville. Prior to Mar. 24, staff gage at same location and datum.

Drainage area.- 512 square miles.

Records available.- December 1913 to September 1938.

Average discharge.- 23 years (1914-36, 1938) 38.9 second-feet.

Extremes.- Maximum discharge during year, 205 second-feet Nov. 1-2 (gage height, 2.04 feet); minimum daily discharge, 7 second-feet Nov. 26 to Feb. 2.  
1913-38: Maximum discharge, 727 second-feet June 10, 1921 (gage height, 3.53 feet); minimum, 0.3 second-foot (estimated) Mar. 19, 20, 1914.

Remarks.- Records good. During period Oct. 1 to Mar. 24 gage read about once weekly and before and after each change in gate openings; discharge for intervening days interpolated. No diversions between dam and station. Flow regulated by operation of gates at Rockyford Dam and affected also by several diversions for irrigation and municipal supply above the reservoir.

Rating tables, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 30

0.8	5	1.4	68
.9	11	1.6	102
1.0	19	1.8	144
1.1	29	2.0	194
1.2	41	2.2	252
1.3	54		

Dec. 1 to Sept. 30

0.8	5	1.4	65
.9	11	1.6	96
1.0	19	1.8	130
1.1	28	2.0	166
1.2	38		
1.3	51		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	100	7	7	7	10	16	104	120	86	44	68
2	60	120	7	7	7	10	16	106	125	88	44	62
3	60	19	7	7	8	10	16	106	130	88	44	52
4	60	19	7	7	8	10	16	106	132	90	44	44
5	60	23	7	7	8	10	16	116	137	93	49	44
6	60	29	7	7	8	10	16	120	144	106	68	44
7	60	29	7	7	9	10	16	120	143	110	78	44
8	60	29	7	7	9	10	16	120	141	118	80	44
9	58	29	7	7	9	10	16	120	141	123	80	44
10	57	29	7	7	9	10	16	118	141	130	78	39
11	57	29	7	7	9	10	16	116	141	134	76	50
12	57	29	7	7	9	11	16	115	141	134	74	59
13	57	29	7	7	9	11	16	115	141	136	74	65
14	57	29	7	7	9	11	16	115	139	137	74	70
15	57	29	7	7	9	11	16	115	135	139	82	74
16	57	29	7	7	9	11	15	113	134	139	83	72
17	57	26	7	7	9	11	15	116	132	137	83	72
18	57	19	7	7	9	11	15	116	122	137	83	72
19	57	18	7	7	9	11	16	116	122	135	83	72
20	57	17	7	7	9	11	27	111	122	135	83	71
21	57	16	7	7	9	11	35	108	122	135	83	70
22	57	15	7	7	9	11	37	108	120	134	90	71
23	57	15	7	7	10	11	43	108	120	110	93	70
24	57	15	7	7	10	11	47	108	103	103	93	70
25	57	10	7	7	10	12	70	108	85	104	93	68
26	57	7	7	7	10	12	78	108	82	106	93	66
27	57	7	7	7	10	11	78	108	70	106	93	49
28	57	7	7	7	10	13	90	108	78	106	94	37
29	57	7	7	7	-	16	90	110	86	106	93	31
30	57	7	7	7	-	16	90	111	86	106	88	30
31	57	-	7	7	-	16	-	111	-	86	70	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,792	60	57	57.8	3,550
November.....	786	120	7	26.2	1,560
December.....	217	7	7	7.0	430
Calendar year .....					
January.....	217	7	7	7.0	430
February.....	250	10	7	8.9	496
March.....	349	16	10	11.3	692
April.....	986	90	15	32.9	1,960
May.....	3,480	120	104	112	6,900
June.....	3,635	144	70	121	7,210
July.....	3,596	139	86	116	7,130
August.....	2,387	94	44	77.0	4,730
September.....	1,724	74	30	57.5	3,420
Water year 1937-38.....	19,419	144	7	53.2	38,510

Coal Creek near Cedar City, Utah

Location.- Staff gage, lat. 37°40'25", long. 113°02'10", in NE¼ sec. 15, T. 36 S., R. 11 W., at flood-control dam, 1½ miles southeast of Cedar City and 5½ miles downstream from South Creek.

Drainage area.- 92 square miles.

Records available.- May 1935 to September 1938. May 1915 to November 1919 at approximately same site, but records do not include flow of power canal operated during this period (abandoned since 1919). Records equivalent if flow of power canal is added to those obtained at former site.

Extremes.- Maximum discharge observed during year, 491 second-feet May 15 (gage height, 2.30 feet), from rating curve extended by broad-crested weir formula; minimum not determined.  
1935-38: Maximum discharge observed 2,910 second-feet July 9, 1936 (gage height, 6.4 feet), from rating curve extended by broad-crested weir formula; minimum observed, 4 second-feet Dec. 15, 1935.

Remarks.- Records poor. Gage read twice daily. Discharge for days of missing gage heights, July 24, 25, interpolated. No diversions for irrigation above station.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	44	220	168	38	20	25
2						-	37	226	165	35	21	18
3						-	45	165	168	34	21	18
4						-	68	143	157	33	21	18
5						-	45	137	145	31	24	17
6						-	37	119	140	31	28	14
7						-	23	106	121	28	35	15
8						-	31	121	109	28	31	15
9						-	48	171	104	27	26	14
10						-	52	223	106	28	24	14
11						-	52	239	99	27	23	21
12						-	37	325	85	28	22	19
13						-	32	463	79	28	21	16
14						-	25	463	74	27	21	15
15						-	25	491	70	26	21	14
16						-	47	311	70	26	21	14
17	12	10				-	94	192	66	25	21	14
18						-	210	195	64	23	21	14
19						-	265	189	55	23	21	14
20						92	201	154	52	23	21	14
21						92	236	154	48	22	21	14
22						99	294	162	48	23	21	14
23						92	315	204	45	22	21	14
24						92	308	308	44	22	35	14
25						97	291	328	42	22	52	14
26						92	217	388	40	22	52	14
27						-	236	301	37	30	27	13
28						-	301	255	47	21	47	15
29						-	328	210	55	21	19	14
30						-	291	201	45	21	17	12
31						-	-	183	-	21	17	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						4,225	328	23	141	8,380		
May.....						7,347	491	106	237	14,570		
June.....						2,548	163	37	84.9	5,050		
July.....						816	38	21	26.3	1,620		
August.....						793	52	17	25.6	1,570		
September.....						461	25	12	15.4	914		
The period.....										32,100		

## Salton Sea, Calif.

Location.- Benchmark set by Imperial Irrigation District, lat. 33°26'55", long. 118°02'20", in NW¼ sec. 27, T. 8 S., R. 9 E., 1 mile northeast of Figtree John Spring and about 2 miles south of Mecca. Elevation is 242.44 feet below mean sea level.

Records available.- November 1904 to September 1938. Records prior to September 1932 in Water-Supply Paper 735.

Extremes.- Maximum stage, 195.0 feet below mean sea level in February and March 1907; minimum since 1908, 250.7 feet below mean sea level in November 1924; bottom of sea (from 1904-5 determinations) is 273.5 feet below mean sea level.

Remarks.- Area of water surface of sea at elevation 250 feet below mean sea level, 286 square miles; area at 240 feet below mean sea level, 323 square miles. See Water-Supply Paper 735 for condensed history of Salton Sea. Elevations in the following table, furnished by Imperial Irrigation District, were determined by leveling from above-mentioned benchmark.

Elevation, in feet, below mean sea level, water year October 1937  
to September 1938

Oct. 2	247.2	Mar. 7	245.3	Aug. 1	245.5
Dec. 1	246.8	Apr. 1	245.1	Sept. 1	245.6
31	245.9	May 2	245.0	Oct. 1	245.5
Jan. 31	245.6	June 1	245.2		
Mar. 2	245.5	July 1	245.3		

## Palm Canyon Creek near Palm Springs, Calif.

Location.- Water-stage recorder, lat. 33°44'55", long. 116°32'15". in S $\frac{1}{4}$  sec. 11, T. 5 S., R. 4 E., three-quarters of a mile upstream from Murray Canyon Creek and 6 miles south of Palm Springs post office. Altitude, about 700 feet.

Drainage area.- 94.0 square miles.

Records available.- January 1930 to September 1938.

Extremes.- Maximum discharge during year, 2,380 second-feet Mar. 2 (gage height, 4.43 feet); minimum daily discharge, 0.2 second-feet August 14.  
1930-38: Maximum discharge, 3,850 second-feet Feb. 6, 1937 (gage height, 5.60 feet); no flow for several months of each year except 1938.

Remarks.- Records good. Discharge for period of missing gage heights, Oct. 1-10 and Mar. 15-30, computed on basis of records for nearby streams.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.4	0.8	0.9	12	106	15	9.5	3.6	1.7	1.9	1.6
2	.8	.5	.8	.9	6.5	731	15	9	3.6	1.6	1.4	1.0
3	.7	.4	.8	.9	3.9	913	15	9.5	3.3	1.6	1.2	.9
4	.7	.3	.7	.9	11	224	15	9	3.3	1.6	.9	.6
5	.7	.4	.7	.9	11	77	14	8.5	3.1	1.3	.7	.6
6	.6	.4	.6	.9	5.5	50	13	8	2.8	1.3	.5	.6
7	.6	.5	.6	.9	4.2	41	13	7	2.8	1.2	.5	.9
8	.6	.6	.7	.9	3.6	38	12	6.5	3.1	.9	.4	1.0
9	.6	.5	.7	.8	4.5	31	12	6	3.1	.9	.3	1.0
10	.5	.6	1.4	.8	5.5	26	12	5.5	3.1	.8	.3	.9
11	.5	.6	1.4	.8	5.5	16	12	5.5	3.1	.8	.3	.9
12	.6	.5	4.5	.7	10	125	12	5.5	2.8	.8	.3	.9
13	.5	.6	2.0	.7	6	82	14	5.5	2.6	.9	.3	.7
14	.5	.6	1.3	.7	4.8	34	15	5	2.6	.8	.2	.8
15	.5	.5	1.2	.8	4.5	26	13	5	2.2	.7	.3	.9
16	.5	.6	1.0	.9	4.5	22	13	5	2.2	.7	.3	.9
17	.5	.7	.9	.9	3.9	20	12	5	2.2	1.0	.3	1.2
18	.5	.5	.9	.8	3.3	19	11	5	2.2	1.2	.4	5.5
19	.5	.6	.9	1.2	4.2	18	11	5	2.4	1.0	.6	2.4
20	.4	.7	.9	2.8	3.6	17	10	4.8	2.4	1.0	.5	1.2
21	.3	.6	.9	1.6	3.1	16	10	4.8	2.4	1.3	.5	.8
22	.3	.8	.9	1.2	2.8	16	10	4.8	2.4	1.4	.2	.7
23	.3	.7	1.3	1.0	2.6	16	9.5	4.5	2.4	1.6	.4	.7
24	.3	.8	1.3	1.0	2.6	16	9.5	4.2	2.4	1.9	.8	.7
25	.4	.8	1.0	1.2	2.4	16	13	4.8	2.2	3.1	1.0	.7
26	.4	.8	1.9	1.0	2.4	16	13	4.5	2.2	9	.9	.6
27	.4	.8	2.2	1.2	9	16	10	3.6	2.2	7.5	1.0	.6
28	.4	.7	1.6	1.2	22	16	9.5	3.9	2.0	3.1	1.4	.6
29	.4	.7	1.3	3.9	-	16	9.5	3.9	2.0	2.6	1.4	.6
30	.4	.7	1.2	3.6	-	16	9.5	3.9	1.9	2.4	1.0	.7
31	.4	.7	1.0	2.6	-	16	-	3.6	-	2.0	1.9	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						15.6	0.8	0.3	0.50	31		
November.....						17.9	.8	.3	.60	36		
December.....						37.4	4.5	.6	1.21	74		
Calendar year 1937.....						8,739.8	1,140	.2	23.9	17,330		
January.....						39.6	3.9	.7	1.25	77		
February.....						164.9	22	2.4	5.89	327		
March.....						2,692	813	16	86.8	5,340		
April.....						362.5	15	9.5	12.1	719		
May.....						176.3	9.5	3.6	5.69	350		
June.....						78.6	3.6	1.9	2.62	156		
July.....						57.7	9	.7	1.86	114		
August.....						22	1.9	.2	1.04	44		
September.....						31.2	5.5	.6	1.71	62		
Water year 1937-38.....						3,694.7	813	.2	10.1	7,330		

## Deep Creek near Hesperia, Calif.

Location.— Water-stage recorder and concrete control, lat. 34°20'30", long. 117°13'40", in SE¼ sec. 18, T. 3 N., R. 3 W., half a mile upstream from confluence with West Fork of Mojave River to form Mojave River and 8 miles southeast of Hesperia. Altitude, about 3,050 feet.

Drainage area.— 137 square miles.

Records available.— December 1929 to September 1938.

Extremes.— Maximum discharge during year, 46,800 second-feet Mar. 2, by slope-area method; minimum, 1.1 second-foot Oct. 1.  
1929-38: Maximum discharge, that of Mar. 2, 1938; minimum, 0.1 second-foot at times during 1932-34 and 1936.

Remarks.— Records fair except those for period Oct. 1 to April 20, which are poor. Discharge for periods of missing gage heights, Oct. 1 to April 20, May 5-11, June 9, July 22-27, Aug. 19-31, and Sept. 10-14, computed on basis of discharge measurements and records for other stations in Mojave River Basin. Storage in Lake Arrowhead above station. Hesperia Water Co.'s canal diverts about 2 miles above station.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	3.5	7	19	100	2,850	240	201	77	26	15	11
2	1.2	3.6	7	19	340	12,000	240	208	79	26	14	11
3	1.2	3.7	7	18	530	5,700	260	215	74	25	14	10
4	1.2	3.8	8	17	1,230	1,900	290	218	71	25	13	10
5	1.3	3.9	9	17	370	1,200	305	192	65	25	13	9.5
6	1.3	4.0	9	16	160	880	290	177	60	24	13	10
7	1.4	4.1	10	15	60	740	250	164	59	24	13	9.5
8	1.5	4.2	11	14	40	600	235	164	57	24	13	10
9	1.5	4.3	11	14	250	550	240	151	56	23	13	10
10	1.6	4.4	12	13	265	550	235	126	54	22	13	10
11	1.7	4.5	13	13	730	550	225	126	52	22	13	9
12	1.7	4.6	13	13	560	2,200	215	120	51	22	13	9
13	1.8	4.7	14	13	295	2,700	240	119	49	22	13	9
14	1.9	4.8	15	13	190	2,100	235	116	46	21	13	9
15	1.9	5	16	50	160	1,600	240	112	45	21	14	8.5
16	2.0	5	16	45	98	1,550	380	108	45	20	13	8.5
17	2.1	5	17	40	52	1,375	360	104	39	18	13	9.5
18	2.2	5.5	17	36	36	1,210	300	102	36	17	13	11
19	2.3	5.5	17	30	155	960	290	126	35	17	12	11
20	2.4	5.5	18	27	74	850	260	136	35	16	12	10
21	2.5	5.5	18	26	50	760	235	96	35	16	12	9.5
22	2.6	6	18	25	43	620	218	90	33	16	11	10
23	2.6	6	19	22	41	510	190	82	33	16	11	9.5
24	2.7	6	19	21	36	430	178	82	34	16	11	9.5
25	2.8	6	19	20	30	420	250	88	31	17	10	8.5
26	2.9	6	20	20	30	420	278	87	29	17	10	6
27	3.0	6	20	20	490	380	191	82	27	17	10	7
28	3.1	6.5	21	20	3,100	350	155	79	27	18	10	7.5
29	3.2	6.5	21	20	-	350	159	78	26	17	10	7.5
30	3.3	6.5	20	20	-	300	167	79	27	17	11	8.5
31	3.4	-	20	20	-	300	-	78	-	16	11	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	65.4	3.4	1.1	2.11	130
November.....	150.6	6.5	3.5	5.02	299
December.....	462	21	7	14.9	916
Calendar year 1937.....	55,394.9	4,180	.7	152	109,900
January.....	676	50	13	21.8	1,340
February.....	9,517	3,100	30	340	18,880
March.....	46,885	12,000	300	1,512	93,000
April.....	7,341	380	155	215	14,560
May.....	3,908	218	78	198	7,750
June.....	1,337	79	26	46.2	2,750
July.....	623	26	16	20.1	1,240
August.....	380	15	10	12.3	754
September.....	278.0	11	6	9.27	551
Water year 1937-38.....	71,671.0	12,000	1.1	196	142,200



Mojave River at lower narrows, near Victorville, Calif.  
(Formerly published as Mojave River near Victorville, Calif.)

Location.- Water-stage recorder, lat. 34°34'25", long. 117°19'10", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 29, T. 8 N., R. 4 W., 500 feet upstream from bridge on U. S. Highway 86 and 3 miles northwest of Victorville. Altitude, about 2,640 feet.

Drainage area.- 530 square miles.

Records available.- October 1936 to September 1938. November 1930 to September 1936, at site at Victorville, 3 miles upstream.

Extremes.- Maximum discharge during the year, about 70,600 second-feet Mar. 2 (gage height, 16.70 feet), by slope-area method; minimum, 19 second-feet July 11, 12. 1930-38: Maximum discharge, that of Mar. 2, 1938; minimum, 11 second-feet Aug. 12, 1937.

Remarks.- Records fair except those for period of missing gage heights, Mar. 2-29, which were computed on basis of records for Mojave River at Barstow and West Fork of Mojave River and Deep Creek at Hesperia and are poor. Discharge for period June 10-15 interpolated. Storage at Lake Arrowhead and Lake Gregory above station. Diversions for irrigation from Deep Creek by Hesperia Water Co. and from Mojave River at Victorville.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	36	41	44	47	4,350	330	221	36	31	24	33
2	22	34	39	44	48	16,000	330	258	31	28	23	30
3	27	36	40	44	50	10,000	365	303	25	28	23	28
4	30	36	41	42	48	3,000	403	297	22	28	23	28
5	28	37	40	43	50	1,800	440	258	25	31	22	26
6	27	36	42	43	48	1,300	416	203	28	31	22	24
7	26	36	43	42	49	1,100	342	159	28	28	21	24
8	27	35	42	42	52	960	319	159	25	25	21	23
9	26	36	42	41	50	850	330	153	25	25	20	25
10	27	39	41	39	53	800	309	137	25	22	22	25
11	26	35	41	41	54	780	297	132	26	19	22	26
12	24	36	44	39	288	3,000	285	116	27	19	24	27
13	25	37	43	39	166	4,200	330	106	28	25	24	29
14	25	36	44	41	120	3,400	319	100	29	31	25	28
15	23	36	40	40	102	2,400	323	90	30	28	26	28
16	23	37	43	39	90	2,200	405	84	31	28	26	28
17	27	37	43	38	75	2,050	376	74	28	28	27	29
18	24	38	42	37	64	1,850	303	100	28	36	28	29
19	25	34	44	35	73	1,400	271	111	28	25	29	30
20	26	34	45	38	107	1,200	271	164	28	25	26	30
21	29	36	45	40	77	1,050	245	159	31	25	26	29
22	29	40	47	37	64	890	221	116	31	28	24	28
23	28	41	44	38	60	760	187	116	31	25	23	29
24	31	41	46	40	61	620	176	95	28	24	22	31
25	32	39	45	37	57	580	226	74	28	24	21	31
26	32	41	47	39	55	530	360	57	31	23	22	33
27	34	40	44	42	65	485	303	46	31	22	25	34
28	33	40	45	43	2,660	430	215	28	31	22	27	37
29	35	42	46	44	-	410	159	31	31	23	29	38
30	36	39	45	45	-	354	209	36	31	23	30	37
31	36	-	43	48	-	354	-	36	-	24	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	865	36	22	27.9	1,720
November.....	1,120	42	34	37.3	2,220
December.....	1,335	47	39	43.1	2,650
Calendar year 1937.....	75,739	4,880	11	208	150,200
January.....	1,264	48	35	40.8	2,510
February.....	4,733	2,660	47	169	9,390
March.....	69,103	16,000	354	2,229	137,100
April.....	9,065	440	159	302	17,980
May.....	4,019	303	28	130	7,970
June.....	857	36	22	28.6	1,700
July.....	804	36	19	25.9	1,590
August.....	760	32	20	24.5	1,510
September.....	877	38	25	29.2	1,740
Water year 1937-38.....	94,802	16,000	19	260	188,100

## Mojave River at Barstow, Calif.

Location.- Water-stage recorder, lat. 34°54'25", long. 117°01'20", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 31, T. 10 N., R. 1 W., on U. S. Highway 91 at Barstow. Altitude, about 2,090 feet.

Records available.- November 1930 to September 1938.

Extremes.- Maximum discharge during year, 64,300 second-feet Mar. 3 (gage height, 8.60 feet), by slope-area method; no flow during most of the year.  
1930-38: Maximum discharge, that of Mar. 3, 1938; no flow for several months each year.

Remarks.- Records fair for periods Mar. 1-3, 12-19; poor for periods Mar. 4-11 and Mar. 20 to May 27 (discharge computed on basis of discharge measurements and records for other stations in Mojave River Basin). Storage and many diversions upstream from station (see p. 61).

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						3,070	290	207				
2						3,720	285	209				
3						18,100	280	210				
4						3,200	275	211				
5						1,850	270	212				
6						1,250	265	173				
7						1,050	260	142				
8						920	255	118				
9						820	250	95				
10						770	245	79				
11						730	240	65				
12						1,600	236	54				
13						4,000	232	38				
14						3,500	228	28				
15						2,240	224	20				
16						2,060	220	14				
17						1,890	216	10				
18						1,920	212	7				
19						1,350	208	5.5				
20						1,140	204	4.0				
21						900	200	3.0				
22						787	197	2.3				
23						660	198	1.7				
24						550	199	1.3				
25						520	200	1.0				
26						460	201	.5				
27						410	202	.1				
28						360	203	0				
29						340	204	0				
30						320	205	0				
31						300	-	0				
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1937.....						52,372.4	3,950	0	143	103,900		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						60,807	18,100	300	1,962	120,600		
April.....						6,904	290	197	230	13,690		
May.....						1,911.4	209	0	61.7	3,790		
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 1937-38.....						69,622.4	18,100	0	191	138,100		

## West Fork of Mojave River near Hesperia, Calif.

Location.- Water-stage recorder, lat. 34°20'20", long. 117°14'35", in SE $\frac{1}{4}$  sec. 13, T. 3 N., R. 4 W., at highway bridge, half a mile upstream from confluence with Deep Creek to form Mojave River, and 7 miles southeast of Hesperia. Altitude, about 3,050 feet.

Drainage area.- 74.8 square miles.

Records available.- January 1930 to September 1938.

Extremes.- Maximum discharge during year, 26,100 second-feet Mar. 2, by slope-area method; no flow for several months.

1930-38: Maximum discharge, that of Mar. 2, 1938; no flow for several months of each year.

Remarks.- Records good except those for period of missing gage heights, Mar. 2-14, which were computed on basis of records for Mojave River at Barstow and at lower narrows near Victorville and Deep Creek near Hesperia, and are poor. Storage at Lake Gregory above station.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.4	67	2,090	178	171	20	0.5	0.1	0.1
2			0	0	197	7,000	164	168	18	.4	.1	.1
3			0	0	287	3,300	161	168	16	.4	.1	.1
4			0	0	603	1,100	158	134	15	.3	.1	.1
5			0	0	212	700	164	111	14	.3	.1	.1
6			0	0	108	520	147	102	14	.3	.1	.1
7			0	0	71	410	128	91	14	.3	.1	.1
8			0	0	54	380	125	91	14	.3	.1	.1
9			0	0	151	330	114	81	12	.3	.1	.1
10			0	0	160	310	111	64	14	.3	.1	.1
11			0	0	375	330	108	64	15	.3	.1	.1
12			0	0	298	1,300	102	60	16	.3	.1	0
13			0	0	174	1,600	150	56	15	.3	.1	0
14			0	0	122	1,200	114	44	12	.3	.1	0
15			0	31	103	644	108	38	10	.2	.1	.1
16			0	28	89	740	102	44	10	.2	.1	.1
17			0	15	67	660	98	48	8	.1	.1	.1
18			0	11	52	560	91	48	7	.1	.1	.1
19			0	9	106	480	78	52	8	.1	.1	.1
20			0	7	79	429	58	56	8	.1	.1	.1
21			0	5	64	388	74	52	5.5	.1	.1	.1
22			0	4.2	58	324	74	48	4.6	.1	.1	.2
23			0	2.9	56	275	70	41	4.3	.1	.1	.2
24			0	1.9	50	235	67	33	3.7	.1	.1	.2
25			0	1.0	43	232	171	30	1.7	.1	.1	.2
26			2.6	1.0	43	232	128	25	1.4	.1	.1	.2
27			5	1.0	264	214	102	23	1.2	.1	.2	.3
28			4.2	1.0	1,410	201	88	23	1.0	.1	.1	.3
29			3.7	1.0	-	201	90	23	.8	.1	.1	.3
30			3.4	1.0	-	187	174	25	.5	.1	.1	.3
31			1.5	1.0	-	187	-	23	-	.1	.1	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						20.4	5	0	.66	40		
Calendar year 1937.....						27,804.8	1,960	0	76.2	55,150		
January.....						122.4	31	0	3.95	243		
February.....						5,363	1,410	43	192	10,640		
March.....						26,959	7,000	187	870	53,470		
April.....						3,527	178	67	118	7,000		
May.....						2,037	171	23	65.7	4,040		
June.....						284.9	20	5	9.50	565		
July.....						6.5	.5	.1	.21	13		
August.....						3.2	.2	.1	.10	6.4		
September.....						4.0	.3	0	.13	7.9		
Water year 1937-38.....						38,327.4	7,000	0	105	76,030		

## ANTELOPE VALLEY BASIN

Rock Creek near Valyermo, Calif.

Location.- Water-stage recorder, lat. 34°25'10", long. 117°50'25", in NE¼ sec. 20, T. 4 N., R. 9 W., 1½ miles southeast of Valyermo. Altitude, about 4,050 feet.

Drainage area.- 23.0 square miles.

Records available.- January 1923 to September 1938.

Average discharge.- 14 years (1923-37), 12.5 second-feet.

Extremes.- Maximum discharge during year, 8,300 second-feet Mar. 2, by slope-area method; minimum recorded, 9 second-feet Sept. 28.

1923-38: Maximum discharge, that of Mar. 2, 1938; minimum, 1.2 second-feet Aug. 22, 1925.

Remarks.- Records fair. Station destroyed by flood on Mar. 2. Records for period May 4 to Sept. 30 obtained from a temporary station 600 feet downstream and include flow of Punchbowl Creek. Discharge interpolated for period of missing gage heights July 27-29. No diversions. Results of 13 discharge measurements furnished by Los Angeles County Flood Control District.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*8.9	-	-	-	*13			-	49	31	18	13
2	-	-	-	-	-			-	52	30	17	13
3	-	-	-	-	-			-	52	30	17	13
4	-	-	-	*7.4	-			63	52	29	17	12
5	*8.9	-	-	-	*22			62	50	27	17	12
6	-	-	-	-	-			60	53	26	18	12
7	-	-	-	-	-			59	53	23	18	12
8	-	-	-	-	-			57	50	24	18	12
9	-	-	-	-	-			56	49	23	18	12
10	-	-	-	-	-			56	46	22	18	11
11	-	*6.7	-	-	-			56	46	22	19	11
12	-	-	-	-	-			54	45	22	19	11
13	-	-	-	-	-			56	44	21	18	10
14	-	-	-	-	-			56	42	19	17	10
15	-	-	*8.9	-	*25			56	41	19	16	10
16	-	-	-	-	-			54	39	19	16	11
17	-	-	*7.5	-	-			49	39	19	16	11
18	-	-	-	-	-			47	38	19	14	11
19	-	-	-	-	-			50	38	19	14	11
20	-	-	-	-	-			54	36	19	14	12
21	*6.8	-	-	-	-			53	35	19	14	11
22	-	-	-	*8.8	-			52	33	19	14	11
23	-	-	-	-	-		*86	49	32	19	14	11
24	-	*6.1	-	-	-			49	31	18	13	11
25	-	-	-	*7.4	-			50	30	19	13	10
26	*5.8	-	-	-	*120			50	30	18	13	10
27	-	-	-	-	-			54	30	18	13	9.5
28	-	-	-	-	-			52	31	18	14	9
29	-	-	-	-	-			53	31	19	14	9.5
30	-	-	-	-	-			50	31	19	13	9.5
31	-	-	-	-	-			52	-	19	13	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May 4-31.....						1,509	63	47	53.9	2,990		
June.....						1,228	53	30	40.9	2,440		
July.....						668	51	18	21.5	1,320		
August.....						486	19	13	15.7	964		
September.....						331.5	13	9	11.0	668		
The period.....										8,370		

\*Discharge measurement made at recorder station upstream from Punchbowl Creek.

†Average of 3 measurements as follows: 14, 16, and 9.6 second-feet.

‡Average of 2 measurements as follows: 21 and 19 second-feet.

## Owens River near Round Valley, Calif.

Location.- Water-stage recorder, lat. 37°26'25", long. 118°33'20", in SE¼ sec. 10, T. 8 S., R. 31 E., just downstream from Sheep Bridge, 700 feet upstream from Rock Creek, and 2 miles north of Round Valley. Altitude, about 4,450 feet.

Drainage area.- About 450 square miles.

Records available.- August 1903 to September 1923, April 1927 to September 1938.

Average discharge.- 31 years, 228 second-feet.

Extremes.- Maximum discharge during year, 1,560 second-feet Dec. 11 (gare height, 4.87 feet); minimum, 60 second-feet Feb. 4.

1903-23, 1927-38: Maximum discharge recorded, that of Dec. 11, 1937; minimum, 5.4 second-feet Feb. 13, 1923.

Remarks.- Flow affected by power development in Owens River gorge and diversions from tributaries for irrigation in Long Valley. Flow also diverted from Rock Creek to Owens River at lower end of Long Valley. Records of daily discharge furnished by city of Los Angeles.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	146	142	176	162	196	190	311	627	805	502	319
2	144	146	144	182	176	262	190	291	681	751	498	300
3	140	146	146	178	180	273	198	271	739	736	482	293
4	140	146	146	176	150	255	242	261	802	736	462	293
5	146	148	146	172	168	235	293	246	796	726	438	287
6	148	150	146	162	168	230	259	233	819	687	430	274
7	148	148	146	160	183	228	247	233	803	636	426	272
8	148	148	150	160	178	221	256	233	793	636	434	270
9	146	152	152	158	190	210	299	249	793	645	424	267
10	148	152	340	164	193	205	339	253	809	664	408	267
11	148	156	734	162	176	203	336	289	835	654	388	279
12	150	166	901	162	158	239	348	297	873	636	375	274
13	150	166	491	152	193	237	342	321	809	579	355	270
14	152	168	285	156	203	217	299	349	724	532	342	267
15	152	160	257	164	203	214	356	409	681	532	342	267
16	150	160	241	152	200	212	397	580	665	532	332	265
17	148	166	227	166	200	221	477	740	697	561	326	264
18	148	154	215	166	210	212	580	606	724	579	332	264
19	148	160	213	166	220	210	618	531	745	608	326	265
20	148	160	185	150	216	228	628	515	878	589	309	255
21	150	160	185	150	203	210	728	540	819	570	306	251
22	150	160	181	164	200	219	713	457	706	561	313	251
23	150	160	176	154	188	207	692	411	642	574	309	263
24	150	162	160	150	183	210	632	423	618	578	306	255
25	148	160	155	150	183	201	553	457	652	590	306	251
26	148	156	157	156	178	196	452	482	721	586	309	251
27	152	154	155	156	176	210	401	523	809	602	322	255
28	152	152	157	156	178	204	375	556	863	574	309	287
29	150	150	150	154	-	215	352	594	873	542	306	279
30	150	144	160	150	-	201	340	602	854	566	322	259
31	152	-	167	158	-	198	-	606	-	514	341	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,598	152	140	148	9,120		
November.....						4,656	168	144	155	9,240		
December.....						7,210	901	142	233	14,300		
Calendar year 1937 .....						83,807	901	85	230	166,200		
January.....						4,982	182	150	161	9,880		
February.....						5,216	220	150	186	10,350		
March.....						6,777	273	196	219	13,440		
April.....						12,132	728	190	404	24,060		
May.....						12,868	740	233	415	25,520		
June.....						22,850	878	618	762	45,320		
July.....						19,081	805	514	616	37,850		
August.....						11,380	502	306	367	22,570		
September.....						8,114	319	251	270	16,090		
Water year 1937-38.....						119,864	901	140	328	237,700		

Owens River at Pleasant Valley, near Bishop, Calif.

Location.— Water-stage recorder, lat. 37°25'00", long. 118°31'40", in NW¼ sec. 24, T. 8 S., R. 31 E., 1,000 feet upstream from Owens River canal intake, 2.2 miles downstream from Rock Creek, and 8 miles northwest of Bishop. Altitude, about 4,350 feet.

Drainage area.— 596 square miles.

Records available.— March 1918 to September 1938.

Average discharge.— 20 years, 244 second-feet.

Extremes.— Maximum discharge during year, 1,480 second-feet Dec. 11 (gage height, 8.12 feet); minimum, 150 second-feet, regulated Jan. 25.

1918-38: Maximum discharge, 1,580 second-feet June 13, 1921 (gage height, 6.15 feet); maximum gage height, 8.12 feet Dec. 11, 1937; minimum discharge, 53 second-feet Aug. 25, 1931.

Remarks.— Flow diverted from tributaries for irrigation and regulated by operation of power plant above station. Records of daily discharge furnished by city of Los Angeles.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	189	193	224	203	247	236	372	894	1,040	830	449
2	184	187	195	250	225	465	231	346	1,040	1,040	758	427
3	182	191	193	232	231	282	238	318	1,140	1,030	760	417
4	185	192	191	232	221	314	257	311	1,210	1,020	723	411
5	188	194	189	232	213	297	331	299	1,220	999	688	400
6	190	196	187	210	219	282	291	297	1,220	966	684	390
7	190	194	182	206	227	276	289	297	1,230	987	688	379
8	190	194	187	201	227	276	293	297	1,200	998	720	371
9	193	201	189	192	253	257	337	309	1,210	1,030	701	355
10	193	201	442	219	259	248	384	314	1,220	1,020	640	344
11	193	205	914	214	245	246	384	342	1,240	980	608	363
12	193	216	1,020	210	213	431	395	369	1,240	923	581	360
13	193	219	592	192	241	314	390	410	1,170	833	545	357
14	196	221	365	210	253	268	337	468	1,040	868	518	355
15	196	210	317	228	251	268	376	566	1,020	886	501	352
16	196	212	295	192	239	265	423	809	1,060	923	484	348
17	192	219	269	237	225	276	541	881	1,090	948	464	339
18	191	209	253	232	241	265	673	802	1,100	938	464	348
19	189	214	239	222	253	257	761	708	1,110	928	462	354
20	187	221	220	193	239	278	761	670	1,220	935	438	348
21	189	212	224	193	239	244	879	682	1,110	914	435	339
22	187	210	218	209	233	251	879	561	1,010	928	445	333
23	189	210	216	193	229	251	838	492	979	940	445	337
24	189	216	197	185	227	248	753	502	993	951	443	333
25	189	212	189	185	225	244	658	555	1,030	970	441	319
26	189	212	191	193	215	253	541	576	1,060	912	436	318
27	192	210	189	195	215	248	487	650	1,090	1,040	447	316
28	192	207	195	197	219	246	448	697	1,100	974	438	315
29	191	205	195	195	-	246	427	747	1,080	900	447	314
30	192	203	195	185	-	240	409	776	1,060	881	457	312
31	192	-	204	201	-	236	-	815	-	866	485	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5,894	196	182	190	11,690		
November.....						6,182	221	187	206	12,260		
December.....						8,835	1,020	182	285	17,520		
Calendar year 1937.....						111,455	1,020	128	305	221,100		
January.....						6,459	250	185	208	12,810		
February.....						6,480	259	203	231	12,850		
March.....						8,509	465	236	274	16,880		
April.....						14,247	879	231	475	28,260		
May.....						16,238	881	297	524	32,210		
June.....						33,386	1,240	894	1,113	66,220		
July.....						29,583	1,040	833	954	58,680		
August.....						17,206	830	436	555	34,130		
September.....						10,703	449	312	357	21,230		
Water year 1937-38.....						163,722	1,240	182	449	324,700		

## Owens River near Big Pine, Calif.

Location.- Water-stage recorder, lat. 37°01'45", long. 118°13'30", in NE¼ sec. 2, T. 11 S., R. 34 E., at Charles Butte, 11 miles southeast of Big Pine. Altitude, about 3,850 feet.

Drainage area.- 1,930 square miles.

Records available.- September 1906 to September 1938.

Average discharge.- 32 years, 340 second-feet.

Extremes.- Maximum discharge during year, 1,320 second-feet July 4 (gage height, 7.75 feet); minimum, 82 second-feet Oct. 1 1906-38; Maximum discharge, about 3,220 second-feet Jan. 26, 1914 (gage height, 11.2 feet); no flow Jan. 9-13, 21-28, 1937.

Remarks.- Diversions above station from main stream and tributaries. Storage in Tinemaha Reservoir, which has a capacity of 16,600 acre-feet. Intake of Los Angeles Aqueduct is 4 miles downstream from station. Records of daily discharge furnished by city of Los Angeles.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	647	408	509	473	374	748	399	681	1,210	1,190	646
2	265	692	408	504	478	438	742	391	711	1,230	1,190	646
3	265	695	410	502	508	698	729	393	765	1,270	1,190	649
4	266	698	411	509	493	862	712	459	826	1,310	1,190	652
5	238	618	412	504	482	860	707	376	874	1,300	1,190	654
6	203	541	414	500	490	858	701	361	890	1,290	1,190	652
7	208	533	414	493	440	854	694	333	929	1,270	1,190	735
8	213	537	416	489	340	850	686	327	968	1,250	1,190	854
9	218	532	416	484	291	841	670	328	998	1,230	1,190	846
10	206	532	412	479	278	778	652	320	1,030	1,200	924	833
11	200	537	497	482	275	720	631	310	1,040	1,220	667	824
12	182	537	667	477	267	722	611	307	1,050	1,220	645	812
13	182	535	667	475	268	757	601	320	1,060	1,220	637	791
14	182	533	679	471	210	757	598	368	1,060	1,210	631	774
15	182	528	729	466	160	757	605	423	1,070	1,210	627	732
16	237	528	761	466	160	752	597	477	1,070	1,210	624	511
17	326	528	561	487	161	749	581	535	1,080	1,200	627	458
18	420	494	302	482	164	748	581	591	1,090	1,200	672	444
19	481	461	358	475	166	747	593	664	1,100	1,200	664	433
20	481	442	443	471	166	746	622	738	1,100	1,190	661	377
21	481	438	482	462	166	744	643	787	1,110	1,190	657	317
22	481	433	484	459	166	741	648	793	1,120	1,190	649	311
23	481	434	488	459	166	738	631	732	1,140	1,190	649	300
24	481	424	488	461	166	736	624	640	1,160	1,190	649	277
25	528	420	490	457	184	747	636	646	1,170	1,190	649	272
26	584	412	488	444	263	753	642	637	1,170	1,190	649	268
27	577	410	486	449	271	750	642	607	1,180	1,190	649	267
28	573	411	484	454	289	758	675	570	1,180	1,190	648	267
29	582	410	482	459	-	750	480	576	1,190	1,190	648	267
30	596	412	490	463	-	744	426	584	1,200	1,190	647	267
31	586	-	504	468	-	748	-	608	-	1,190	646	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						10,957	586	62	353	21,730		
November.....						15,342	695	410	511	30,430		
December.....						15,141	729	302	488	30,030		
Calendar year 1937.....						148,044	970	0	406	293,600		
January.....						14,760	509	444	476	29,280		
February.....						7,941	508	160	284	15,750		
March.....						23,077	862	374	744	45,770		
April.....						19,008	748	426	634	37,700		
May.....						15,600	793	307	503	30,940		
June.....						31,012	1,200	681	1,034	61,510		
July.....						37,730	1,310	1,190	1,217	74,840		
August.....						25,229	1,190	824	814	50,040		
September.....						16,136	854	267	538	32,010		
Water year 1937-38.....						231,933	1,310	62	635	460,000		

## Rock Creek at Sherwin Hill, near Bishop, Calif.

Location.- Water-stage recorder, lat. 37°28'45", long. 118°36'05", in SW $\frac{1}{4}$  sec. 29, T. 5 S., R. 31 E., at Sherwin Hill, 3 miles upstream from Pine Creek and 14 miles north-west of Bishop. Altitude, about 4,900 feet.

Drainage area.- 51.7 square miles.

Records available.- August 1922 to September 1938.

Average discharge.- 16 years, 22.8 second-feet.

Extremes.- Maximum discharge during year, 229 second-feet June 27 (gage height, 4.12 feet); minimum, 8.5 second-feet Oct. 22-24.

1922-38: Maximum discharge recorded, that of June 27, 1938; minimum, 1.6 second-feet Dec. 1, 1938.

Remarks.- Flow diverted at elevation of about 7,300 feet for irrigation in Little Round Valley or discharge into Owens River at lower end of Long Valley. Records of daily discharge furnished by city of Los Angeles.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	12	17	14	19	17	38	143	151	118	53
2	10	11	13	16	18	26	18	38	155	152	113	49
3	10	11	13	16	16	22	19	36	174	154	108	46
4	9	10	13	15	17	21	21	37	173	148	100	43
5	9	10	13	15	16	19	21	38	187	138	92	42
6	9	10	13	14	20	21	19	38	191	133	89	41
7	9	10	13	14	21	19	19	38	183	136	93	39
8	9	10	12	14	17	19	20	40	175	145	109	36
9	9	11	12	15	20	16	21	43	179	150	109	35
10	9	10	40	15	19	17	21	45	180	149	100	33
11	9	11	56	15	19	17	22	50	178	139	90	33
12	9	10	36	15	19	22	22	54	181	130	79	33
13	9	12	29	15	19	19	21	60	168	131	74	33
14	9	12	24	15	21	19	20	74	139	131	68	33
15	9	12	24	15	21	21	21	94	136	132	60	32
16	9	12	24	14	20	20	23	124	152	133	58	31
17	9	13	23	16	19	19	28	106	163	135	58	31
18	9	13	22	15	20	19	36	96	157	134	58	36
19	9	14	20	12	21	19	40	89	150	134	58	35
20	9	14	17	10	19	19	41	84	156	135	55	33
21	9	14	19	15	20	14	44	77	151	134	51	31
22	8.5	13	18	16	17	14	47	74	138	136	42	31
23	8.5	13	16	13	18	17	47	76	136	140	42	30
24	8.5	13	11	11	17	17	46	83	143	137	42	29
25	8.5	13	12	14	16	17	42	92	166	138	42	29
26	11	13	12	14	15	17	42	91	189	148	46	29
27	11	13	13	14	15	17	43	104	210	162	48	29
28	11	13	13	15	16	18	44	108	188	148	46	31
29	11	12	14	15	-	15	42	108	166	126	46	31
30	11	12	16	10	-	15	39	108	151	122	50	28
31	11	-	17	16	-	15	-	118	-	120	55	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						293.0	11	8.5	9.45	581		
November.....						356	14	10	11.9	706		
December.....						590	56	11	19.0	1,170		
Calendar year 1937.....						10,190.0	110	8.5	27.9	20,210		
January.....						446	17	10	14.4	885		
February.....						510	21	14	18.2	1,010		
March.....						569	26	14	18.4	1,130		
April.....						906	47	17	30.2	1,800		
May.....						2,261	124	38	72.9	4,480		
June.....						4,945	210	136	165	9,510		
July.....						4,299	162	120	139	8,530		
August.....						2,199	118	42	70.9	4,360		
September.....						1,045	53	28	34.8	2,070		
Water year 1937-38.....						18,419.0	210	8.5	50.5	36,530		



## Rock Creek near Round Valley, Calif.

Location.- Water-stage recorder, lat. 37°26'25", long. 118°34'15", in SE $\frac{1}{4}$  sec. 9, T. 6 S., R. 31 E., 0.1 mile upstream from Pine Creek and 2 miles northwest of Round Valley. Altitude, about 4,450 feet.

Drainage area.- About 96 square miles.

Records available.- August 1903 to September 1923, April 1930 to September 1938.

Average discharge.- 28 years, 38.6 second-feet.

Extremes.- Maximum discharge during year, 274 second-feet June 28 (gage height, 3.62 feet); minimum, 8 second-feet Mar. 30.  
1903-23, 1930-38: Maximum discharge recorded, 360 second-feet Jan. 25, 1914 (gage height, 5.0 feet, at former gage); minimum discharge, 7.5 second-feet Sept. 16, 1933.

Remarks.- Water diverted for irrigation above station. Flow also diverted from Rock Creek to Owens River at elevation of about 7,300 feet. Records of daily discharge furnished by city of Los Angeles.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	18	20	26	28	27	18	31	141	154	109	54
2	15	18	21	26	28	33	32	32	148	162	103	53
3	16	19	19	25	28	29	23	31	170	160	97	52
4	16	19	21	23	28	27	28	32	172	149	91	52
5	16	19	21	23	28	26	39	34	185	114	87	52
6	15	19	21	23	28	26	26	38	188	109	87	52
7	14	19	21	23	28	26	26	42	187	116	87	50
8	14	19	21	23	28	26	28	41	176	134	100	47
9	15	19	23	21	28	25	34	45	180	154	103	47
10	15	19	76	21	28	25	36	45	184	149	98	45
11	15	19	161	24	28	25	38	48	183	131	88	43
12	15	18	80	24	28	39	38	54	183	108	80	43
13	16	20	45	24	28	28	33	68	173	84	77	42
14	16	20	37	24	28	25	26	84	165	84	74	42
15	16	21	36	25	28	26	27	103	166	103	66	42
16	16	21	35	23	27	25	29	149	172	124	55	41
17	16	21	34	25	27	25	36	129	175	134	53	40
18	16	20	32	24	27	21	43	121	175	131	55	43
19	16	22	30	23	27	17	48	115	178	108	53	46
20	16	22	27	19	27	13	48	109	178	104	52	43
21	16	20	29	21	27	9.5	49	108	184	108	52	41
22	16	19	28	26	27	23	48	104	136	126	53	40
23	16	19	26	21	27	26	47	103	142	129	55	40
24	16	19	20	17	27	23	45	106	165	130	52	38
25	16	20	21	22	25	24	41	110	207	132	52	37
26	18	21	20	23	25	14	42	104	233	140	52	36
27	18	21	21	23	26	13	36	115	288	146	52	34
28	18	21	25	24	25	26	34	119	261	137	52	32
29	18	21	22	24	-	14	41	122	211	124	53	27
30	18	20	23	19	-	9.5	40	124	167	120	53	27
31	18	-	25	26	-	13	-	130	-	118	53	-
Month	Second-foot-days						Maximum	Minimum	Mean	Run-off in acre-feet		
October.....	497						18	14	16.0	986		
November.....	593						21	18	19.8	1,180		
December.....	1,039						161	19	33.5	2,060		
Calendar year 1937.....	12,024.5						161	8.5	32.9	23,870		
January.....	714						26	17	23.0	1,420		
February.....	761						28	25	27.2	1,510		
March.....	714.0						39	9.5	23.0	1,420		
April.....	1,069						49	18	35.6	2,120		
May.....	2,596						149	31	83.7	5,150		
June.....	5,443						261	136	181	10,800		
July.....	3,922						162	84	127	7,780		
August.....	2,194						109	52	70.8	4,350		
September.....	1,281						54	27	42.7	2,540		
Water year 1937-38.....	20,823						261	9.5	57.0	41,520		

Pine Creek at division box, near Bishop, Calif.

Location.- Water-stage recorder, lat. 37°24'55", long. 118°37'10", in NW¼ sec. 19, T. 6 S., R. 31 E., a quarter of a mile upstream from division box and forks of creek, 4 miles west of Round Valley, and 13 miles northwest of Bishop. Altitude, about 5,250 feet.

Drainage area.- 37.9 square miles.

Records available.- October 1921 to September 1938.

Average discharge.- 17 years, 40.4 second-feet.

Extremes.- Maximum discharge during year, 329 second-feet June 26 (gage height, 4.43 feet); minimum, 15 second-feet Nov. 29 to Dec. 8.  
1922-38: Maximum discharge, 350 second-feet July 21, 1936 (gage height, 3.58 feet); minimum, 10 second-feet Jan. 8, 1930, Jan. 21, 1935.

Remarks.- No diversions. Records of daily discharge furnished by city of Los Angeles.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	17	15	22	19	21	19	36	182	242	167	79
2	20	17	15	22	19	22	19	36	198	247	165	76
3	20	17	15	20	20	24	19	36	234	243	155	75
4	20	16	15	20	20	22	20	36	200	236	167	72
5	20	16	15	19	20	23	20	38	292	236	164	71
6	20	16	15	19	20	20	20	38	259	240	137	67
7	19	16	15	19	20	20	20	38	247	243	144	64
8	19	16	15	19	20	21	42	253	245	137	63	59
9	19	16	17	19	20	19	23	47	292	247	171	59
10	19	16	64	19	20	18	23	53	284	249	174	59
11	19	16	76	19	17	19	24	66	279	251	151	59
12	18	16	46	19	19	23	23	77	265	254	164	59
13	18	16	34	19	23	23	23	94	260	256	144	58
14	18	16	30	18	22	22	22	113	252	258	137	58
15	18	16	30	19	22	22	22	124	270	260	130	57
16	18	16	26	18	21	23	23	124	279	262	127	56
17	18	16	25	19	22	23	25	120	285	264	110	56
18	18	16	22	19	23	22	33	108	272	266	94	55
19	18	16	20	18	22	22	40	100	264	269	84	54
20	18	16	20	18	22	23	42	98	258	271	80	54
21	18	16	20	18	21	20	44	93	250	273	77	53
22	17	16	19	18	20	20	45	88	252	267	77	53
23	17	16	19	18	20	20	46	97	267	260	87	52
24	17	16	17	18	20	20	45	110	295	232	97	51
25	17	16	17	18	20	19	42	117	304	242	88	51
26	17	16	16	18	20	18	40	113	313	267	85	50
27	17	16	16	18	20	18	40	137	288	232	83	49
28	17	16	16	19	20	19	39	144	267	184	86	49
29	17	15	16	19	-	19	38	144	245	184	86	48
30	17	15	19	18	-	19	37	144	240	182	86	47
31	17	-	22	19	-	19	-	160	-	167	85	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						565	20	17	18.2	1,120		
November.....						481	17	15	16.0	954		
December.....						727	76	15	23.5	1,440		
Calendar year 1937.....						19,394	238	15	53.1	28,450		
January.....						585	22	18	18.9	1,160		
February.....						572	23	17	20.4	1,130		
March.....						642	24	18	20.7	1,270		
April.....						897	48	19	29.9	1,780		
May.....						2,771	160	36	89.4	5,500		
June.....						7,836	313	182	261	15,540		
July.....						7,529	273	167	243	14,930		
August.....						3,719	167	77	120	7,380		
September.....						1,754	79	47	58.5	3,480		
Water year 1937-38.....						28,078	313	15	76.9	55,680		

## Pine Creek near Round Valley, Calif.

Location.- Water-stage recorder, lat. 37°28'10", long. 118°34'10", in SE $\frac{1}{4}$  sec. 9, T. 8 S., R. 31 E., 800 feet upstream from confluence with Rock Creek and 2 miles northwest of village of Round Valley. Altitude, about 4,450 feet.

Drainage area.- About 58 square miles.

Records available.- August 1903 to September 1923, April 1930 to September 1938.

Average discharge.- 28 years, 22.8 second-feet.

Extremes.- Maximum discharge during year, 442 second-feet June 27 (gage height, 4.00 feet); minimum, 0.8 second-foot Oct. 1.

1903-23, 1930-38: Maximum discharge, that of June 27, 1938; minimum, 0.1 second-foot July 30, Aug. 13, 1920, May 23, 1930, many days in 1931, Aug. 25, 1934.

Remarks.- Water diverted for irrigation above station. Records of daily discharge furnished by city of Los Angeles.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	0.8	3.8	4.0	13	13	16	5.5	7	172	204	175	53		
2	2.1	4.0	4.2	13	13	20	5.5	7	206	232	157	50		
3	2.1	4.0	4.4	12	16	24	5.5	7	264	324	149	48		
4	2.8	4.0	4.6	12	14	14	5.5	6	258	193	125	46		
5	3.7	3.8	4.6	11	13	12	6	4.8	227	184	120	45		
6	4.4	3.3	4.6	11	12	12	5	3.4	211	197	132	41		
7	4.9	3.3	4.6	11	12	11	4.7	3.4	227	216	138	41		
8	5.6	4.2	4.7	11	13	12	4.7	2.7	230	235	149	38		
9	5.6	4.4	5	11	17	12	4.7	2.5	271	246	129	36		
10	5	4.6	24	11	21	12	4.7	2.5	258	235	101	29		
11	3.8	5	189	11	21	13	5	7	272	199	92	28		
12	3.8	5	34	11	12	39	4.7	26	219	166	82	30		
13	3.8	4.9	14	11	13	19	4.7	40	160	149	72	36		
14	4.2	4.6	9.5	11	13	15	4.4	57	152	196	74	36		
15	4.2	4.6	8	11	13	15	4.4	86	212	216	60	35		
16	3.8	4.7	8.5	11	13	14	4.4	115	258	236	58	34		
17	3.7	4.7	9	11	13	14	3.7	91	254	231	52	33		
18	3.7	4.6	11	11	14	15	3.7	87	230	211	48	35		
19	3.8	4.6	11	11	14	12	7.5	86	201	205	37	36		
20	3.8	4.6	10	9	15	13	7.5	78	171	212	37	34		
21	3.8	4.6	11	9	15	11	8.5	69	144	205	39	33		
22	4.0	5.5	11	9	13	10	8	64	169	215	42	32		
23	4.0	5.5	11	8.5	11	9.5	5.5	67	212	205	49	32		
24	4.2	5.5	9.5	8	11	6.5	2.5	87	288	215	55	32		
25	3.8	5.5	9	8	11	6	3.7	111	368	220	52	30		
26	3.8	5.5	8.5	8.5	10	6	3.7	116	375	254	51	25		
27	3.8	5.5	8.5	9	10	6	3.7	133	395	257	52	18		
28	3.8	5.5	10	9	10	5.5	2.8	124	355	223	53	19		
29	3.7	5	11	10	-	4.4	2.4	119	348	214	62	18		
30	3.8	4.4	12	8.5	-	5.5	4.5	131	168	212	61	16		
31	3.8	-	12	9.5	-	5.5	-	156	-	206	59	-		
Month					Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....					117.9		5.5		0.8		3.80		234	
November.....					139.2		5.5		3.3		4.64		276	
December.....					482.2		189		4.0		15.6		956	
Calendar year 1937.....					10,370.4		238		0.6		28.4		20,580	
January.....					321.0		13		8		10.4		637	
February.....					376		21		10		13.4		746	
March.....					387.9		39		4.4		12.5		769	
April.....					147.1		8.5		2.4		4.90		292	
May.....					1,896.3		156		2.5		61.2		3,760	
June.....					7,275		395		144		242		14,450	
July.....					6,613		257		149		213		13,120	
August.....					2,562		175		37		82.6		5,080	
September.....					1,019		53		16		34.0		2,020	
Water year 1937-38.....					21,336.6		395		0.8		58.5		42,320	

## MONO LAKE BASIN

Mono Lake near Mono Lake, Calif.

Location.- Staff gage, lat. 38°00', long. 119°08', in NE $\frac{1}{4}$  sec. 31, T. 2 N., R. 26 E., about a mile south of Mono Lake post office. Zero of gage is 6,390.66 feet above mean sea level (general adjustment of 1929).

Records available.- June 1912 to September 1938. Records prior to September 1934 in Water-Supply Paper 765.

Extremes.- 1912-38: Maximum stage, 37.4 feet July 18, 1919; minimum, 23.8 feet Nov. 18, 1935.

Gage height, in feet, water year October 1937 to September 1938

Date	U. S. Forest Service	City of Los Angeles	Date	U. S. Forest Service	City of Los Angeles
Oct. 2	-	24.3	May 6	-	25.8
11	-	24.2	11	-	25.9
15	-	24.2	19	-	26.0
18	-	24.2	23	26.1	26.1
19	24.1	-	24	-	26.2
20	-	24.2			
25	-	24.2	June 1	-	26.3
			7	-	26.4
Nov. 1	-	24.2	14	-	26.5
8	-	24.1	22	-	26.7
16	-	24.0	23	26.6	-
22	-	24.0	30	-	26.8
29	-	24.0			
			July 1	-	26.8
Dec. 7	-	24.0	5	-	27.0
13	-	24.2	13	-	27.1
19	24.2	-	17	27.2	-
21	-	24.3	18	-	27.2
26	-	24.2	28	-	27.4
Jan. 4	-	24.3	Aug. 4	-	27.5
10	-	24.3	9	-	27.5
19	-	24.3	16	-	27.6
24	-	24.4	17	27.5	-
			18	-	27.6
Feb. 10	-	24.4	24	-	27.6
16	-	24.8	26	-	27.6
22	-	24.8	31	-	27.6
Mar. 2	-	24.9	Sept. 6	-	27.5
8	-	25.2	12	-	27.5
14	-	25.4	19	27.5	-
24	-	25.4	20	-	27.5
31	-	25.5	29	-	27.5
			30	-	27.5
Apr. 5	-	25.5			
11	-	25.6			
18	-	25.6			
19	25.7	-			

## WALKER LAKE BASIN

Walker Lake near Hawthorne, Nev.

Location.- Benchmark at United States naval ammunition depot, lat. 38°35', long. 118°42', in NE $\frac{1}{4}$  sec. 2, T. 8 N., R. 29 E. (revised), 6 miles northwest of Hawthorne. Benchmark is 4,053.41 feet above mean sea level (general adjustment of 1912).

Records available.- August 1928 to September 1938. Occasional readings prior to August 1928.

Extremes.- 1928-38: Maximum elevation observed, 4,051.8 feet Mar. 13, 1928 (Indian Service); minimum observed, 4,019.2 feet Jan. 7, 1938.

Lake elevation, Sept. 27, 1908, 4,078.0 feet, observed by U. S. Coast and Geodetic Survey (general adjustment of 1912).

Remarks.- Elevations determined by spirit leveling. Records furnished by Navy Department.

Elevations, in feet, above mean sea level, water year October 1937 to September 1938

Oct. 7	4,020.4	May 10	4,021.0
Nov. 11	4,020.0	June 3	4,022.6
Dec. 7	4,019.7	30	4,024.7
Jan. 7	4,019.2	July 1	4,024.7
Feb. 8	4,019.6	Aug. 8	4,025.2
Mar. 15	4,020.0	Sept. 7	4,024.8
21	4,020.0		

## Bridgeport Reservoir near Bridgeport, Calif.

Location.— Elevations determined at Bridgeport Dam, lat. 38°19'30", long. 119°12'50", in SE¼ sec. 34, T. 6 N., R. 25 E., 4½ miles north of Bridgeport.

Records available.— October 1931 to September 1938.

Remarks.— Gage read to half-tenths once daily. Capacity of reservoir, 42,500 acre-feet. Gage-height record and capacity table furnished by Walker River Irrigation District.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,450	15,470	18,350	30,120	35,700	36,100	30,360	41,290	31,090	43,070	42,170	36,230
2	13,450	15,630	18,520	30,360	35,830	35,960	30,360	40,120	32,590	43,070	41,880	36,230
3	13,520	15,710	18,700	30,610	35,960	35,700	30,120	38,430	33,600	42,610	41,880	36,230
4	13,560	15,790	18,780	30,860	36,230	35,700	30,000	37,320	35,170	42,460	41,580	36,100
5	13,550	15,870	18,780	30,970	36,500	35,670	29,760	36,500	-	42,170	41,580	35,960
6	13,580	15,950	18,970	31,210	36,760	35,440	29,520	35,440	-	41,000	41,580	35,960
7	13,580	16,030	18,960	31,330	37,040	35,440	29,280	34,110	-	40,270	42,170	35,830
8	13,520	16,180	18,960	31,570	37,180	35,440	29,540	32,590	-	39,830	42,760	35,830
9	13,450	16,260	19,060	31,700	37,320	35,170	29,880	30,610	-	39,540	42,760	35,440
10	13,380	16,420	19,150	31,950	37,590	34,900	30,000	29,400	-	39,120	41,580	34,900
11	13,310	16,500	19,330	32,090	37,870	34,380	30,120	28,700	-	38,710	41,290	34,770
12	13,450	16,500	19,610	32,330	38,150	34,110	30,360	27,550	44,580	38,430	41,000	34,640
13	13,580	16,580	19,880	32,460	38,150	33,600	30,610	26,640	-	38,840	40,710	34,510
14	13,720	16,580	20,250	32,590	38,430	33,090	30,860	25,980	-	39,260	40,420	34,110
15	13,720	16,660	21,600	32,840	38,430	32,590	31,090	27,780	-	39,830	40,120	33,730
16	13,780	16,740	22,790	32,960	38,430	32,080	31,570	29,400	-	40,420	40,120	33,350
17	13,850	16,740	24,040	33,090	38,430	32,200	32,590	30,610	-	41,000	39,530	32,960
18	13,920	16,820	25,100	33,220	38,430	32,200	33,730	32,330	40,710	41,580	39,830	32,840
19	13,990	16,820	25,980	33,460	38,290	31,570	34,380	32,840	41,000	41,580	39,540	32,590
20	14,140	16,900	26,530	33,600	38,150	31,090	35,440	32,330	41,580	42,460	39,260	32,330
21	14,290	17,060	27,200	33,860	38,010	30,610	37,040	31,570	42,320	43,070	38,980	32,330
22	14,450	17,230	27,780	34,110	37,870	30,610	38,710	32,080	42,320	42,920	38,710	32,330
23	14,730	17,580	28,010	34,240	37,590	30,610	41,000	32,720	42,170	42,170	38,430	32,330
24	14,800	17,750	28,240	34,380	37,320	30,730	42,460	31,820	42,170	42,170	38,150	32,330
25	14,800	17,920	28,470	34,510	37,040	30,730	42,460	30,610	41,880	41,290	37,870	31,950
26	14,880	18,000	28,820	34,640	36,760	30,850	42,460	29,880	41,880	41,290	37,590	31,330
27	14,960	18,000	29,150	34,770	36,500	30,360	42,460	29,040	42,020	41,290	37,320	31,090
28	15,030	18,090	29,400	35,040	36,230	30,480	42,460	29,040	42,170	43,070	37,040	31,090
29	15,170	18,090	29,520	35,170	-	30,480	42,460	29,040	42,170	43,070	36,760	31,090
30	15,240	18,180	29,640	35,440	-	30,480	41,580	29,160	42,760	42,760	36,500	30,850
31	15,320	-	29,880	35,570	-	30,360	-	30,120	-	42,170	36,500	-

## East Walker River near Bridgeport, Calif.

Location.- Staff gage, lat. 38°19'40", long. 119°12'50", in SW¼ sec. 34, T. 6 N., R. 25 E., 1,500 feet downstream from Bridgeport Reservoir, 5 miles north of Bridgeport, and 10 miles upstream from Sweetwater Creek.

Drainage area.- 362 square miles.

Records available.- October 1921 to September 1938. July 1911 to September 1914 at site 1½ miles upstream.

Average discharge.- 15 years (1922-24, 1925-38), 118 second-feet.

Extremes.- Maximum discharge observed during year, 1,220 second-feet June 12 (gage height, 8.74 feet); minimum discharge, 9 second-feet Oct. 1, 12, 13, Oct. 20 to Feb. 9. 1921-38: Maximum discharge observed, that of June 12, 1938; minimum observed, 2 second-feet many days when reservoir gates were closed.

Remarks.- Records good. Staff gage read once daily. Considerable area of meadow and pasture land near Bridgeport irrigated. Flow regulated by Bridgeport Reservoir (capacity, 42,500 acre-feet). Gage-height record furnished by Walker River Irrigation District.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Feb. 10 to Apr. 8)

2.3	9	3.0	72	5.0	559
2.4	14	3.3	120	5.5	725
2.5	20	3.6	178	6.0	920
2.6	27	4.0	271	6.8	1,240
2.8	46	4.5	406		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	9	9	9	9	200	174	900	718	1,020	363	566
2	63	9	9	9	9	200	178	892	718	1,020	356	522
3	90	9	9	9	9	200	180	885	725	1,010	355	522
4	36	9	9	9	9	200	182	880	760	980	349	322
5	42	9	9	9	9	200	185	880	840	968	344	322
6	65	9	9	9	9	200	187	896	928	948	306	322
7	65	9	9	9	9	200	189	932	992	832	223	322
8	65	9	9	9	9	242	186	920	1,070	640	237	322
9	65	9	9	9	9	349	174	920	1,170	559	341	317
10	65	9	9	9	36	349	174	920	1,210	640	456	317
11	28	9	9	9	103	349	174	920	1,210	490	456	317
12	9	9	9	9	103	349	174	920	1,220	441	406	317
13	9	9	9	9	103	349	174	920	1,190	349	406	317
14	24	9	9	9	103	349	174	860	1,140	349	406	317
15	32	9	9	9	103	349	180	718	1,120	349	406	317
16	32	9	9	9	103	349	223	718	1,120	349	392	317
17	19	9	9	9	103	349	276	718	1,010	349	389	317
18	12	9	9	9	143	349	314	780	900	363	386	317
19	10	9	9	9	200	349	456	940	916	400	380	317
20	9	9	9	9	200	349	543	940	996	516	380	299
21	9	9	9	9	200	314	591	940	1,090	543	392	247
22	9	9	9	9	200	230	591	940	1,060	459	392	247
23	9	9	9	9	200	225	634	940	1,040	355	392	247
24	9	9	9	9	200	225	742	940	960	438	386	247
25	9	9	9	9	200	225	742	940	980	631	386	247
26	9	9	9	9	200	225	742	940	968	683	383	247
27	9	9	9	9	200	218	742	940	968	683	383	247
28	9	9	9	9	200	214	742	940	968	690	383	247
29	9	9	9	9	-	214	788	872	992	690	383	247
30	9	9	9	9	-	205	900	718	1,020	687	383	247
31	9	-	9	9	-	180	-	-	-	585	383	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	848	90	9	27.4	1,680
November.....	270	9	9	9.0	536
December.....	279	9	9	9.0	553
Calendar year 1937.....	60,833	452	7	167	120,700
January.....	279	9	9	9.0	553
February.....	2,981	200	9	106	5,910
March.....	8,306	349	180	208	16,470
April.....	11,710	900	174	300	23,230
May.....	27,282	940	718	880	54,110
June.....	30,019	1,220	718	1,071	59,540
July.....	18,916	1,020	349	8.7	37,620
August.....	11,582	456	223	374	22,970
September.....	8,876	366	247	296	17,610
Water year 1937-38.....	121,346	1,220	9	3.2	240,700

West Walker River below East Fork, near Coleville, Calif.

Location.— Water-stage recorder, lat. 38°22'45", long. 119°27'00", in SE¼ sec. 9, T. 6 N., R. 23 E., 75 feet upstream from bridge on U. S. Highway 395, 200 feet downstream from East Fork, and 13 miles southeast of Coleville.

Drainage area.— 182 square miles.

Records available.— April to September 1938. October 1902 to July 1908 at site 9½ miles downstream. March 1909 to August 1910 and June 1915 to March 1935 at site 10 miles downstream (published as West Walker River near Coleville, Calif.).

Extremes.— Maximum discharge during period, 2,490 second-feet June 9 (gage height, 4.90 feet), from rating curve extended above 1,600 second-feet; minimum, 72 second-feet Sept. 28.

Maximum discharge known, 5,800 second-feet Dec. 11, 1937, by slope-area method.

Remarks.— Records fair. Discharge for periods of missing gage heights, Apr. 30 to May 2, June 18-21, 29, July 5-7, Aug. 16 to Sept. 16, computed on basis of miscellaneous staff-gage readings and records for East Walker River near Bridgeport. Station is above all diversions except a few small ranch ditches. Very slight regulation from storage in Poor Lake Reservoir (capacity unknown), 7 miles upstream. Gage-height graph and three discharge measurements furnished by Walker River Irrigation District.

Rating table, period April to September 1938 (gage height, in feet, and discharge, in second-feet)

0.5	72	1.2	226	2.0	501	3.5	1,320
.6	88	1.4	288	2.3	620	4.0	1,720
.8	126	1.6	356	2.6	760	4.5	2,130
1.0	172	1.8	426	3.0	980	5.0	2,580

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	500	2,020	1,390	604	185
2							-	450	2,250	1,460	608	172
3							-	452	2,180	1,350	560	163
4							-	456	2,310	1,150	462	155
5							-	486	2,220	1,140	437	147
6							-	520	2,140	1,600	422	139
7							-	532	2,170	1,400	422	130
8							-	600	2,150	1,180	412	122
9							-	725	2,180	1,140	397	114
10							-	516	1,940	1,040	380	112
11							-	698	1,800	938	362	110
12							-	1,030	1,480	870	321	109
13							-	1,430	1,220	870	311	108
14							-	1,800	1,240	904	298	105
15							-	1,950	1,620	920	285	101
16							-	1,810	1,920	986	270	98
17							-	1,600	1,780	1,030	260	95
18							-	1,540	1,500	992	235	95
19							-	1,240	1,600	909	230	93
20							-	1,050	1,800	898	225	92
21							-	904	1,400	904	222	90
22							-	870	920	898	220	92
23							-	1,060	1,080	882	219	92
24							914	1,310	1,480	865	218	85
25							735	1,540	1,720	1,020	217	83
26							647	1,660	1,800	785	216	78
27							696	2,010	1,800	745	215	85
28							755	1,900	1,690	745	214	158
29							674	1,630	1,900	696	213	130
30							600	1,620	1,400	652	212	106
31							-	1,780	-	600	200	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year .....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	18,000	-	-	*600	35,700
May.....	36,159	2,010	450	1,155	71,720
June.....	52,710	2,310	920	1,757	104,500
July.....	30,959	1,600	600	999	61,410
August.....	9,877	608	200	319	19,590
September.....	3,444	186	78	115	6,830
The period.....					299,800

\*Estimated.

## West Walker River near Coleville, Calif.

Location.- Water-stage recorder, lat. 38°30'50", long. 119°27'15", in NE¼ sec. 28, T. 8 N., R. 23 E., just downstream from Rock Creek (Ross Canyon), at head of Antelope Valley, 5 miles southeast of Coleville and 10 miles downstream from East Fork.

Drainage area.- 245 square miles.

Records available.- March 1909 to August 1910, June 1915 to March 1938 (discontinued). October 1902 to July 1908 at site half a mile upstream.

Average discharge.- 27 years (1902-7, 1915-37), 277 second-feet.

Extremes.- Maximum discharge during period, 8,500 second-feet Dec. 11 (gauge destroyed by flood), by slope-area method; minimum, 14 second-feet Nov. 12. 1915-38: Maximum discharge, that of Dec. 11, 1937; minimum, 5 second-feet Dec. 3, 1924, Aug. 27, 1931.

Remarks.- Records fair. Discharge for period of missing gage heights, Oct. 20-22, interpolated. Mean monthly discharge for December to March estimated. Station is above all diversions except a few small ranch ditches. Very slight regulation from storage in Poor Lake Reservoir (capacity unknown), 17 miles upstream.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	41										
2	35	41										
3	38	38										
4	40	37										
5	43	36										
6	43	39										
7	41	35										
8	41	35										
9	41	40										
10	41	36										
11	40	35										
12	40	27										
13	41	41										
14	44	43										
15	50	41										
16	49	43										
17	48	51										
18	47	41										
19	45	48										
20	43	55										
21	42	54										
22	41	50										
23	40	48										
24	40	47										
25	40	47										
26	41	47										
27	40	41										
28	41	40										
29	41	41										
30	40	43										
31	41	-										
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				1,294	50	35	41.7	2,570				
November.....				1,261	55	27	42.0	2,500				
December.....				10,230	-	-	*330	20,290				
Calendar year 1937.....				109,639	-	-	300	217,500				
January.....				2,325	-	-	*75	4,610				
February.....				2,100	-	-	*75	4,170				
March.....				3,100	-	-	*100	6,150				
April.....												
May.....												
June.....												
July.....												
August.....												
September.....												
The period.....								40,290				

\*Estimated.



## Topaz Reservoir near Topaz, Calif.

Location.— Elevations obtained near outlet works of Topaz Reservoir, lat. 38°41', long. 119°31', in sec. 28, T. 10 N., R. 22 E., 6 miles north of Topaz.

Records available.— October 1931 to September 1938.

Remarks.— Gage read once daily. Topaz Reservoir, formerly known as Alkali Lake, was formed by the diversion of water from West Walker River through a feeder canal and the construction of an outlet tunnel through a low saddle in rim of lake. Contents given represent available storage only. The usable capacity is about 58,000 acre-feet (during 1937 it was about 53,000 acre-feet, and prior to 1937 about 45,000 acre-feet). Gage-height record and capacity table furnished by Walker River Irrigation District.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,580	-	-	-	33,570	40,500	40,050	-	52,500	54,500	52,980	45,560
2	10,500	10,740	-	-	-	40,860	-	-	52,730	55,450	55,170	45,190
3	-	-	-	-	-	-	-	45,190	53,170	55,450	55,170	44,820
4	10,410	-	11,940	-	-	-	-	-	53,920	55,450	55,260	44,450
5	10,170	10,900	-	29,420	-	41,400	-	44,730	54,680	55,260	55,260	44,080
6	-	-	-	-	-	-	-	-	54,680	55,260	55,260	44,080
7	-	-	-	-	-	-	-	44,640	54,680	55,070	55,170	43,710
8	-	-	12,510	30,480	-	-	-	44,270	54,680	55,780	55,070	43,340
9	10,090	-	-	-	35,100	40,500	39,870	44,080	54,680	55,500	55,880	43,970
10	-	11,060	-	-	-	-	-	43,900	55,060	55,220	55,780	42,600
11	-	-	-	-	-	-	-	43,900	54,680	55,940	55,690	42,230
12	-	-	13,000	30,740	-	39,780	-	43,990	54,680	55,670	55,500	41,860
13	10,090	11,140	-	-	-	-	39,960	44,180	54,680	55,580	55,320	41,490
14	-	-	-	-	-	39,780	-	44,540	54,400	55,580	55,130	41,130
15	-	-	14,620	31,090	-	-	39,870	45,100	54,400	55,680	55,940	40,770
16	-	-	-	-	-	-	39,960	45,660	54,400	55,680	55,780	40,410
17	10,170	11,300	-	-	36,900	-	-	46,950	54,300	55,680	55,480	40,050
18	-	-	-	-	-	-	-	47,880	54,300	55,680	55,200	39,690
19	-	-	-	29,860	37,620	40,050	-	49,360	54,300	55,670	55,840	39,330
20	10,250	11,460	22,340	-	-	-	40,320	49,910	54,300	55,760	55,460	38,970
21	-	-	-	-	-	-	-	50,460	54,300	55,860	55,100	38,610
22	-	-	-	30,380	-	-	41,220	50,650	54,210	55,940	49,720	38,250
23	-	-	25,230	-	38,340	40,320	41,960	50,650	54,400	55,040	49,360	38,160
24	-	11,460	-	-	-	-	-	50,460	54,400	55,130	48,980	37,980
25	10,500	-	26,420	-	-	-	-	50,460	54,120	55,220	48,620	37,800
26	-	-	-	31,080	39,060	40,410	-	50,650	53,920	55,320	48,240	37,620
27	-	11,620	-	-	-	-	44,360	50,840	54,210	55,410	47,880	37,440
28	-	-	-	-	-	-	-	51,200	54,400	55,410	47,500	37,260
29	10,660	-	27,700	32,760	-	-	-	51,580	54,400	55,410	47,140	36,450
30	-	11,860	-	-	-	40,230	45,850	51,860	54,500	55,500	46,760	36,360
31	-	-	28,460	-	-	-	-	52,040	54,500	55,500	46,400	36,270
	-	-	-	-	-	-	-	52,220	-	55,780	46,020	-

## HUMBOLDT-CARSON SINK BASIN

## CARSON RIVER BASIN

East Fork of Carson River near Gardnerville, Nev.

Location.- Staff gage and Cippoletti weir, lat. 38°52'25", long. 119°41'35", in sec. 25, T. 12 N., R. 20 E., 300 feet downstream from Douglas Power Co.'s dam, 1,000 feet upstream from highway bridge, half a mile southwest of Rodenbah ranch, and 5 miles southeast of Gardnerville.

Drainage area.- 381 square miles.

Records available.- April 1890 to December 1893, October 1900 to December 1906, March 1908 to December 1910, June to October 1917, December 1924 to September 1929, and October 1935 to December 1937 (gage destroyed by flood).

Extremes.- Maximum discharge, 12,000 second-feet Dec. 11 (gage destroyed by flood) computed on basis of slope-area determinations of flow of tributaries, 14 miles upstream; minimum discharge observed, 49 second-feet Oct. 1.

1890-93, 1900-1906, 1908-10, 1917, 1924-29, 1935-37: Maximum discharge, that of Dec. 11, 1937; minimum discharge observed, 8 second-feet Dec. 4-10, 19-23, 1904.

Remarks.- Records fair. Gage read once daily. Station is above all diversions in Carson Valley except Rodenbah pump ditch.

Discharge, in second-feet, October to December 1937

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1	49	58	73	11	58	66	-	21	62	117	-
2	62	55	75	12	58	60	-	22	60	87	-
3	64	58	68	13	60	58	-	23	60	78	-
4	60	58	73	14	90	60	-	24	60	80	-
5	62	58	66	15	82	68	-	25	62	78	-
6	58	53	68	16	75	64	-	26	60	75	-
7	60	58	82	17	70	80	-	27	60	73	-
8	60	58	80	18	68	68	-	28	58	75	-
9	62	58	73	19	64	70	-	29	60	73	-
10	60	55	560	20	62	75	-	30	58	68	-
								31	58	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,942	90	49	62.6	3,850
November.....	2,044	117	53	68.1	4,050
December 1-10.....	1,218	560	66	122	2,420
The period.....					10,320

## Carson River near Fort Churchill, Nev.

Location.- Water-stage recorder, lat. 39°17', long. 119°18', in SE $\frac{1}{4}$  sec. 32, T. 17 N., R. 24 E., 2 miles west of Fort Churchill and 6 miles east of Clifton.

Drainage area.- 1,450 square miles.

Records available.- January 1934 to September 1938. April 1911 to December 1933 at site 8 miles upstream; records practically equivalent.

Average discharge.- 27 years (1911-38), 363 second-feet.

Extremes.- Maximum daily discharge during year, 5,500 second-feet (estimated) Dec. 14; no flow Oct. 1-19.

1911-38: Maximum discharge observed, 6,150 second-feet Jan. 26, 1914 (gage height, 11.5 feet, former site and datum); no flow during some periods in nearly every year since 1923.

Remarks.- Discharge for period of missing gage heights, Dec. 13-17, estimated. Several diversions for irrigation above station, including diversions for irrigation of 720 acres between present site and the site used prior to Jan. 1, 1934. Practically entire flow is diverted during late irrigation season. Records of daily discharge furnished by Truckee-Carson Irrigation District.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	49	118	422	266	466	566	1,770	2,940	2,040	266	19
2	0	46	118	406	292	825	559	1,530	3,000	1,920	250	18
3	0	48	118	411	320	1,420	610	1,410	3,120	1,710	201	18
4	0	49	125	406	318	1,490	458	1,280	3,320	1,680	201	18
5	0	49	125	396	276	1,130	1,000	1,160	3,330	1,580	178	18
6	0	48	122	365	244	539	395	1,190	3,450	1,200	143	18
7	0	49	120	370	250	748	769	1,200	3,400	1,020	97	18
8	0	50	120	338	276	727	706	1,150	3,250	846	88	18
9	0	52	122	318	344	741	769	1,270	3,120	797	88	18
10	0	55	148	302	468	741	995	1,430	3,010	720	86	18
11	0	58	243	302	622	657	1,060	1,680	2,900	650	81	18
12	0	72	858	302	622	860	1,150	1,860	2,750	566	71	18
13	0	80	2,000	302	687	1,310	1,220	2,060	2,520	489	54	18
14	0	82	5,500	302	545	2,220	1,080	2,340	2,200	442	44	19
15	0	84	3,200	307	510	1,700	914	2,760	1,920	427	42	19
16	0	84	2,000	318	500	1,230	923	3,450	1,970	453	40	19
17	0	94	1,040	333	489	1,310	1,010	4,130	2,060	427	39	19
18	0	98	902	320	463	1,320	1,220	4,370	2,030	453	39	19
19	0	98	792	328	453	960	1,640	4,060	1,830	453	34	20
20	6	106	720	312	437	932	2,100	3,520	1,860	448	30	20
21	8	106	646	292	416	1,360	2,340	2,940	1,930	442	29	20
22	12	104	597	292	406	1,150	2,580	2,580	1,990	427	29	22
23	24	110	556	281	396	825	2,710	2,290	1,840	380	29	23
24	36	114	525	276	396	811	2,760	2,290	1,780	333	27	22
25	49	114	493	266	411	905	2,680	2,510	1,770	302	25	23
26	49	114	464	250	437	790	2,460	2,760	1,800	286	23	23
27	49	116	435	250	453	692	1,980	2,960	1,740	271	22	25
28	49	116	408	255	458	636	1,760	3,110	1,670	276	20	32
29	50	118	408	266	-	650	1,700	3,200	1,510	312	20	47
30	53	118	408	271	-	685	1,770	3,320	1,530	307	20	54
31	55	-	403	266	-	594	-	3,090	-	292	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	440	55	0	14.2	875
November.....	2,463	118	48	82.8	4,920
December.....	23,834	5,500	118	769	47,270
Calendar year 1937.....	150,724	5,500	0	413	298,900
January.....	9,845	422	250	318	19,530
February.....	11,655	622	244	416	23,120
March.....	30,716	2,220	468	991	60,920
April.....	42,484	2,760	458	1,415	84,270
May.....	74,720	4,370	1,180	2,410	148,200
June.....	71,520	3,450	1,510	2,384	141,900
July.....	21,649	2,040	271	698	42,940
August.....	2,335	266	19	76.3	4,630
September.....	661	54	18	22.0	1,310
Water year 1937-38.....	292,342	5,500	0	801	579,900

## Humboldt River at Palisade, Nev.

Location.- Chain gage, lat. 40°35', long. 116°12', in sec. 36, T. 32 N., R. 51 E., at highway bridge at Palisade, 100 feet downstream from Southern Pacific Railroad bridge and 1 mile upstream from Pine Creek.

Drainage area.- 5,010 square miles.

Records available.- November 1902 to October 1906, July 1911 to September 1938.

Average discharge.- 30 years (1903-6, 1911-38), 329 second-feet.

Extremes.- Maximum discharge observed during year, 1,860 second-feet June 8 (gage height, 5.56 feet); minimum observed, 18 second-feet Oct. 1 (gage height, 1.20 feet). 1902-6, 1911-38: Maximum discharge observed, 4,300 second-feet Mar. 5, 1921 (gage height, 8.8 feet); minimum observed, 2 second-feet Aug. 25-28, 1931.

Remarks.- Records good. Gage read once daily. Water is diverted for irrigation of about 150,000 acres of hay and pasture lands above station.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

1.0	9	2.6	180	4.3	835
1.3	23	3.0	280	4.6	1,010
1.6	42	3.3	376	5.0	1,270
2.0	81	3.6	492	5.3	1,480
2.3	124	4.0	680	5.6	1,690

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	36	35	45	71	124	252	938	1,260	564	89	28
2	20	34	33	48	69	202	242	986	1,280	552	84	30
3	20	33	36	52	74	198	242	950	1,380	751	79	30
4	21	34	38	50	67	207	258	968	1,480	813	71	31
5	19	33	36	47	71	198	310	857	1,580	914	67	28
6	21	33	39	45	74	216	316	879	1,620	902	61	29
7	22	31	38	44	76	212	310	879	1,650	914	54	30
8	23	29	38	44	81	202	342	846	1,660	902	47	29
9	23	28	39	45	84	202	376	968	1,630	906	52	28
10	23	27	45	47	86	212	420	690	1,590	900	48	30
11	22	24	57	44	91	198	435	680	1,560	854	45	29
12	23	22	69	45	86	207	443	630	1,550	700	41	29
13	25	21	61	48	89	316	476	573	1,440	552	36	28
14	24	23	57	47	94	252	510	536	1,330	518	33	30
15	25	24	54	50	89	247	518	518	1,240	467	30	29
16	27	27	50	55	86	258	556	601	1,190	443	31	28
17	27	29	52	61	79	349	545	750	1,150	363	34	27
18	28	30	50	65	81	298	630	879	1,080	362	33	27
19	29	29	52	67	84	292	750	1,010	962	323	30	29
20	28	31	55	67	94	280	857	1,110	914	269	29	27
21	28	34	48	69	89	298	813	1,190	813	263	30	25
22	30	35	42	71	91	304	868	1,380	780	242	33	28
23	29	38	39	65	89	298	938	1,450	760	212	30	27
24	28	38	35	61	94	316	986	1,370	680	189	29	24
25	30	35	38	59	105	323	1,020	1,350	650	180	30	25
26	30	36	31	57	111	310	1,010	1,330	592	164	27	27
27	31	39	42	59	105	280	998	1,310	573	152	24	27
28	29	38	39	61	108	269	974	1,300	536	141	24	28
29	31	39	42	65	-	286	958	1,300	518	124	22	25
30	33	38	44	69	-	274	914	1,330	541	111	23	27
31	35	-	42	67	-	258	-	1,280	-	85	29	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						802	35	18	25.9	1,590		
November.....						948	39	21	31.6	1,880		
December.....						1,386	69	33	44.7	2,760		
Calendar year 1937.....						95,008	1,380	11	260	188,400		
January.....						1,719	71	44	55.5	3,410		
February.....						2,418	111	67	86.4	4,800		
March.....						7,886	349	124	264	15,640		
April.....						18,227	1,020	242	608	36,150		
May.....						30,658	1,450	518	988	60,770		
June.....						33,989	1,660	518	1,133	67,420		
July.....						15,167	986	86	489	30,080		
August.....						1,295	89	22	41.8	2,570		
September.....						839	31	24	28.0	1,660		
Water year 1937-38.....						115,314	1,660	18	316	228,700		

## Humboldt River near Inlay, Nev.

Location.- Water-stage recorder, lat. 40°41'20", long. 118°12'55", in  $\text{SW}\frac{1}{4}$  sec. 25, T. 35 N., R. 33 E., about 600 feet upstream from old Calahan Dam and 4 miles northwest of Inlay.

Drainage area.- 13,500 square miles.

Records available.- June 1935 to September 1938.

Extremes.- Maximum daily discharge during year, 480 second-feet June 9; no flow Oct. 1 to about Dec. 31.

1935-38: Maximum daily discharge, 564 second-feet June 4, 1936; no flow during some periods in 1935, 1937, 1938.

Remarks.- Records good. Discharge for Jan. 1 to Mar. 15, Sept. 20-30 estimated.

Station is immediately above flow line of Rye Patch Reservoir and about 9 miles below Humboldt-Lovelock Irrigation, Light & Power Co.'s feeder canal. Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal releases water into Rye Patch Reservoir. Flow also affected by many diversions for irrigation above station. Daily-discharge record furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						10	165	237	329	344	168	42
2						10	173	249	346	373	124	50
3						10	178	256	335	406	97	48
4						10	178	267	329	432	87	42
5						10	184	287	343	412	61	42
6						10	189	260	344	386	83	41
7						10	190	324	390	354	68	38
8						10	190	322	418	327	60	37
9						10	187	355	460	322	55	43
10						10	176	362	460	351	50	40
11						10	166	428	430	337	64	35
12						10	166	424	412	337	72	35
13						10	176	414	408	359	70	35
14						10	190	424	420	333	80	34
15						10	189	422	422	255	87	38
16						114	160	420	432	213	83	23
17						124	146	420	442	187	79	13
18						126	152	418	442	190	74	11
19						101	152	420	432	202	72	9
20						91	157	418	402	197	69	6
21						92	154	416	381	192	48	5
22						102	129	398	377	164	37	5
23						114	182	386	377	195	35	5
24						133	215	350	373	181	26	5
25						153	235	351	348	179	23	5
26						168	215	327	341	181	21	5
27						165	208	324	343	173	19	5
28						165	205	320	346	173	23	5
29						160	202	333	346	184	15	5
30						160	211	346	352	173	25	5
31						163	-	320	-	173	41	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1937.....						25,673	405	0	70.1	50,730		
January.....						292	-	-	9.4	580		
February.....						239	-	-	8.5	475		
March.....						2,281	168	10	73.6	4,520		
April.....						5,420	235	129	181	10,750		
May.....						10,873	428	237	364	21,770		
June.....						11,600	430	329	397	23,010		
July.....						8,265	432	175	267	16,590		
August.....						1,936	168	15	62.5	3,840		
September.....						712	50	5	23.7	1,410		
Water year 1937-38.....						41,723	480	0	114	82,740		

## Rye Patch Reservoir near Rye Patch, Nev.

Location.- Mercury indicating gage, lat. 40°28'15", long. 118°18'20", in NE¼ sec. 18, T. 30 N., R. 33 E., at control works at left end of Rye Patch Dam, 2 miles northwest of Rye Patch.

Records available.- February 1936 to September 1938.

Remarks.- Rye Patch Dam, completed by Bureau of Reclamation in 1936, has an impounding capacity of 179,000 acre-feet. Records furnished by Bureau of Reclamation.

Contents, in acre-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,990	1,940	2,510	2,640	3,020	3,540	8,570	8,940	12,140	21,050	22,010	15,280
2	2,980	1,960	2,520	2,650	3,020	3,560	8,720	9,440	12,080	22,100	21,610	15,240
3	2,990	1,960	2,520	2,680	3,040	3,610	8,870	9,680	12,080	22,200	21,250	15,150
4	2,810	1,960	2,550	2,690	3,050	3,630	8,010	10,020	12,180	24,000	20,940	15,070
5	2,690	1,970	2,550	2,700	3,060	3,660	6,190	10,410	12,190	24,800	20,470	14,990
6	2,610	2,000	2,540	2,720	3,070	3,670	6,370	10,770	12,460	25,460	20,150	14,960
7	2,490	2,000	2,540	2,720	3,080	3,720	6,550	11,050	12,570	26,180	19,760	14,800
8	2,350	2,010	2,550	2,730	3,090	3,740	6,700	11,480	12,690	26,800	19,400	14,730
9	2,220	2,010	2,560	2,740	3,100	3,760	6,900	11,680	12,970	27,100	18,990	14,680
10	2,090	2,010	2,570	2,750	3,110	3,760	7,080	11,930	13,300	27,320	18,610	14,640
11	1,960	2,010	2,400	2,760	3,140	3,770	7,240	12,210	13,480	27,610	18,220	14,480
12	1,870	2,030	2,440	2,770	3,200	3,800	7,360	12,470	13,720	28,060	17,840	14,360
13	1,820	2,050	2,450	2,780	3,220	3,800	7,520	12,750	13,910	28,260	17,760	14,290
14	1,780	2,050	2,460	2,790	3,250	3,820	7,620	12,970	14,100	28,460	17,220	14,220
15	1,760	2,060	2,480	2,810	3,280	3,850	7,600	13,190	14,390	28,650	16,920	14,140
16	1,780	2,070	2,490	2,820	3,290	3,820	7,750	13,350	14,520	28,720	16,650	14,050
17	1,800	2,110	2,500	2,850	3,500	3,880	7,850	13,470	14,800	28,450	16,470	13,970
18	1,820	2,140	2,510	2,860	3,510	3,990	7,880	13,540	15,120	28,180	16,380	13,820
19	1,830	2,130	2,520	2,880	3,540	4,110	7,860	13,540	15,410	27,950	16,250	13,750
20	1,840	2,180	2,530	2,900	3,560	4,240	7,790	13,390	15,820	27,610	16,210	13,720
21	1,850	2,200	2,550	2,910	3,570	4,340	7,680	13,500	16,050	28,970	16,190	13,770
22	1,860	2,210	2,540	2,920	3,580	4,410	7,570	13,250	16,520	28,520	16,250	13,780
23	1,880	2,230	2,540	2,930	3,400	4,460	7,420	13,280	16,940	25,990	16,180	13,770
24	1,880	2,250	2,570	2,930	3,440	4,580	7,320	13,220	17,470	25,330	16,070	13,770
25	1,890	2,250	2,580	2,940	3,490	4,750	7,280	13,080	17,920	24,620	16,070	13,770
26	1,900	2,250	2,580	2,940	3,500	4,850	8,010	12,930	18,410	24,050	15,900	13,770
27	1,900	2,270	2,590	2,950	3,510	4,930	8,450	12,720	18,890	23,610	15,820	13,770
28	1,900	2,290	2,600	2,970	3,530	5,110	8,520	12,550	19,560	23,270	15,720	13,760
29	1,900	2,290	2,610	2,990	-	5,220	8,550	12,410	19,700	22,900	15,640	13,710
30	1,910	2,300	2,620	3,000	-	5,330	8,490	12,270	20,310	22,510	15,610	13,680
31	1,930	-	2,630	3,000	-	5,460	-	12,240	-	22,100	15,400	-

## Humboldt River near Rye Patch, Nev.

Location.- Water-stage recorder, lat. 40°27'25", long. 118°18'20", in NE¼NE¼ sec. 19, T. 30 N., R. 33 E., 5,000 feet downstream from Rye Patch Dam and 8 mile northwest of Rye Patch.

Drainage area.- 13,700 square miles.

Records available.- October 1935 to September 1938. January 1896 to December 1909, September 1910 to September 1922, and September 1924 to September 1932 (fragmentary) at site near Oreana, 7 miles downstream; records practically equivalent.

Average discharge.- 28 years (1899-1909, 1910-16, 1917-22, 1930-32, 1935-38), 208 second-feet.

Extremes.- Maximum daily discharge during year, 451 second-feet May 21; no flow Oct. 1, 2, Oct. 16 to Mar. 18, July 1-7, Sept. 20-24. 1896-1922, 1924-32, 1935-38: Maximum discharge, 3,050 second-feet May 12, 1897 (gage height, 12.0 feet, former site); no flow during some periods in 1905, 1915, 1918-20, 1931-32, 1935-38.

Remarks.- Records good. Because of unstable conditions caused by backwater from aquatic growth at gaging station, flow was computed from gate openings at dam, 5,000 feet upstream, by applying a coefficient determined from current-meter measurements to the theoretical discharge. Flow completely regulated by Rye Patch Reservoir (capacity, 179,000 acre-feet), 5,000 feet upstream, and affected also by many diversions for irrigation and by storage in Taylor-Pitt Reservoirs above station. Records of daily discharge furnished by Bureau of Reclamation.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0					0	88	38	362	0	257	68
2	0					0	88	58	362	0	256	61
3	61					0	89	58	358	0	256	61
4	71					0	89	58	272	0	227	61
5	48					0	90	59	243	0	214	61
6		62				0	90	59	243	0	214	61
7		70				0	90	59	243	0	213	61
8		69				0	91	131	250	52	213	61
9		70				0	91	161	251	103	212	61
10		70				0	92	161	273	120	211	61
11	61					0	110	152	283	120	211	61
12	38					0	143	243	283	121	210	61
13	24					0	144	261	281	147	210	61
14	24					0	144	307	271	185	209	61
15	7					0	144	324	283	234	187	61
16	0					0	144	317	293	252	129	61
17	0					20	144	390	273	252	115	60
18	0					43	180	402	261	278	115	60
19	0					43	198	432	203	307	106	20
20	0					44	217	447	203	361	63	0
21	0					42	242	451	172	373	49	0
22	0					43	241	436	134	397	49	0
23	0					43	240	406	103	416	49	0
24	0					43	256	397	93	425	49	0
25	0					72	95	397	79	399	49	4
26	0					86	9	396	63	364	49	24
27	0					86	125	413	63	335	49	24
28	0					87	181	418	63	335	49	24
29	0					87	202	412	63	334	49	24
30	0					87	169	393	21	333	63	24
31	0					88	-	365	-	304	77	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						675	71	0	21.8	1,340		
November.....						0	0	0	-	-		
December.....						0	0	0	-	-		
Calendar year 1937.....						39,870	566	0	109	79,070		
January.....						0	0	0	-	-		
February.....						0	0	0	-	-		
March.....						922	88	0	29.7	1,830		
April.....						4,226	266	9	141	6,380		
May.....						8,621	451	38	278	17,100		
June.....						6,356	352	21	212	12,610		
July.....						6,547	426	0	211	12,990		
August.....						4,409	287	49	142	8,760		
September.....						1,247	68	0	41.6	2,470		
Water year 1937-38.....						33,003	451	0	90.4	65,470		

South Fork of Humboldt River near Elko, Nev.

Location.- Water-stage recorder, lat. 40°43'15", long. 115°49'50", in NW¼ sec. 30, T. 33 N., R. 55 E., a quarter of a mile upstream from head of canyon, three-quarters of a mile downstream from highway bridge, 5 miles upstream from mouth, and 10 miles southwest of Elko.

Drainage area.- 1,150 square miles.

Records available.- August 1896 to September 1922, October 1923 to September 1932, October 1936 to September 1938.

Extremes.- Maximum discharge during year, 770 second-feet June 6 (gage height, 3.84 feet); minimum daily discharge, 1 second-foot Aug. 13, 14.  
1896-1922; 1923-32, 1936-38: Maximum discharge, 2,400 second-feet Jan. 26, 1914, from rating curve extended above 1,200 second-feet; no flow during some periods in nearly every year since 1915.

Remarks.- Records good except those for periods of missing gage heights, Oct. 1-16, 19-31, Nov. 1-8, Nov. 26 to Mar. 27, May 1-3, June 9-11, July 3, 4, Aug. 14-19, which were computed on basis of records for Humboldt River at Palisade and are fair. Station is below all diversions except those of Hunter & Banks ranch, 3 miles downstream.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

1.9	1	1.6	42	2.6	261
1.0	3	1.7	55	2.8	327
1.1	6	1.8	70	3.0	401
1.2	10	2.0	106	3.3	520
1.3	15	2.2	150	3.6	655
1.5	31	2.4	202	4.0	850

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	8				-	50	205	650	258	5	33
2	2	8	*19			-	50	220	673	432	4	21
3	2	8	*5			-	48	210	691	440	4	20
4	2	8				-	48	202	735	440	4	18
5	2	8				-	73	202	735	428	4	16
6												
7	3	8				-	89	186	745	374	4	16
8	3	8				-	78	145	696	310	3	16
9	3	9				-	75	121	655	277	3	14
10	4	9				-	77	112	610	237	5	12
						-	84	85	570	211	4	12
11	4	9				-	93	84	530	180	2	10
12	4	9				-	96	91	480	168	2	10
13	4	10				-	106	89	409	150	1	9
14	5	10				-	112	134	356	145	1	8
15	5	10				-	114	219	352	138	2	8
16	5	10				-						
17	5	12				-	119	409	334	123	2	5
18	5	12				-	127	565	320	108	2	4
19	6	14				-	158	566	300	98	2	4
20	6	13				-	219	468	271	95	2	4
		12				-	240	424	237	93	3	4
21	6	14				-	258	432	211	61	3	4
22	6	14				-	274	390	219	38	4	4
23	7	14				-	277	264	202	32	4	4
24	7	14				-	287	240	205	28	4	4
25	7	14				-	287	261	202	26	5	4
26	7	14				-						
27	7	14				-	287	331	208	18	5	4
28	8	14				-	261	456	208	10	6	4
29	8	14				64	225	583	186	10	7	4
30	8	14				61	208	650	175	8	8	4
31	8	-				51	202	678	246	6	8	4
						52	-	664	-	6	11	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				155	8	2	5.0	307				
November.....				331	14	8	11.0	657				
December.....				465	-	-	15	922				
Calendar year 1937.....				32,792	746	-	89.8	65,040				
January.....				620	-	-	20	1,230				
February.....				840	-	-	30	1,670				
March.....				1,550	-	-	50	3,070				
April.....				4,622	287	48	154	9,170				
May.....				9,675	678	84	312	19,190				
June.....				12,411	745	175	414	24,620				
July.....				4,948	440	8	160	9,810				
August.....				124	11	1	4.0	246				
September.....				284	33	4	9.5	563				
Water year 1937-38.....				36,026	745	1	98.7	71,460				

\*Discharge measurement.



## Martin Creek near Paradise Valley, Nev.

Location.— Water-stage recorder, lat.  $41^{\circ}32'$ , long.  $117^{\circ}28'$ , in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 11, T. 42 N., R. 40 E.,  $1\frac{1}{2}$  miles upstream from Silver State flour mill and 8 miles northeast of Paradise Valley.

Records available.— October 1921 to September 1938.

Average discharge.— 16 years (1921-26, 1927-38), 24.5 second-feet.

Extremes.— Maximum discharge during year, about 500 second-feet Apr. 19 (gage height, 11.0 feet, from floodmarks), from rating curve extended above 200 second-feet; minimum, 3 second-feet Feb. 20.

1921-38: Maximum discharge, about 1,000 second-feet Feb. 21 to 22, 1927, from rating curve extended above 200 second-feet; minimum, 2 second-feet Sept. 1-9, 1928.

Remarks.— Records fair except those for period Apr. 1 to May 15, which are poor. Discharge for periods of missing gage heights, Feb. 21-25, interpolated, and Apr. 1-5, 8-13, 16, 18, 26-29, May 1-6, 8-15, computed on basis of records for South Fork Humboldt River near Elko and Owyhee River at Mountain City. No diversions above station.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	6	6	8	8	41	30	240	148	37	6	5
2	5	6	6	8	8	48	30	235	138	45	6	5
3	5	6	6	8	8	25	75	225	138	50	6	5
4	5	6	6	8	7	15	130	215	133	38	6	5
5	5	6	6	7	7	13	145	215	121	34	6	5
6	5	6	6	7	8	11	84	200	119	31	6	5
7	5	6	7	7	8	10	105	160	114	29	6	5
8	5	6	7	6	8	11	100	150	108	27	5	5
9	5	6	6	6	8	12	90	140	100	26	5	5
10	6	6	7	7	9	14	95	130	91	24	5	5
11	6	6	37	7	10	15	105	125	85	24	5	5
12	6	6	28	7	9	31	110	150	87	22	5	5
13	6	6	12	6	7	119	115	225	85	21	5	5
14	6	6	9	7	8	42	120	320	76	20	5	5
15	6	6	9	7	7	34	175	300	69	20	5	5
16	6	6	9	7	5	82	190	273	62	19	5	5
17	6	6	8	7	6	58	211	248	55	19	6	5
18	6	7	8	7	6	34	300	219	52	17	5	5
19	6	7	8	8	7	61	387	198	52	15	5	5
20	6	7	8	7	4	129	320	182	47	13	5	5
21	6	7	8	8	4	52	303	156	52	11	5	5
22	6	7	8	8	6	33	290	151	54	11	5	5
23	6	6	8	8	7	46	257	157	51	10	6	5
24	6	6	7	6	8	101	253	163	41	9	5	5
25	6	6	8	7	10	72	248	163	31	8	5	5
26	6	6	7	8	12	65	240	185	31	8	5	5
27	6	6	8	8	12	85	225	193	31	8	5	5
28	6	6	8	9	15	94	230	184	31	8	5	6
29	6	6	8	8	—	56	235	175	31	8	4	6
30	6	6	8	8	—	31	245	165	51	8	5	6
31	6	—	8	8	—	29	—	156	—	6	5	—

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	177	6	5	5.7	351
November.....	185	7	6	6.2	367
December.....	283	37	5	9.1	561
Calendar year 1937.....	8,420	195	4	23.1	16,700
January.....	228	9	6	7.4	452
February.....	222	15	4	7.9	440
March.....	1,468	129	10	47.4	2,910
April.....	5,444	387	30	181	10,800
May.....	5,998	320	125	193	11,900
June.....	2,316	148	32	77.2	4,590
July.....	626	50	6	20.2	1,240
August.....	162	6	4	5.2	321
September.....	153	6	5	5.1	303
Water year 1937-38.....	17,262	387	4	47.3	34,240

## HUMBOLDT RIVER BASIN

Humboldt-Lovelock Irrigation, Light & Power Co.'s feeder canal near Mill City, Nev.

Location.- Water-stage recorder, lat. 40°42'05", long. 118°04'40", in SW¼ sec. 29, T. 33 N., R. 35 E., a quarter of a mile downstream from head of canal and 2 miles north of Mill City.

Records available.- February 1914 to September 1931, January 1937 to September 1938.

Remarks.- Flow regulated by head gates. This canal diverts water from Humboldt River in NW¼ sec. 29, T. 33 N., R. 35 E., for storage in Taylor-Pitt Reservoirs near Humboldt. Water is released, during irrigation season, about 3 miles west of Humboldt, and conveyed through Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal to Rye Patch Reservoir, from which it is later released and carried in natural river channel to Lovelock district for use in irrigation. Records of daily discharge furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	23	21						0	283	102	-
2	21	23	16						0	236	123	-
3	21	23	25						0	238	119	-
4	20	23	23						0	233	116	-
5	20	22	22						0	276	110	-
6	21	22	24						0	298	102	-
7	20	22	29						0	294	96	-
8	21	22	34						0	261	104	-
9	21	22	38						0	228	101	-
10	21	22	38						0	217	90	-
11	21	22	36						0	163	52	-
12	21	22	35						0	149	48	-
13	21	22	35						0	146	34	-
14	23	22	35						0	170	11	-
15	26	21	31						0	259	4	-
16	25	21	26						0	299	3	-
17	25	25	24						0	308	2	-
18	25	25	24						21	312	1	-
19	25	25	24						52	310	1	-
20	25	24	24						86	310	7	-
21	25	24	23						116	306	32	-
22	25	24	19						132	290	46	-
23	24	24	21						144	264	38	-
24	24	24	21						183	251	35	34
25	23	24	29						188	227	50	-
26	21	24	40						205	201	28	-
27	20	24	40						222	191	36	-
28	20	24	37						240	181	52	-
29	20	21	38						271	129	40	33
30	20	21	38						300	119	11	-
31	21	-	39						-	97	2	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				687		26	20	22.2	1,560			
November.....				687		25	21	22.9	1,560			
December.....				909		40	16	29.3	1,800			
Calendar year 1937.....				22,745		254	0	62.5	45,100			
January.....				938		-	-	30.5	*1,860			
February.....				2,259		-	-	80.7	*4,480			
March.....				1,891		-	-	61.0	*3,750			
April.....				0		0	0	0	0			
May.....				0		0	0	0	0			
June.....				2,168		300	0	71.9	4,280			
July.....				7,236		312	97	253	14,360			
August.....				1,576		123	1	50.8	3,130			
September.....				479		-	-	16.0	950			
Water year 1937-38.....				18,822		312	0	51.6	37,320			

\*Estimated.

Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal near Humboldt, Nev.

Location.— Water-stage recorder and Cippoletti weir, lat. 40°36'25", long. 118°18'20", in sec. 30, T. 32 N., R. 33 E., at outlet of lower Taylor-Pitt Reservoir, 2½ miles west of Humboldt.

Records available.— February 1914 to September 1920, October 1921 to September 1938.

Average discharge.— 23 years, 13.3 second-feet.

Remarks.— Records good. Flow regulated by reservoir outlet gates a few hundred feet upstream. Canal conducts stored water released from Taylor-Pitt Reservoirs to Rye Patch Reservoir, from which it is later released and carried in natural river channel to Lovelock district for use in irrigation. Records of daily discharge furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	0	85			0
2							0	0	85			0
3							0	0	57			0
4							0	0	53			0
5							0	0	15			0
6							0	0	7			0
7							0	0	0			0
8							0	0	0			0
9							0	0	0			0
10							0	0	0			0
11							25	0	0			0
12							32	0	0			0
13							32	14	0			0
14							32	16	0			0
15							32	23	0			0
16							32	40	0			0
17							32	45	0			0
18							32	45	0			0
19							32	58	0			0
20							32	72	0			0
21							32	68	0			0
22							32	61	0			0
23							35	55	0			0
24							45	46	0			0
25							26	45	0			9
26							6	45	0			33
27							0	64	0			23
28							0	70	0			24
29							0	70	0			24
30							0	70	0			25
31							-	80	-			-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year 1937.....							12,139	205	0	33.3	24,090	
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							489	45	0	16.3	970	
May.....							987	80	0	31.8	1,960	
June.....							302	85	0	10.1	599	
July.....							0	0	0	0	0	
August.....							0	0	0	0	0	
September.....							138	33	0	4.6	274	
Water year 1937-38.....							1,916	85	0	5.2	3,800	

## Pyramid Lake near Nixon, Nev.

Location.— Benchmark No. 1 of General Land Office, top of iron post in forks of road, lat.  $39^{\circ}50'30''$ , long.  $119^{\circ}27'30''$ , about 900 feet north of quarter corner of secs. 29 and 30, T. 23 N., R. 23 E. and  $4\frac{1}{4}$  miles west of Pyramid Lake Sanatorium at Nixon. Elevation of benchmark is 3,882.258 feet above mean sea level (general adjustment of 1912).

Records available.— June 1926 to September 1938. Occasional readings during some years in period 1867 to 1925.

Extremes.— 1926-38: Maximum elevation observed, 3,847.9 feet June 1926; minimum, 3,816.4 feet Jan. 29, 1937.

Remarks.— Elevations determined by spirit leveling. Records furnished by Indian Service.

## Elevation, in feet, above mean sea level, water year 1937-38

Oct. 21	3,816.7	Apr. 29	3,817.0
Nov. 19	3,816.55	June 7	3,820.65
Dec. -	*3,816.5	21	3,821.2
Dec. 28	*3,817.15	July 20	3,821.35
Jan. 19	3,816.8	Aug. 18	3,820.85
Feb. 22	3,816.55	Sept. 19	3,820.35
Mar. 26	3,816.8		

\*Rise between December readings was primarily the result of flood in Truckee River.

## Deep Creek above Adel, Oreg.

Location.- Water-stage recorder, lat. 42°11', long. 119°59', in E½ sec. 15, T. 39 S., R. 23 E., a third of a mile below Drake Creek and 5 miles west of Adel.

Drainage area.- 249 square miles.

Records available.- September 1922 to September 1923 and October 1932 to September 1938 in reports of Geological Survey. September 1922 to September 1923 and October 1929 to September 1936 in reports of State engineer.

Extremes.- Maximum discharge during year, 5,030 second-feet Dec. 11 (gage height, 7.5 feet, from floodmark), from rating curve extended above 1,500 second-feet on basis of velocity-area studies; minimum, 6.5 second-feet Oct. 1 (gage height, 0.47 foot).

1922-23, 1932-38: Maximum discharge, that of Dec. 11, 1938; minimum, 1.7 second-feet July 20, 27-29, 1934.

Remarks.- Records good except those for Oct. 1 to Dec. 9, which are fair, and those for Apr. 6-16 and those estimated, which are poor. Discharge for periods of ice effect, Dec. 31, Jan. 1, 4-10, 19-28, and periods of missing or faulty gage heights, Dec. 11, Feb. 24 to Mar. 14, Mar. 29 to Apr. 5, Apr. 17 to May 5, May 7-13, 15-23, estimated on basis of weather reports and records for Chewaucan River above Conn ditch, near Paisley. Diversions for irrigation above station.

Rating tables, water year 1937-38 except periods of ice effect (gage height, in feet, and discharge in second-feet)

Oct. 1 to Dec. 9

Dec. 10 to Sept. 30

0.2	1.0	0.6	18	3.5	658
.4	4.5	.8	29	4.0	900
.6	11.4	1.0	45	4.5	1,180
.8	21	1.3	78	5.0	1,480
1.0	35	1.6	119	6.0	2,240
		2.0	191	7.0	3,740
		2.5	309	7.5	5,030
		3.0	463		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.9	13	29	80	54		101		446	68	19	15
2	11	12	32	86	54		112		429	74	18	14
3	12	12	33	78	51		140		406	68	18	14
4	10	11	25	52	58		220		380	66	18	14
5	9.8	11	29	48	55		210		350	62	17	14
6	9.4	12	24	46	40		181	594	336	55	16	14
7	8.4	13	23	45	50		152	800	320	48	16	15
8	9.1	13	22	44	52	140	258	830	299	44	16	16
9	9.1	13	28	45	53		498	670	273	40	17	16
10	8.7	13	358	47	55		615	700	248	36	17	16
11	8.7	14	3,500	49	53		900	730	225	35	16	15
12	8.7	13	1,600	51	53		1,060	790	221	35	16	15
13	8.7	14	574	60	49		850	850	236	32	17	15
14	8.3	20	348	87	58		800	925	199	30	17	14
15	11	20	393	98	62	216	850	1,040	177	32	17	14
16	12	19	283	66	70	236	1,240	1,100	162	44	17	15
17	12	32	230	56	82	239		980	150	42	17	14
18	11	38	191	53	74	173		850	165	34	17	14
19	11	36	156	52	65	197		730	197	28	17	15
20	11	85	127	50	55	276		630	158	25	16	15
21	11	181	129	48	50	169		560	142	24	16	15
22	11	101	107	49	48	152		550	160	22	16	15
23	11	130	107	52	55	138		560	165	22	15	15
24	11	130	84	55		125	1,250	554	125	20	16	15
25	11	84	87	58		132		574	101	20	16	15
26	110	80	140	62		103		594	94	20	16	15
27	11	55	100	57		100		594	91	25	15	15
28	11	46	92	58		108		594	87	26	15	18
29	11	37	81	55	-	100		615	84	25	15	19
30	10	33	87	59	-	95		554	76	22	15	18
31	11	-	68	55	-	95	-	498	-	20	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	317.8	12	6.9	10.3	630
November.....	1,291	181	11	43.0	2,560
December.....	9,085	3,500	22	293	18,020
Calendar year 1937.....	37,322.6	3,500	4.8	102	74,020
January.....	1,801	98	44	58.1	3,570
February.....	1,644	82	40	56.7	3,260
March.....	4,314	276	95	149	9,150
April.....	25,687	-	101	856	50,950
May.....	22,876	1,100	498	731	44,980
June.....	6,502	446	76	217	12,900
July.....	1,144	74	20	36.9	2,270
August.....	509	19	15	18.4	1,010
September.....	454	19	14	15.1	900
Water year 1937-38.....	75,724.8	3,500	6.9	207	150,200

Peak discharge.- Dec. 11 (hour not known) 5,030 sec.-ft.; Dec. 15 (3 p.m.), 463 sec.-ft.

Chewaucan River above Conn ditch, near Paisley, Oreg.

Location.- Water-stage recorder, lat. 42°41', long. 120°35' in SW¼ sec. 27, T 33 S., R. 18 E., at bridge 20 feet below power plant of R. R. Severin, 700 feet above diversion dam of Conn ditch, a quarter of a mile below mouth of Mill Creek, and 2½ miles west of Paisley. Zero of gage is 4,504.9 feet above mean sea level (Geological Survey plane-table benchmark).

Drainage area.- 275 square miles (revised).

Records available.- April to September 1912 and May 1924 to September 1938. January 1905 to December 1907 and January 1909 to April 1912 at site 2 miles downstream, below Conn ditch. November 1912 to September 1921 at site half a mile upstream, above Mill Creek. Records of yearly run-off are practically equivalent.

Average discharge.- 27 years (1905-7, 1909-21, 1924-38), 152 second-feet.

Extremes.- Maximum discharge during year, 1,680 second-feet Dec. 11 (gage height, 4.93 feet); minimum, 1.3 second-feet Dec. 6 (gage height, 1.07 feet), probably caused by ice jam upstream; minimum daily discharge, 23 second-feet Dec. 5.

1905-7, 1909-21, 1924-38: Maximum discharge, 4,000 second-feet (estimated), Nov. 25, 1909 (gage height, 9.40 feet, former site and datum); no flow part of Dec. 7, 1927, Dec. 12, 1932 (frozen); minimum daily discharge not determined.

Remarks.- Records good except those for periods of ice effect, Jan. 5-14, 21-23, which were estimated on basis of weather reports and records for Deep Creek above Adel and are poor. Low-water flow partly regulated by power plant above station. About 160 acres are irrigated above station.

Rating table, Dec. 11 to Sept. 30 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.6	27	2.3	118	3.5	600
1.8	46	2.6	193	4.0	920
2.0	70	3.0	335	4.5	1,280

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	28	33	86	76	122	114	1,130	766	182	44	34
2	35	27	49	89	70	146	152	990	753	126	41	33
3	39	27	48	77	60	135	212	850	708	120	42	33
4	33	26	31	55	77	118	264	785	678	114	41	32
5	33	25	23	52	71	109	260	720	654	105	41	33
6	29	30	26	51	46	102	215	678	636	98	39	35
7	27	24	28	50	61	95	250	684	612	94	39	35
8	27	30	33	48	66	102	358	708	570	89	39	38
9	26	29	50	50	71	102	524	778	512	83	39	36
10	25	27	167	51	78	95	564	785	465	78	38	34
11	24	35	1,200	53	78	102	600	850	415	76	39	32
12	24	34	778	57	71	170	570	920	405	74	39	32
13	24	33	405	73	57	236	529	1,020	410	71	43	31
14	28	38	299	95	61	190	524	1,100	348	69	43	31
15	45	37	278	105	58	193	576	1,240	319	73	41	30
16	34	37	219	84	58	239	733	1,360	295	73	40	29
17	31	45	196	76	181	169	785	1,200	281	71	38	29
18	35	45	178	70	154	170	955	1,100	284	69	38	29
19	30	56	142	66	131	202	1,100	289	222	62	38	32
20	29	92	118	60	128	203	1,060	955	246	58	36	32
21	28	120	111	58	84	146	1,060	885	209	56	35	30
22	28	72	105	57	80	135	1,020	885	212	56	34	30
23	27	90	100	62	83	109	1,020	885	209	54	34	30
24	27	93	86	77	109	118	1,060	885	187	52	35	30
25	27	69	77	83	114	124	955	955	170	50	37	30
26	26	67	111	87	109	114	985	955	156	49	36	30
27	26	54	122	81	109	124	895	955	146	50	35	30
28	25	47	105	83	107	139	818	955	154	74	34	38
29	25	45	94	78	-	114	885	955	139	55	34	40
30	26	34	100	76	-	102	1,020	850	126	49	34	36
31	28	-	71	76	-	109	-	818	-	47	34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	895	45	24	28.9	1,780
November.....	1,415	120	24	47.2	2,810
December.....	5,373	1,200	23	173	10,660
Calendar year 1937.....	37,124	1,200	19	102	73,650
January.....	2,166	105	48	69.9	4,300
February.....	2,398	154	46	85.6	4,760
March.....	4,414	292	95	142	8,760
April.....	19,953	1,100	114	665	39,580
May.....	28,856	1,360	678	931	57,240
June.....	11,331	766	126	378	22,470
July.....	2,317	126	47	74.7	4,600
August.....	1,150	44	34	38.1	2,340
September.....	974	40	29	32.5	1,950
Water year 1937-38.....	81,272	1,360	23	223	161,200

Peak discharge.- Dec. 11 (5 p.m.) 1,680 sec.-ft.; Dec. 12 (2 a.m.) 1,400 sec.-ft.; Apr. 9 (11 p.m.) 684 sec.-ft.; Apr. 10 (11 p.m.) 740 sec.-ft.; Apr. 15 (2 a.m.) 666 sec.-ft.; Apr. 19 (4 a.m.) 1,320 sec.-ft.

## Silver Creek near Silver Lake, Oreg.

Location.- Water-stage recorder, lat. 43°07', long. 121°04', in SW¼ sec. 28, T. 28 S., R. 14 E., 1½ miles downstream from diversion dam of Silver Lake Irrigation District, 1½ miles southwest of Silver Lake post office, and 3 miles upstream from Bridge Creek. Zero of gage is 4,361.23 feet above mean sea level (general adjustment of 1929).

Drainage area.- 221 square miles.

Records available.- December 1904 to March 1907 and January 1909 to September 1938.

Average discharge.- 28 years (1905-6, 1909-27, 1929-38), including Silver Lake Irrigation District canal, 26.3 second-feet.

Extremes.- Maximum discharge during year, 364 second-feet May 1 (gage height, 4.89 feet), from rating curve extended above 150 second-feet; no flow Oct. 21-23, Nov. 6-14.

1904-7, 1909-38: Maximum discharge, 1,800 second-feet Mar. 27, 1907 (gage height, 9.08 feet, former datum), from rating curve extended above 1,000 second-feet; no flow at times during 1931, 1932, 1934, 1937.

Remarks.- Records good except those above 150 second-feet, which are fair, those below 3 second-feet, those for periods of ice effect, Jan. 5-11, Feb. 16-19 (estimated on basis of weather records), and those for periods of missing gage heights Jan. 28 to Feb. 2 (computed on basis of weather records and recorded range in stage), all of which are poor. Flow regulated by storage in reservoir above diversion dam, 1½ miles upstream (capacity, 800 acre-feet) and in Thompson Valley Reservoir, 11 miles upstream (capacity, 17,400 acre-feet), both of which are owned by the Silver Lake Irrigation District.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.1	0.4	1.6	2.2	1.5	15	324	33	30	3.0	5.0
2	.1	.2	.4	1.6	2.0	1.6	10	317	29	30	2.9	5.0
3	.2	.1	.4	1.4	1.8	1.6	10	257	27	30	2.8	5.0
4	.1	.1	.4	1.5	1.6	2.3	13	207	29	30	2.7	5.0
5	.1	.1	.5	1.3	1.6	2.5	23	168	26	25	2.7	5.2
6	.1	0	.5	1.2	1.7	2.5	23	145	23	25	2.6	5.2
7	.1	0	.6	1.1	1.6	2.6	22	135	23	25	2.6	5.2
8	.1	0	.8	1.2	1.7	2.7	33	129	23	24	2.6	5.2
9	.1	0	.8	1.5	1.8	2.8	51	133	23	22	2.6	5.2
10	.1	0	.9	1.8	1.8	2.8	68	146	23	20	2.7	5.2
11	.1	0	1.2	2.0	1.7	2.9	98	154	23	19	2.8	5.2
12	.1	0	1.2	2.2	1.6	12	112	162	24	19	2.9	5.2
13	.1	0	1.4	2.1	1.4	23	87	161	24	18	3.0	5.2
14	.1	0	1.6	2.1	1.7	28	75	162	24	19	3.3	5.2
15	.1	.4	1.5	1.8	2.0	34	78	147	23	20	3.3	5.2
16	.1	.8	1.4	1.7	1.8	54	103	136	23	21	3.3	5.2
17	.1	.8	1.2	1.6	1.7	42	146	123	22	20	3.3	5.5
18	.1	.7	1.2	1.6	1.7	34	164	104	23	19	3.3	5.5
19	.1	.5	1.0	1.7	2.0	35	160	88	23	19	3.0	5.5
20	.1	.2	7.5	1.6	2.3	30	135	75	22	19	2.9	5.5
21	0	.1	2.7	1.6	2.2	23	125	65	22	17	2.9	5.5
22	0	.1	2.1	1.5	2.1	21	108	57	21	14	2.9	5.5
23	0	.1	1.9	1.5	2.1	19	93	52	21	12	2.8	5.8
24	.1	.2	2.9	2.3	1.8	18	105	45	23	7.9	2.8	5.8
25	.1	.2	2.6	2.9	1.6	17	98	40	27	7.1	2.8	5.8
26	.1	.2	2.1	2.8	1.6	17	85	40	28	4.1	2.8	5.8
27	.1	.2	2.0	2.6	1.5	17	92	40	29	3.3	2.8	5.8
28	.1	.3	1.8	2.2	1.5	17	92	40	28	3.3	2.7	6.2
29	.1	.4	1.7	2.0	-	17	133	40	29	3.3	2.7	6.2
30	.1	.4	1.6	1.8	-	18	228	38	29	3.0	2.7	6.2
31	.1	-	1.6	2.0	-	16	-	36	-	3.0	3.0	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							3.0	0.2	0	0.10	6	
November.....							6.2	.8	0	.21	12	
December.....							141.4	15	.4	4.56	280	
Calendar year 1937.....							3,027.6	37	0	8.29	6,000	
January.....							55.8	2.9	1.1	1.80	111	
February.....							50.1	2.3	1.4	1.79	99	
March.....							517.8	54	1.5	16.7	1,030	
April.....							2,875	228	10	85.8	5,100	
May.....							3,741	324	36	121	7,420	
June.....							747	33	21	24.9	1,480	
July.....							532.0	30	3.0	17.2	1,060	
August.....							89.2	3.3	2.6	2.88	177	
September.....							163.0	6.2	5.0	5.43	323	
Water year 1937-38.....							8,619.5	324	0	23.6	17,100	

Peak discharge.- Apr. 17 (2:30 a.m.) 173 sec.-ft.; Apr. 18 (3 a.m.) 207 sec.-ft.; Apr. 19 (2 a.m. 200 sec.-ft.; Apr. 20 (3 a.m.) 160 sec.-ft.; Apr. 21 (4 a.m.) 145 sec.-ft.; May 1 (3:30 p.m.) 364 sec.-ft.

Silver Lake Irrigation District canal near Silver Lake, Oreg.

Location.- Staff gage, lat. 43°05', long. 121°05', in NE¼ sec. 5, T. 29 S., R. 14 E., at diversion dam of Silver Lake Irrigation District, 2½ miles southwest of Silver Lake post office.

Records available.- October 1922 to September 1928 and October 1929 to September 1938.

Average discharge.- 15 years, 4.49 second-feet.

Extremes.- Maximum discharge observed during year, 37 second-feet June 11, 12; no flow Oct. 1 to Apr. 11, Sept. 21-30.  
1922-28, 1929-38: Maximum discharge, 60 second-feet June 26-29, 1923; no flow at times.

Remarks.- Records poor. Canal diverts from Silver Creek water which is released from Thompson Valley Reservoir. Gage readings furnished by Silver Lake Irrigation District.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	*24	28	26	*13	
2							0	*25	28	26	*13	
3							0	25	28	*23	*13	
4							0	25	29	*20	*14	
5							0	25	30	*20	*14	
6							0	25	30	20	*14	
7							0	25	*30	*20	14	
8							0	*26	31	*20	*14	
9							0	26	35	*23	*14	
10							0	26	36	26	*14	
11							0	26	37	26	*14	
12							.4	26	35	25	*14	
13							*1.5	26	*34	24	*15	
14							2.0	26	32	24	15	
15							3.0	27	32	24	*15	
16							5.0	27	32	20	*14	
17							*8.0	27	31	17	14	
18							11	27	28	20	*14	
19							14	28	28	24	*14	
20							23	28	27	23	*14	
21							*20	28	27	22	*14	0
22							18	*28	27	21	*14	0
23							19	28	28	16	*13	0
24							19	28	28	14	*13	0
25							19	31	26	*14	*13	0
26							19	33	26	*14	*13	0
27							19	34	26	14	*13	0
28							22	30	26	*14	13	0
29							24	*29	26	*14	*10	0
30							24	28	*26	*13	*10	0
31							-	28	-	*13	*10	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year 1937.....							1,738	30	0	4.75	3,446	
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							270.9	24	0	9.03	537	
May.....							845	34	24	27.5	1,680	
June.....							897	37	26	29.6	1,760	
July.....							820	26	13	20.0	1,230	
August.....							416	15	10	13.4	825	
September.....							115.5	-	0	3.85	229	
Water year 1937-38.....							3,154.4	37	0	8.64	6,261	

\*Gage height missing; discharge interpolated or estimated.



## Silvies River near Burns, Oreg.

Location.— Water-stage recorder, lat. 43°43', long. 119°10', in or near 3F $\frac{1}{2}$  sec. 25, T. 21 S., R. 29 E., 1 mile downstream from dam site for proposed lower Silvies Reservoir and 11 miles northwest of Burns.

Drainage area.— 934 square miles (revised).

Records available.— May 1903 to July 1906 and December 1908 to September 1938.

Average discharge.— 25 years (1903-5, 1909-12, 1917-21, 1922-38), 134 second-feet.

Extremes.— Maximum discharge during year, 1,790 second-feet Apr. 20 (gage height, 13.61 feet), minimum, 3 second-feet Oct. 5.

1903-6, 1908-38: Maximum discharge, 4,730 second-feet Apr. 15, 1904 (gage height, 17.12 feet, former site and datum); no flow July 19 to Sept. 22, 1934.

Remarks.— Records fair except those for periods of no gage-height record, Oct. 15 to Nov. 6, Nov. 22-27, Dec. 13-25, Mar. 24-26, 28-30, Apr. 1-5, May 25 to June 4, June 16-19, which were estimated on basis of weather records and records for Malheur River near Drewsey and are poor. Small areas on Silvies River above station are irrigated with flood water.

Rating table, water year 1937-38 (gage height, in feet, and discharge, in second-feet)

1.0	6.8	3.0	150	8.0	660
1.3	20	3.5	195	10.0	960
1.6	37	4.0	240	12.0	1,380
2.0	65	5.0	335		
2.5	105	6.0	435		

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	12	45	77	101	408	315	1,400	210	57	21	7
2	8	13	38	87	101	811	305	1,360	180	56	18	7
3	6	12	38	71	95	795	350	1,270	160	55	18	7
4	4	11	38	61	94	567	578	1,200	145	56	17	7
5	5	12	35	65	91	425	612	1,140	118	55	17	7
6	7	13	32	64	94	375	600	1,040	99	50	16	7
7	7	14	33	59	103	345	636	907	89	48	16	8
8	11	16	39	58	103	345	710	811	73	36	16	9
9	9	17	35	59	95	345	827	710	65	36	14	9
10	8	18	44	57	90	375	974	636	65	31	14	9
11	8	17	95	57	94	365	1,140	578	65	35	13	10
12	8	19	218	59	92	501	1,270	556	66	32	12	9
13	8	20	185	59	90	780	1,310	523	68	26	12	9
14	8	20	145	62	85	624	1,310	490	66	26	11	9
15	8	22	167	86	82	624	1,290	468	64	26	11	9
16	8	22	170	113	83	751	1,290	435	63	26	11	9
17	9	24	150	98	87	589	1,400	405	62	26	11	9
18	10	27	143	92	94	523	1,590	375	65	35	10	9
19	13	35	140	96	95	589	1,760	355	67	31	10	9
20	17	49	135	84	92	556	1,760	365	65	30	10	9
21	15	62	128	86	95	425	1,760	365	63	26	10	8
22	12	53	120	106	96	395	1,730	345	70	26	9	8
23	12	48	113	136	103	335	1,700	335	100	27	9	9
24	12	45	107	118	136	350	1,670	305	97	27	9	9
25	11	48	100	118	177	370	1,670	280	83	27	8	9
26	10	47	113	118	195	375	1,640	285	80	27	8	9
27	10	48	114	110	240	395	1,520	290	83	26	9	9
28	11	45	118	106	276	490	1,540	300	79	24	9	10
29	11	43	105	103	-	390	1,470	310	72	26	8	10
30	11	36	99	98	-	355	1,430	280	62	27	8	10
31	10	-	90	95	-	335	-	240	-	26	8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						292	17	4	9.4	579		
November.....						668	62	11	28.9	1,720		
December.....						3,122	218	32	101	6,190		
Calendar year 1937.....						30,552	827	2	83.7	60,600		
January.....						2,660	136	57	85.8	5,280		
February.....						3,177	276	82	113	6,300		
March.....						14,908	811	335	481	29,570		
April.....						36,257	1,760	305	1,209	71,910		
May.....						18,359	1,400	240	592	36,410		
June.....						2,642	210	62	89.1	5,240		
July.....						1,056	57	19	34.1	2,090		
August.....						373	21	8	12.0	740		
September.....						259	10	7	8.6	514		
Water year 1937-38.....						83,973	1,760	4	230	166,500		

## Donner und Blitzen River near Frenchglen, Oreg.

Location.- Water-stage recorder and concrete control, lat. 42°47', long. 118°52', in NW¼ sec. 20, T. 32 S., R. 32 E., 1½ miles upstream from upper diversions for Malheur Migratory Waterfowl Refuge, 2 miles downstream from Fish Creek, and 3½ miles southeast of Frenchglen. Prior to Feb. 15, 1938, staff gage at same site and datum.

Drainage area.- 180 square miles (revised, excluding areas tributary to Catlow Valley formerly included).

Records available.- December 1937 to September 1938. January 1909 to November 1910, fragmentary records at sites downstream, below several irrigation diversions; May 1910 to September 1921, at site 1½ miles downstream, in SW¼ sec. 8, above diversions (published as Donner und Blitzen River near Diamond), records equivalent.

Extremes.- Maximum discharge observed during year, 930 second-feet Dec. 11 (gage height, 4.6 feet); minimum observed, 22 second-feet Feb. 16 (gage height, 1.92 feet).  
1909-21, 1937-38: Maximum discharge, about 2,200 second-feet Mar. 3, 1921 (gage height, 6.6 feet, former site and datum, from floodmark), from rating curve extended above 500 second-feet; minimum, that of Feb. 16, 1938.

Remarks.- Records May to September fair, those for December to April poor. No diversion or regulation above station. Once-daily staff-gage reading used Feb. 1, 2, 7, 9, 11. Gage height record collected in cooperation with U. S. Biological Survey.

Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	-	154	424	67	640	429	146	51	41
2			-	-	154	225	126	565	442	160	50	41
3			-	-	150	110	232	434	442	†149	50	40
4			-	-	†47	136	218	384	424	†138	48	40
5			*38	-	†43	151	274	331	429	†126	47	40
6			-	-	†40	†132	319	295	434	115	47	41
7			-	-	136	†132	315	303	393	115	46	42
8			-	-	†42	133	429	319	347	115	46	51
9			-	-	†47	133	393	351	299	106	46	46
10			-	-	†53	133	253	367	256	97	46	43
11			-	*46	159	190	288	402	253	89	44	42
12			-	-	153	393	307	429	261	96	43	41
13			-	-	†46	224	239	†497	242	89	44	40
14			-	-	40	149	232	565	246	91	44	39
15			-	-	47	181	260	615	253	88	44	38
16			-	-	34	236	292	640	256	86	44	38
17			*95	-	39	106	327	575	250	80	43	37
18			-	-	51	110	388	†493	200	77	42	37
19			-	-	59	371	447	411	194	72	42	38
20			-	-	50	190	500	363	172	71	42	39
21			-	-	54	115	520	335	242	67	42	38
22			-	-	58	85	575	339	295	66	41	37
23			-	-	88	97	585	380	260	65	42	37
24			-	-	172	104	615	442	242	63	41	38
25			-	*35	152	102	595	525	218	61	42	38
26			-	-	136	124	515	560	204	60	43	37
27			-	-	184	208	530	660	197	61	43	37
28			-	-	169	236	625	545	184	61	42	40
29			-	-	-	112	740	465	175	56	41	42
30			-	-	-	78	715	447	157	53	40	41
31			-	-	-	†72	-	420	-	52	40	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....												
November.....												
December.....												
Calendar year .....												
January.....					1,240	-	-	40	2,460			
February.....					1,957	184	34	69.9	3,880			
March.....					5,232	424	72	169	10,380			
April.....					11,921	740	67	397	23,640			
May.....					14,097	660	295	455	27,960			
June.....					8,416	442	157	281	16,690			
July.....					2,761	160	52	89.1	5,480			
August.....					1,366	51	40	44.1	2,710			
September.....					1,199	51	37	40.0	2,380			
The period.....									95,580			

\*Discharge measurement.

†Interpolated.

‡Discharge computed from once-daily reading of staff gage.

## Donner und Blitzen River near Voltage, Oreg.

Location.- Staff gage, lat.  $43^{\circ}16'$ , long.  $118^{\circ}51'$ , in sec. 2, T. 27 S., R. 31 E., just downstream from Sodhouse diversion dam of U. S. Biological Survey,  $1\frac{1}{2}$  miles south of Sodhouse lane and headquarters of Malheur Migratory Waterfowl Refuge, and 2 miles southwest of former post office of Voltage.

Records available.- February to September 1938. April 1916 to June 1919, March 1921 to June 1922, fragmentary records including overflow through 16 culverts crossing Sodhouse lane and diversions at site  $1\frac{1}{2}$  miles downstream.

Extremes.- Maximum discharge observed during year, 403 second-feet Mar. 4 (gage height, 4.50 feet); minimum observed, 5 second-feet Aug. 17 (gage height, 0.28 foot).  
1916-19, 1921-22, 1937-38: Maximum discharge observed, 800 second-feet May 21, 1917 (gage height, 3.3 feet, former site and datum); little or no flow at times, June to August 1918.

Remarks.- Records poor. Gage read once to six times weekly and discharge interpolated for intervening days. Most of river flow diverted above station for irrigation and for flooding waterfowl refuge; Kado and Springer canals divert below station. Gage readings furnished by U. S. Biological Survey.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	250	88	*259	312	*118	68	*24
2					-	268	*69	262	312	*113	*60	*25
3					-	306	*69	*234	299	*106	51	*26
4					-	364	90	306	*292	*103	*64	*27
5					-	292	181	306	*285	*98	78	*28
6					-	*248	286	299	*278	*94	*72	*30
7					-	203	292	299	*270	*89	*65	31
8					-	148	299	*294	*263	*84	59	*24
9					-	138	325	*289	256	*71	*59	16
10					†111	*138	*325	*285	*256	*74	59	*35
11					-	138	325	*280	256	*69	*38	*54
12					-	*179	338	*275	*247	*64	16	73
13					-	*221	351	*271	238	59	*13	40
14					-	262	338	*266	238	59	*9	51
15					-	286	286	*261	238	59	6	*34
16					-	250	226	256	*216	*64	*6	16
17					-	192	*235	*266	*194	*70	5	*21
18					-	159	*244	*276	*172	71	*18	*26
19					-	124	*253	286	*150	*67	31	31
20					-	*139	262	*302	128	59	*31	*31
21					-	*155	250	318	*135	*54	*31	31
22					-	170	250	*316	*141	49	31	*25
23					81	*151	238	*314	148	*49	*42	19
24					106	*132	*238	312	*145	*49	54	*16
25					170	*114	238	*287	*141	49	*35	*13
26					226	95	250	262	*138	*50	16	10
27					*235	*138	244	256	*135	51	*17	*8
28					244	181	*247	*265	*131	*61	*18	7
29					-	214	250	274	128	71	*20	*12
30					-	*152	256	*293	*123	*70	*21	17
31					-	90	-	*303	-	*69	*22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year .....					
January.....	-	-	-	-	-
February 23-28.....	1,062	244	81	177	2,110
March.....	5,897	364	90	190	11,700
April.....	7,383	351	88	246	14,640
May.....	8,822	318	256	285	17,600
June.....	6,265	312	123	209	12,430
July.....	2,227	118	49	71.8	4,420
August.....	1,115	73	5	36.0	2,210
September.....	801	73	7	26.7	1,590
The period.....					66,600

\*Interpolated.

†Discharge measurement.

## Bridge Creek near Frenchglen, Oreg.

(Formerly published as Bridge Creek near Diamond, Oreg.)

Location.- Staff gage, lat. 42°50', long. 118°51', in NW¼ sec. 33, T. 31 S., R. 32½ E., at mouth of canyon, 1,000 feet upstream from road crossing and 3½ miles northeast of Frenchglen. Prior to May 18, 1938, temporary staff gage at ford 1,000 feet downstream.

Records available.- March 1911 to September 1916 (in SE¼ sec. 33, erroneously published as SE¼ sec. 34,) and December 1937 to September 1938.

Extremes.- Maximum discharge observed during period, 118 second-feet Apr. 19 (gage height, 3.00 feet, temporary gage at ford), from rating curve extended above 70 second-feet; minimum observed, 7 second-feet Dec. 30 to Jan. 4.  
1911-16, 1937-38: Maximum discharge observed, 166 second-feet May 3, 1915 (gage height, 4.85 feet, former site and datum), from rating curve extended above 60 second-feet; minimum observed, 7 second-feet Feb. 24, 25, 1912, Dec. 30, 1937, to Jan. 4, 1938.

Remarks.- Records poor. Staff gage read once daily, with frequent omissions. Discharge estimated or interpolated for days of no gage reading. No diversions or regulation above station. Gage readings furnished by U. S. Biological Survey.

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	*7	9	43	8	*42	20	12	12	*12
2			-	*7	9	20	*14	36	20	12	*12	*12
3			-	7	*9	16	*20	27	17	*12	12	*12
4			-	7	*9	12	18	*25	*17	*12	12	*12
5			-	8	*10	12	21	19	*16	12	12	*12
6			8	7	*10	*12	15	16	16	11	*12	*12
7			-	7	10	*13	13	18	15	11	*12	12
8			-	*7	10	*14	16	*19	14	11	*12	*14
9			-	*7	10	14	17	20	17	11	12	13
10			-	7	10	*14	*18	*22	13	*11	*12	13
11			-	7	10	*15	18	25	12	11	*12	13
12			-	7	10	15	18	25	*12	11	*12	12
13			-	8	*10	*14	16	29	12	11	12	12
14			-	8	10	13	16	32	16	11	*12	*12
15			-	*8	10	*13	16	*35	12	11	12	*12
16			-	*9	10	*12	*34	34	12	11	*12	*12
17			7	9	10	*12	*52	29	12	*11	*12	12
18			-	8	10	12	70	28	12	11	12	*12
19			-	*8	10	*80	118	*27	*12	11	*12	*12
20			-	*8	*10	*20	46	*25	12	*11	*12	12
21			8	*8	*10	*11	49	*24	11	11	*12	*12
22			8	*8	*11	*9	54	*22	12	*11	*12	*12
23			8	*8	11	*9	44	*21	13	11	*12	*12
24			-	8	*20	*10	*55	*19	11	*12	*12	12
25			-	*8	16	*10	51	18	12	12	*12	*12
26			-	*8	*13	*11	36	23	*12	12	*12	*13
27			-	8	10	12	35	26	11	12	*12	13
28			-	8	*20	15	40	24	11	*12	*12	*12
29			-	*8	-	*12	54	*24	11	12	*12	*13
30			7	*9	-	9	*48	25	11	12	*12	*13
31			7	9	-	8	-	22	-	12	*12	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						241	9	7	7.8	478		
February.....						307	20	9	11.0	609		
March.....						442	43	8	14.3	877		
April.....						1,030	118	8	34.3	2,040		
May.....						771	42	16	24.9	1,530		
June.....						404	20	11	13.5	801		
July.....						354	12	11	11.4	702		
August.....						372	12	12	12.0	738		
September.....						370	14	12	12.3	734		
The period.....										8,510		

\*Interpolated or estimated.

## Trout Creek near Denio, Oreg.

Location.— Water-stage recorder, lat. 42°10', long. 118°28', in SW $\frac{1}{4}$  sec. 26, T. 39 S., R. 38 E., 0.1 mile upstream from bridge at mouth of canyon, 5 miles east of Trout Creek ranch, and 14 miles northeast of Denio. Zero of gage is 4,371.52 feet above mean sea level (general adjustment of 1929).

Records available.— March 1911 to March 1912, April 1922 to November 1923, April 1925 to September 1938 (incomplete prior to 1932).

Extremes.— Maximum discharge during year, 273 second-feet May 16 (gage height, 4.55 feet), from rating curve extended above 140 second-feet; minimum, 1.2 second-feet Dec. 1, Jan. 24 (gage height, 1.35 feet).

1911-12, 1922-23, 1925-38: Maximum discharge, 343 second-feet Aug. 1, 1933, from rating curve extended above 125 second-feet; probably no flow at times.

Maximum stage known, 6.0 feet (caused by cloudburst), sometime between 1922 and 1932.

Remarks.— Records good except those for period when intake was obstructed, June 10 to July 30, which are fair, and those for periods of ice effect or missing gage heights, which are poor. Some diversions above station for irrigation of small fields; large diversions for irrigation below station.

Rating table, water year 1937-38 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.6	3.1	2.4	34	3.5	139
1.8	7.3	2.6	49	4.0	199
2.0	13	2.9	75		
2.2	22	3.2	106		

## Discharge, in second-feet, water year October 1937 to September 1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	3.5	2.6	6.6	8.1	12	+18	193	95	22	4.4	2.9
2	2.2	3.3	4.2	6.6	7.8	13	+17	175	93	25	3.5	3.0
3	2.6	3.3	5.1	5.8	7.3	13	17	147	92	38	3.7	3.5
4	2.8	3.3	4.0	4.0	6.6	12	17	136	94	30	4.6	3.1
5	3.0	3.3	3.1	4.4	5.5	12	20	109	81	23	4.4	3.0
6	3.1	3.3	4.4	4.4	8.6	12	22	98	79	22	3.5	3.1
7	3.0	3.5	4.2	3.5	7.8	12	23	94	70	20	4.2	3.1
8	2.9	3.1	3.8	3.7	8.1	12	26	90	61	19	4.4	+4.0
9	3.0	3.5	4.6	5.5	8.1	12	30	98	55	18	4.4	3.7
10	3.0	3.5	5.1	6.4	8.9	12	32	112	47	15	4.4	3.5
11	2.8	3.5	14	6.9	9.2	12	35	131	43	15	4.0	3.3
12	2.7	3.5	17	6.0	6.6	14	35	151	44	14	4.0	3.0
13	2.6	3.7	12	5.8	2.8	18	33	175	44	13	4.2	2.9
14	2.7	3.7	9.5	6.0	2.9	15	34	187	42	13	4.6	2.7
15	3.3	3.8	*10	6.2	2.7	15	34	232	40	12	4.6	2.7
16	3.3	3.8	*8.9	6.2	4.0	+16	38	232	38	12	3.5	2.8
17	3.5	4.4	9.2	6.6	7.3	+17	45	212	36	11	3.3	2.9
18	3.8	4.6	8.6	6.0	10	+19	58	165	35	9.7	3.3	2.9
19	3.7	4.8	7.6	5.1	11	+20	84	149	38	9.7	3.5	2.8
20	3.7	5.1	6.2	5.1	9.5	+20	98	124	35	9.2	3.5	2.8
21	3.5	5.5	7.1	7.1	11	+20	104	108	35	8.1	3.5	2.8
22	3.5	4.8	7.8	7.3	11	+20	115	107	43	7.3	3.3	2.8
23	2.9	4.8	6.2	4.8	10	+19	121	113	41	7.1	3.3	2.8
24	2.9	5.1	5.3	2.9	11	+19	126	124	39	7.1	3.3	2.8
25	3.1	4.8	5.5	3.5	9.7	+19	149	135	38	6.4	3.5	2.7
26	3.1	4.8	6.9	4.6	10	+18	147	157	36	5.5	5.5	+2.7
27	3.0	4.4	7.1	4.0	10	+18	150	169	32	5.5	4.8	+2.7
28	2.9	+4.2	7.1	3.8	11	+18	124	141	30	6.0	4.0	+4.0
29	2.9	+3.7	6.9	3.7	-	+19	138	116	29	7.1	3.8	4.4
30	3.0	2.6	7.1	8.1	-	+19	169	115	27	7.6	3.0	4.2
31	3.5	-	6.2	8.1	-	+18	-	104	-	6.9	2.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	94.1	3.8	2.1	3.04	187
November.....	119.2	5.5	2.6	3.97	236
December.....	217.3	17	2.6	7.01	431
Calendar year 1937.....	3,984.9	100	.8	10.9	7,900
January.....	169.7	8.1	2.9	5.44	335
February.....	227.0	11	2.7	8.11	450
March.....	495.0	20	12	16.0	982
April.....	2,037	169	17	67.9	4,040
May.....	4,397	232	90	142	8,720
June.....	1,502	95	27	50.1	2,960
July.....	426.2	38	5.5	13.7	845
August.....	120.9	4.6	2.9	3.90	240
September.....	93.6	4.4	2.7	3.12	186
Water year 1937-38.....	9,898.0	232	2.1	27.1	19,630

Peak discharge.— Apr. 25 (8 p.m.) 181 sec.-ft.; May 14 (6 a.m.) 212 sec.-ft.; May 15 (8 a.m.) 266 sec.-ft.; May 16 (4 a.m.) 273 sec.-ft.; May 17 (5 a.m.) 273 sec.-ft.; May 26 (6 a.m.) 187 sec.-ft.

\*Stage-discharge relation affected by ice; discharge estimated on basis of weather records.

+Gage-height missing; discharge estimated on basis of weather records.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations in the Great Basin and reported in the preceding pages, measurements of flow were made at other points, as shown in the following table.

Miscellaneous discharge measurements in the Great Basin during the water year October 1937 to September 1938

## Bear River Basin

Date	Stream	Tributary to or diverting from-	Locality	Discharge (sec.-ft.)
Aug. 8	Logan, Hyde Park & Smithfield canal.	Logan River.....	SW $\frac{1}{4}$ sec. 25, T. 12 N., R. 1 E., 420 feet below gaging station, $1\frac{1}{2}$ miles below head, and $2\frac{1}{2}$ miles east of Logan, Utah.	*44.8
8	.....do.....	.....do.....	1,000 feet below gaging station.	42.9

\*Flow at gaging station 420 feet upstream, 47.4 second-feet.

## Sevier Lake Basin

Nov. 12	Sevier River....	Sevier Lake.....	NW $\frac{1}{4}$ sec. 7, T. 37 S., R. 5 W., $1\frac{1}{2}$ miles above Mammoth Creek and 3 miles southwest of Hatch, Utah.	57.8
Mar. 6	.....do.....	.....do.....	SE $\frac{1}{4}$ sec. 15, T. 36 S., R. 5 W., at bridge, 2 miles northeast of Hatch, Utah.	64.7
Nov. 12	Mammoth Creek...	Sevier River....	NE $\frac{1}{4}$ sec. 6, T. 37 S., R. 5 W., at bridge on U. S. Highway 89, 2 miles southwest of Hatch, Utah.	20.5
Sept. 1	Abraham Hot Springs.	.....do.....	Sec. 10, T. 14 S., R. 8 W., 19 miles northwest of Delta, Utah.	1.9
3	Chalk Creek.....	Sevier Lake.....	NE $\frac{1}{4}$ sec. 35, T. 21 S., R. 4 W., $\frac{1}{2}$ mile below North Fork and 3 miles southeast of Fillmore, Utah.	13.4
3	North Fork of Chalk Creek.	Chalk Creek.....	SW $\frac{1}{4}$ sec. 26, T. 21 S., R. 4 W., $\frac{1}{2}$ mile above South Fork and $3\frac{1}{2}$ miles southeast of Fillmore, Utah.	5.8

## Salton Sea Basin

Feb. 7	Whitewater River.	Salton Sink	Whitewater, Calif.....	*15
Apr. 21	.....do.....	.....do.....	.....do.....	*60
Feb. 7	Murray Canyon Creek.	Palm Canyon Creek.	At mouth, near Palm Springs, Calif.....	*1.0
Mar. 31	.....do.....	.....do.....	.....do.....	*4.0
Apr. 21	.....do.....	.....do.....	.....do.....	*2.0
May 10	.....do.....	.....do.....	.....do.....	*1.0
May 24	.....do.....	.....do.....	.....do.....	0
Dec. 16	Andreas Canyon Creek.	.....do.....	.....do.....	*.5
Feb. 7	.....do.....	.....do.....	.....do.....	*.5
Mar. 31	.....do.....	.....do.....	.....do.....	*4.0
Apr. 21	.....do.....	.....do.....	.....do.....	*3.0
May 10	.....do.....	.....do.....	.....do.....	.2
May 24	.....do.....	.....do.....	.....do.....	0
Feb. 7	Tahquitz Creek.	.....do.....	.....do.....	0
Mar. 31	.....do.....	.....do.....	.....do.....	0
Apr. 21	.....do.....	.....do.....	.....do.....	*15
May 10	.....do.....	.....do.....	.....do.....	36
May 24	.....do.....	.....do.....	.....do.....	22
June 15	.....do.....	.....do.....	.....do.....	8.8
June 28	.....do.....	.....do.....	.....do.....	5.1
July 12	.....do.....	.....do.....	.....do.....	0
July 26	.....do.....	.....do.....	.....do.....	0

\*Estimated.

## Mojave River Basin

Jan. 10	Mojave River....	Great Basin.....	Near Hodge, Calif.....	0
Feb. 10	.....do.....	.....do.....	.....do.....	*10
May 27	.....do.....	.....do.....	.....do.....	*10
June 1	.....do.....	.....do.....	.....do.....	0

## Antelope Valley Basin

Oct. 1	Rock Creek.....	Antelope Valley Basin.	Above Pallette Creek, near Valyermo, Calif.	6.2
Oct. 21	.....do.....	.....do.....	.....do.....	7.8
Nov. 11	.....do.....	.....do.....	.....do.....	8.4
Dec. 17	.....do.....	.....do.....	.....do.....	11
Jan. 22	.....do.....	.....do.....	.....do.....	12
Jan. 22	.....do.....	.....do.....	.....do.....	12
Feb. 1	.....do.....	.....do.....	.....do.....	22
Feb. 1	.....do.....	.....do.....	.....do.....	27
Feb. 26	.....do.....	.....do.....	.....do.....	16
Feb. 26	.....do.....	.....do.....	.....do.....	19
July 15	.....do.....	.....do.....	.....do.....	24
Aug. 12	.....do.....	.....do.....	.....do.....	17
Sept. 23	.....do.....	.....do.....	.....do.....	9.5
Dec. 17	.....do.....	.....do.....	At Llano-Victorville highway, near Valyermo, Calif.	5.2
Jan. 22	.....do.....	.....do.....	.....do.....	5.3
Feb. 1	.....do.....	.....do.....	.....do.....	11
Feb. 1	.....do.....	.....do.....	.....do.....	10
Feb. 26	.....do.....	.....do.....	.....do.....	4.4

Miscellaneous discharge measurements in the Great Basin during the water year October 1937 to September 1938--Continued

## Carson River Basin

Date	Stream	Tributary to or diverting from-	Locality	Discharge (sec.-ft.)
Aug. 21	Carson River....	Humboldt-Carson Sink.	SW $\frac{1}{4}$ sec. 26, T. 15 N., R. 20 E., below Lloyd Dam, $4\frac{1}{2}$ miles southeast of Carson City, Nev.	50.7
21	Mexican ditch...	Carson River...	SW $\frac{1}{4}$ sec. 26, T. 15 N., R. 20 E., 1 mile below head and $4\frac{1}{2}$ miles southeast of Carson City, Nev.	23.0
21	Lloyd ditch.....	....do.....	SW $\frac{1}{4}$ sec. 26, T. 15 N., R. 20 E., at head, $4\frac{1}{2}$ miles southeast of Carson City, Nev.	2.5

## Humboldt River Basin

Dec. 2	Humboldt River..	Humboldt-Carson Sink.	Sec. 15, T. 33 N., R. 53 E., at water commissioner's gaging station, 8 miles below South Fork and 5 miles east of Carlin, Nev.	21.0
May 26	North Fork of Humboldt River.	Humboldt River.	SW $\frac{1}{4}$ sec. 4, T. 40 N., R. 55 E., 500 feet above Foreman Creek, 7 miles south of hamlet of North Fork, Nev.	50.5
26	Foreman Creek...	North Fork of Humboldt River.	SW $\frac{1}{4}$ sec. 4, T. 40 N., R. 55 E., 50 feet above mouth, 7 miles south of hamlet of North Fork, Nev.	52.8

## Malheur and Harney Lakes Basin

June 7	Silvies River...	Malheur Lake....	SE $\frac{1}{4}$ sec. 2, T. 17 S., R. 31 E., 1 mile south of Seneca, Oreg.	60.8
15	....do.....	....do.....	SW $\frac{1}{4}$ sec. 31, T. 18 S., R. 32 E., below Silvies Valley, Oreg.	30.5
15	....do.....	....do.....	NE $\frac{1}{4}$ sec. 36, T. 20 S., R. 29 E., 2 miles above mouth of Emigrant Creek, Oreg.	37.1
15	Emigrant Creek...	Silvies River...	SE $\frac{1}{4}$ sec. 2, T. 21 S., R. 29 E., at mouth.	27.1
Apr. 14	East Fork of Silvies River.	Distributary of Silvies River.	NW $\frac{1}{4}$ sec. 21, T. 23 S., R. 31 E., near Burns, Oreg.	102
May 12	Cow Creek.....	Malheur Lake....	SW $\frac{1}{4}$ sec. 25, T. 22 S., R. 32 $\frac{1}{2}$ E., above headgates, 5 miles east of Harney, Oreg.	19.8
18	Mud Creek.....	Donner und Blitzen River.	Above diversions near mouth, 3 miles northeast of Frenchling, Oreg.	41.8
June 13	Springer ditch.	....do.....	Sodhouse lane, near Voltage, Oreg.....	7.8
May 21	Silver Creek...	Harney Lake....	NW $\frac{1}{4}$ sec. 30, T. 22 S., R. 26 E., 2 miles north of Suntex, Oreg.	50.8
29	....do.....	....do.....	....do.....	251
Apr. 10	....do.....	....do.....	SE $\frac{1}{4}$ sec. 21, T. 25 S., R. 28 E., at Dunn ranch, Oreg.	281
19	....do.....	....do.....	....do.....	875
19	....do.....	....do.....	....do.....	65.4
May 9	....do.....	....do.....	....do.....	135
21	....do.....	....do.....	....do.....	21.3
21	West Fork of Silver Creek*	Silver Creek...	NW $\frac{1}{4}$ sec. 30, T. 22 S., R. 26 E., above Cecil Dam, Oreg.	22.3
29	....do.....	....do.....	....do.....	4.4
29	....do.....	....do.....	....do.....	16.5
June 2	....do.....	....do.....	....do.....	8.9
10	....do.....	....do.....	....do.....	4.3
17	....do.....	....do.....	....do.....	6.7
10	....do.....	....do.....	NE $\frac{1}{4}$ sec. 6, T. 23 S., R. 26 E., below Johnson Dam, at Suntex, Oreg.	2.9
10	....do.....	....do.....	NE $\frac{1}{4}$ sec. 6, T. 23 S., R. 26 E., above Best ranch, at Suntex, Oreg.	4.3
May 21	East Fork of Silver Creek*	....do.....	SE $\frac{1}{4}$ sec. 31, T. 22 S., R. 26 E., below Cecil Dam, 2 miles north of Suntex, Oreg.	28.5
June 2	....do.....	....do.....	....do.....	19.4
10	....do.....	....do.....	....do.....	13.9
14	....do.....	....do.....	....do.....	6.4
17	....do.....	....do.....	....do.....	8.0
May 29	....do.....	....do.....	NE $\frac{1}{4}$ sec. 22, T. 23 S., R. 26 E., below Jones ranch, Oreg.	4.8
June 10	....do.....	....do.....	....do.....	11.0

\*Braided channel of Silver Creek.

## Alvord Lake Basin

Apr. 3	Trout Creek....	Alvord Lake....	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 39 S., R. 36 E., above head gate, in Oregon.	15.4
3	South Branch of Trout Creek.	Distributary of Trout Creek.	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 39 S., R. 36 E., below head gate, in Oregon.	2.12





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