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UNITED STATES DEPARTMENT OF THE INTERIOR

**SURFACE WATER SUPPLY**  
*of the* **UNITED STATES**  
**1928**

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**PART X**  
**THE GREAT BASIN**

**GEOLOGICAL SURVEY WATER-SUPPLY PAPER 670**

UNITED STATES DEPARTMENT OF THE INTERIOR

RAY LYMAN WILBUR, Secretary

GEOLOGICAL SURVEY

GEORGE OTIS SMITH, Director

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Water-Supply Paper 670

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SURFACE WATER SUPPLY  
*of the* UNITED STATES  
1928

PART X  
THE GREAT BASIN

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Prepared in cooperation with the States of

UTAH, NEVADA, CALIFORNIA, OREGON, and WYOMING



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# SURFACE WATER SUPPLY OF THE GREAT BASIN, 1928

## AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1928.

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

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

The work was begun in 1888 in connection with special studies relating to irrigation. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following items:

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

### *Annual appropriations for the fiscal year ending June 30, 1895-1928*

1895.....	\$12, 500. 00	1919.....	\$148, 244. 10
1896.....	24, 500. 00	1920.....	175, 000. 00
1897-1899.....	50, 000. 00	1921.....	180, 000. 00
1900.....	70, 000. 00	1922.....	180, 000. 00
1901-02.....	100, 000. 00	1923.....	180, 000. 00
1903-1906.....	200, 000. 00	1924-25.....	170, 000. 00
1907.....	150, 000. 00	1926.....	165, 000. 00
1908-1910.....	100, 000. 00	1927.....	151, 000. 00
1911-1917.....	150, 000. 00	1928.....	147, 000. 00
1918.....	175, 000. 00	1929.....	270, 500. 00

In the execution of the work many private and State 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 9.

Measurements of stream flow have been made at about 5,480 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1928, 1,830 gaging stations were being maintained by the Geological Survey and the cooperating organiza-

tions. Many miscellaneous discharge measurements were made at other points. In connection with this work data were also collected in regard to precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

### DEFINITION OF TERMS

The volume of water flowing in a stream—the “run-off” or “discharge”—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-foot, gallons per minute, miner’s inches, and discharge in second-feet per square mile; and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-foot, second-foot per square mile, run-off in inches, acre-feet, and millions of cubic feet. They may be 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 of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

“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 regards time and area.

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

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

The following terms not in common use are here defined.

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

“Control,” a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

### EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1927, and ending September 30, 1928. At the beginning of January in most parts of the United States much of the precipitation in

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

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

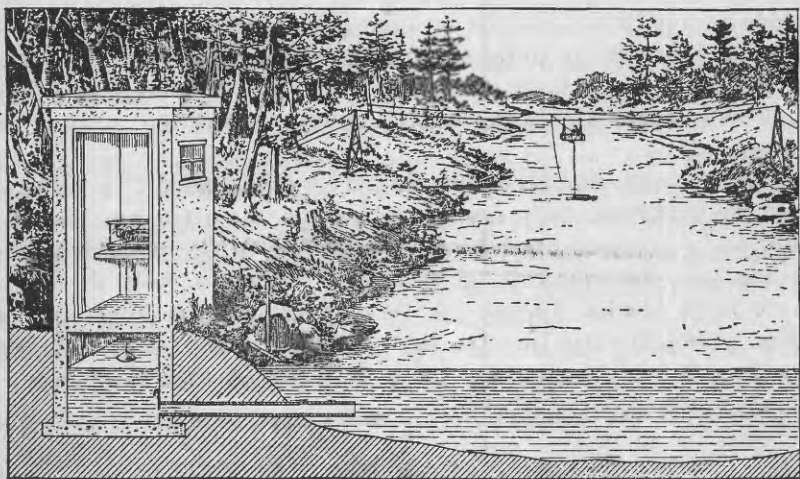


FIGURE 1.—Typical gaging station

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. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

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

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

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum



and minimum recorded stages, and the accuracy of the records. The maximum discharge given under "Extremes" does not represent the crest discharge unless a water-stage recorder was in operation or unless a nonrecording gage was read at the time of the crest.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be a once daily reading or the mean of twice daily readings of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument for obtaining 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 "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 given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 2.

#### 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 records are accurate within 5 per cent; "good," within 10 per cent; "fair," within 15 per cent; and "poor," within 20 per cent 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 run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

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.

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

### PUBLICATIONS

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

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

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

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

III. Ohio River Basin.

IV. St. Lawrence River Basin.

V. Hudson Bay and upper Mississippi River Basins.

VI. Missouri River Basin.

VII. Lower Mississippi River Basin.

VIII. Western Gulf of Mexico basins.

IX. Colorado River Basin.

X. The Great Basin.

XI. Pacific slope basins in California.

XII. North Pacific slope basins, in three parts:

A, Pacific slope basins in Washington and upper Columbia River Basin.

B, Snake River Basin.

C, Pacific slope basins in Oregon and lower Columbia River Basin.

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

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

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

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

Augusta, Me., Statehouse.  
Boston, Mass., 2500 Customhouse.  
Hartford, Conn., 60 Washington Street.  
Albany, N. Y., 506 Broadway-Arcade Building.  
Trenton, N. J., 710 Trenton Trust Building.  
Charlottesville, Va., Brooks Museum, University of Virginia.  
South Charleston, W. Va., Naval Ordnance Plant.  
Asheville, N. C., 210 Post Office Building.  
Columbia, S. C., 801 National Loan & Exchange Bank Building.  
Ocala, Fla., Post Office Building.  
Tuscaloosa, Ala., Post Office Building.  
Chattanooga, Tenn., 630 Power Building.  
Columbus, Ohio, Engineering Experiment Station, Ohio State University  
Indianapolis, Ind., 319 Federal Building.  
Lansing, Mich., M9 State Office Building.  
Chicago, Ill., 1503 Consumers Building.  
Madison, Wis., 337N State Capitol.  
St. Paul, Minn., 202 Old State Capitol.  
Topeka, Kans., 23 Federal Building.  
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.  
Fort Smith, Ark., Post Office Building.  
Austin, Tex., State Capitol.  
Tucson, Ariz., 210 Post Office Building.  
Denver, Colo., 403 Post Office Building.  
Salt Lake City, Utah, 313 Federal Building.  
Idaho Falls, Idaho, 228 Federal Building.  
Boise, Idaho, Federal Building.  
Helena, Mont., 416 Power Block.  
Tacoma, Wash., 406 Federal Building.  
Portland, Oreg., 606 Post Office Building.  
San Francisco, Calif., 303 Customhouse.  
Los Angeles, Calif., 751 South Figueroa Street, room 510.  
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,480 points in the United States, and the data obtained have been published in the reports tabulated on page 7.

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 in the same relative order as the regular gaging stations. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

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

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

Report	Character of data	Year
10th A, pt. 2.....	Descriptive information only.....	
11th A, pt. 2.....	Monthly discharge and descriptive information.....	1884 to Sept., 1890.
12th A, pt. 2.....	do.....	1884 to June 30, 1891.
13th A, pt. 3.....	Mean discharge in second-feet.....	1884 to Dec. 31, 1892.
14th A, pt. 2.....	Monthly discharge (long-time records, 1871 to 1893).....	1888 to Dec. 31, 1893.
B 131.....	Descriptions, measurements, gage heights, and ratings.....	1893 and 1894.
16th A, pt. 2.....	Descriptive information only.....	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).....	1895.
W 11.....	Gage heights (also gage heights for earlier years).....	1896.
38th A, pt. 4.....	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).....	1895 and 1896.
W 15.....	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.....	1897.
W 16.....	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.....	1897.
19th A, pt. 4.....	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).....	1897.
W 27.....	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.....	1898.
W 28.....	Measurements, ratings, and gage heights, Arkansas River and western United States.....	1898.
20th A, pt. 4.....	Monthly discharge (also for many earlier years).....	1898.
W 35 to 39.....	Descriptions, measurements, gage heights, and ratings.....	1899.
21st A, pt. 4.....	Monthly discharge.....	1899.
W 47 to 52.....	Descriptions, measurements, gage heights, and ratings.....	1900.
22d A, pt. 4.....	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings.....	1901.
W 75.....	Monthly discharge.....	1901.
W 82 to 85.....	Complete data.....	1902.
W 97 to 100.....	do.....	1903.
W 124 to 135.....	do.....	1904.
W 165 to 178.....	do.....	1905.
W 201 to 214.....	do.....	1906.
W 241 to 252.....	do.....	1907 and 1908.
W 261 to 272.....	do.....	1909.
W 281 to 292.....	do.....	1910.
W 301 to 312.....	do.....	1911.
W 321 to 332.....	do.....	1912.
W 351 to 362.....	do.....	1913.
W 381 to 394.....	do.....	1914.
W 401 to 414.....	do.....	1915.
W 431 to 444.....	do.....	1916.
W 461 to 464.....	do.....	1917.
W 471 to 484.....	do.....	1918.
W 501 to 514.....	do.....	1919 and 1920.
W 521 to 534.....	do.....	1921.
W 541 to 554.....	do.....	1922.
W 561 to 574.....	do.....	1923.
W 581 to 594.....	do.....	1924.
W 601 to 614.....	do.....	1925.
W 621 to 634.....	do.....	1926.
W 641 to 654.....	do.....	1927.
W 661 to 674.....	do.....	1928.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1928. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part III are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for these years.

## Numbers of water-supply papers containing results of stream measurements, 1899-1923

[For basins included see p. 5]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII-A	XII-B	XII-C
1899 <sup>a</sup> .....	35	35, 36	36	36	36	36, 37	37	37	37, 38	38, 39	38, 39	38	38	38
1900 <sup>a</sup> .....	47, 48	48	49	49	49	49, 50	50	50	50	51	51	51	51	51
1901.....	66, 75	65, 75	65, 75	65, 75	65, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82	82, 83	83	83	83	83, 84	84	84	84	85	85	85	85	85
1903.....	97	97, 98	98	97	98	98, 99	99	99	99	100	100	100	100	100
1904.....	124, 126	126	128	129	128, 130	130, 131	131	132	133	133, 134	134	135	135	135
1905.....	165, 166	167, 168	169	170	171	172	172	174	175, 177	176, 177	177	178	178	177, 178
1906.....	201, 202	203, 204	205	206	207	208	205, 209	210	211, 213	212, 213	213	214	214	214
1907-8.....	241	242	243	244	245	246	247	248	249	250, 251	251	252	252	252
1909.....	261	262	263	264	265	266	267	268	269	270, 271	271	272	272	272
1910.....	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912.....	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913.....	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914.....	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915.....	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916.....	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917.....	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918.....	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20.....	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921.....	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922.....	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923.....	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924.....	581	582	583	584	585	586	587	588	589	590	591	592	593	594
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

<sup>a</sup> Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV. <sup>b</sup> James River only. <sup>c</sup> Gallatin River.

<sup>d</sup> Green and Gunnison Rivers and Grand River above junction with Gunnison. <sup>e</sup> Mohave River only.

<sup>f</sup> Kings and Kern Rivers and south Pacific slope basins.

<sup>g</sup> Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV. <sup>h</sup> Wissahickon and Schuylkill Rivers to James River.

<sup>i</sup> Scioto River.

<sup>j</sup> Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.

<sup>k</sup> Tributaries of Mississippi from east.

<sup>l</sup> Lake Ontario and tributaries to St. Lawrence River proper.

<sup>m</sup> Hudson Bay only.

<sup>n</sup> New England rivers only.

<sup>o</sup> Hudson River to Delaware River, inclusive.

<sup>p</sup> Susquehanna River to Yackin River, inclusive.

<sup>q</sup> Platte and Kansas Rivers.

<sup>r</sup> Great Basin in California except Truckee and Carson River Basins.

<sup>s</sup> Below junction with Gila.

<sup>t</sup> Rogue, Umpqua, and Siletz Rivers only.

### COOPERATION

During the year ending September 30, 1928, the work in Utah, Nevada, California, Oregon, and Wyoming has been done under cooperative agreements between the United States Geological Survey and the respective States.

Special acknowledgments are due to George M. Bacon, State engineer of Utah; George W. Malone, State engineer of Nevada; B. B. Meek, director of public works, and Edward Hyatt, State engineer of California; Rhea Luper, State engineer of Oregon; and John A. Whiting, State engineer of Wyoming, for their cordial support and interest as representatives for these States in the cooperative investigations.

The following organizations have aided in the collection of records by furnishing funds or otherwise assisting: United States Indian Service, United States Bureau of Reclamation, United States Weather Bureau, Utah Power & Light Co., Weber River water users, Sevier River water users, and Walker River Irrigation District.

### DIVISION OF WORK

Data for stations in Utah and Nevada were collected and prepared for publication under the direction of A. B. Purton, district engineer, assisted by M. T. Wilson, J. A. Allis, J. B. Ringwood, and Miss Lysle Christensen.

Data for stations in California were collected and prepared for publication under the direction of H. D. McGlashan, district engineer, assisted by William Kessler, Charles Leidl, R. C. Briggs, Jesse Arnold, A. C. Swanson, and J. E. Jones.

Data for stations in Oregon were collected and computed in the office of the State engineer and were reviewed, checked, and prepared for publication by G. H. Canfield, district engineer, assisted by K. N. Phillips and A. H. Williams.

Data for the station in Wyoming were collected and prepared for publication under the direction of Robert Follansbee, district engineer, assisted by P. V. Hodges and Miss N. L. Esterly.

The records were reviewed and manuscript assembled by Henry F. Hill, jr.

## GAGING-STATION RECORDS

## GREAT SALT LAKE BASIN

## GAGES ON GREAT SALT LAKE

**LOCATION.**—Staff gages at Saltair, on southeast shore of lake, 15 miles west of Salt Lake City, and at Midlake, on Lucin cut-off of Southern Pacific Railroad, 30 miles west of Ogden, Weber County, Utah. Zero of Saltair gage is 4,196.8 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; October, 1912, to September, 1928.

**EXTREMES.**—Maximum elevation during year, 4,202.5 feet April 1 to May 15 at Saltair gage; minimum, 4,200.6 feet September 15 at Midlake gage.

1850–1928: Maximum recorded elevation, 4,211.3 feet July 12, 1877; estimated maximum, 4,212.5 feet in 1868 (data furnished by Marcus E. Jones, Salt Lake City); minimum, 4,195.7 feet in 1902 and 1905.

**REMARKS.**—Apparent inconsistencies in readings are probably due largely to effect of wind, as the two gages are about 40 miles apart. Readings on Saltair gage furnished by United States Weather Bureau; readings on Midlake gage furnished by Southern Pacific Co.

*Gage height, in feet, of Great Salt Lake, Utah, 1927–28*

Day	Saltair	Midlake	Day	Saltair	Midlake	Day	Saltair	Midlake
Oct. 1.....	5.0	3.65	Feb. 1.....	5.2	3.85	June 1.....	5.6	4.15
Oct. 15.....	4.9	3.6	Feb. 15.....	5.3	3.9	June 15.....	5.4	4.0
Nov. 1.....	4.9	3.5	Mar. 1.....	5.4	3.9	July 1.....	5.3	3.9
Nov. 15.....	4.9	3.6	Mar. 15.....	5.5	4.0	July 15.....	5.1	3.65
Dec. 1.....	5.1	3.65	Apr. 1.....	5.7	4.15	Aug. 1.....	4.8	3.4
Dec. 15.....	5.1	3.65	Apr. 15.....	5.7	4.15	Aug. 15.....	4.6	3.1
Jan. 1.....	5.1	3.75	May 1.....	5.7	4.25	Sept. 1.....	4.1	2.85
Jan. 15.....	5.2	3.75	May 15.....	5.7	4.25	Sept. 15.....	3.9	2.64

## BEAR RIVER BASIN

## BEAR RIVER NEAR EVANSTON, WYO.

**LOCATION.**—Water-stage recorder in sec. 1, T. 15 N., R. 121 W., 300 feet above highway bridge and  $3\frac{1}{2}$  miles northwest of Evanston. Nearest tributary, a small stream entering from southwest half a mile above.

**DRAINAGE AREA.**—645 square miles.

**RECORDS AVAILABLE.**—October, 1913, to September, 1928.

**EXTREMES.**—Maximum discharge during year, 2,900 second-feet May 9 (gage height, 5.80 feet); minimum, 1.9 second-feet September 9 (gage height, 0.54 foot).

1913-1928: Maximum discharge, 3,690 second-feet June 14, 1921 (gage height, 6.35 feet); river dry August 9-24 and August 27 to September 30, 1924.

**REMARKS.**—Records good, except those for periods of shifting control (October 1 to November 5 and July 11-31), which are fair. Observations discontinued during winter. Adjudicated diversions for irrigation of 30,300 acres from Bear River above station.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	127	-----	418	982	1,830	175	8	3.8
2	174	86	-----	534	1,320	1,580	168	7	3.6
3	157	115	-----	470	1,080	1,360	147	8	3.4
4	155	117	-----	270	785	1,050	127	9	3.2
5	155	111	-----	261	765	874	110	8	3.1
6	-----	145	-----	192	1,010	874	92	9	2.5
7	-----	127	-----	178	1,250	886	90	12	2.4
8	-----	119	-----	173	1,740	765	88	11	2.4
9	-----	121	-----	165	2,230	650	75	9	2.0
10	-----	119	-----	173	2,440	577	58	8	2.2
11	-----	119	-----	188	2,230	600	49	8	2.4
12	-----	109	-----	185	2,090	568	38	9	2.4
13	-----	107	-----	188	2,030	518	36	8	2.3
14	-----	107	-----	173	1,650	490	31	7	2.8
15	-----	101	-----	170	1,270	418	25	7	2.8
16	-----	90	-----	222	1,160	406	46	7	3.0
17	-----	97	-----	368	1,370	422	34	7	3.1
18	-----	92	319	383	1,490	422	30	7	3.2
19	-----	86	343	294	1,290	346	27	7	3.6
20	-----	82	307	231	1,320	307	24	6	4.0
21	-----	84	316	200	1,500	288	22	6	4.0
22	-----	84	398	237	1,730	285	19	5	4.0
23	-----	86	546	297	1,780	285	15	3.8	4.3
24	-----	81	595	343	1,670	294	8	3.4	3.7
25	-----	77	1,070	394	1,760	307	8	4.3	4.3
26	-----	81	1,250	422	1,870	294	7	4.6	4.9
27	-----	82	862	486	1,890	267	6	4.0	6
28	-----	94	333	577	2,030	237	6	3.7	6
29	-----	132	300	690	2,440	217	6	3.7	6
30	-----	134	276	715	2,370	200	18	4.3	7
31	-----	138	267	-----	2,180	-----	9	3.8	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	174	77	113	6,950
November 1-5	127	86	111	1,100
March 18-31	1,250	267	513	14,200
April	715	165	320	19,000
May	2,440	765	1,640	101,000
June	1,830	200	587	34,900
July	175	6	51.4	3,160
August	12	3.4	6.73	414
September	7	2.0	3.61	215



## BEAR RIVER AT HARER, IDAHO

**LOCATION.**—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 22, T. 14 S., R. 45 E., half a mile below mouth of Sheep Creek, three-fourths mile north of Harer siding on Oregon Short Line Railroad, and 6 miles east of Dingle.

**DRAINAGE AREA.**—2,780 square miles.

**RECORDS AVAILABLE.**—June, 1913, to September, 1916; January, 1919, to September, 1928.

**EXTREMES.**—Maximum mean daily discharge during year, 2,720 second-feet May 19; minimum, 168 second-feet August 23 and 24.

1913-1916, 1919-1928: Maximum discharge, 3,860 second-feet June 2, 1920 (gage height, 10.51 feet); minimum, 81 second-feet September 1, 1919 (gage height, 2.61 feet).

**REMARKS.**—Records good. Numerous diversions for irrigation above station. Data collected and records compiled by Utah Power & Light Co. under supervision of Geological Survey.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	306	319	346	267	264	261	1,130	1,240	2,080	490	273	186
2.....	313	316	352	267	264	255	1,010	1,210	2,010	482	267	186
3.....	319	316	355	267	261	252	953	1,280	1,980	466	261	181
4.....	322	325	350	267	267	249	936	1,310	1,980	450	255	181
5.....	322	335	335	267	279	249	914	1,360	1,970	435	252	181
6.....	322	335	300	267	270	249	880	1,440	1,940	427	243	181
7.....	322	342	270	267	265	267	841	1,620	1,870	450	240	178
8.....	322	346	250	264	255	264	790	1,730	1,700	458	237	178
9.....	322	346	280	264	250	294	734	1,700	1,490	435	234	178
10.....	322	349	320	261	243	349	686	1,910	1,330	450	228	178
11.....	325	352	320	261	240	424	656	2,060	1,300	431	225	178
12.....	342	352	315	261	237	579	656	2,220	1,320	409	216	181
13.....	332	360	310	261	234	708	656	2,380	1,260	405	213	181
14.....	332	370	290	267	234	747	656	2,530	1,220	391	210	183
15.....	329	377	280	267	231	770	656	2,590	1,120	374	210	186
16.....	325	380	275	267	228	790	661	2,640	1,080	366	205	186
17.....	325	370	270	267	225	815	661	2,680	970	366	200	181
18.....	325	374	265	273	228	835	661	2,700	932	366	194	178
19.....	325	374	264	282	228	855	661	2,720	892	366	186	178
20.....	319	370	260	279	231	880	674	2,660	846	374	183	178
21.....	316	366	255	276	231	901	716	2,500	811	374	181	176
22.....	313	377	250	276	234	923	738	2,360	747	356	181	176
23.....	309	363	240	270	237	936	716	2,290	682	366	168	173
24.....	309	300	230	267	240	987	682	2,240	635	352	168	173
25.....	306	352	220	264	240	1,090	678	2,140	643	319	170	173
26.....	309	349	225	264	240	1,180	708	2,100	620	309	176	173
27.....	309	370	230	264	240	1,190	802	2,100	592	300	176	173
28.....	309	377	235	264	240	1,200	932	2,140	562	288	181	176
29.....	319	374	240	264	252	1,230	1,060	2,160	537	288	189	178
30.....	316	377	242	264	-----	1,260	1,190	2,150	511	288	186	178
31.....	319	-----	245	264	-----	1,240	-----	2,120	-----	279	183	-----
Month	Maximum					Minimum			Mean		Run-off in acre-feet	
October.....	342					306			320		19,700	
November.....	380					300			354		21,100	
December.....	355					220			278		17,100	
January.....	282					261			267		16,400	
February.....	279					225			244		14,000	
March.....	1,260					249			717		44,100	
April.....	1,190					656			790		47,000	
May.....	2,720					1,210			2,080		128,000	
June.....	2,080					511			1,190		70,800	
July.....	490					279			384		23,600	
August.....	273					168			209		12,900	
September.....	186					173			179		10,700	
The year.....	2,720					168			585		425,000	

# BEAR RIVER BASIN

13

## BEAR RIVER AT ALEXANDER, IDAHO

**LOCATION.**—Water-stage recorder in NW.  $\frac{1}{4}$  sec. 17, T. 9 S., R. 41 E., 600 feet downstream from Soda plant of Utah Power & Light Co., half a mile south-east of Alexander, and 5 miles below mouth of Soda Creek.

**DRAINAGE AREA.**—3,840 square miles.

**RECORDS AVAILABLE.**—March, 1911, to September, 1916; April, 1919, to September, 1928.

**EXTREMES.**—Maximum mean daily discharge during year, 1,660 second-feet April 4; minimum, 36 second-feet May 4.

1911-1916, 1919-1928: Maximum discharge, 4,590 second-feet May 9, 1922; maximum gage height, 15.95 feet December 11, 1919; minimum discharge, 36 second-feet May 4, 1928.

**REMARKS.**—Records good. Numerous diversions for irrigation above station. Regulation caused by storage in Bear Lake Reservoir and operations at Soda power plant. Data collected and records compiled by Utah Power & Light Co. under supervision of Geological Survey.

### Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	514	538	337	284	431	310	1,450	750	879	824	1,300	920
2	506	556	351	234	356	370	1,260	757	839	1,090	1,120	809
3	558	550	415	200	390	328	1,440	658	794	1,040	1,160	809
4	671	556	283	348	342	297	1,060	36	904	713	1,110	1,120
5	662	502	328	325	315	301	1,150	39	847	895	862	1,110
6	506	484	405	260	324	301	658	72	928	996	1,140	1,070
7	508	589	411	267	385	301	624	385	937	1,140	1,080	1,060
8	484	544	486	200	409	306	554	361	979	979	1,190	1,000
9	322	435	373	265	447	301	523	351	794	1,080	1,240	954
10	563	532	370	515	375	301	505	458	742	1,120	1,250	1,220
11	615	502	312	488	347	301	493	375	904	1,090	1,230	1,240
12	526	526	390	467	297	280	962	464	895	1,070	1,080	1,200
13	563	596	377	442	342	255	824	276	764	988	954	1,120
14	502	409	372	306	442	255	529	347	764	1,170	1,070	1,140
15	514	325	374	310	470	390	529	347	764	970	1,130	1,090
16	290	300	410	310	447	361	529	324	685	1,270	1,010	832
17	538	416	393	482	385	324	542	338	586	1,370	1,020	1,140
18	457	299	340	415	338	251	473	404	699	1,390	1,050	1,200
19	484	431	474	426	306	404	476	482	685	1,370	685	1,170
20	468	332	532	338	356	409	482	470	706	1,340	996	1,090
21	348	439	474	442	404	347	493	548	742	1,370	996	1,100
22	222	312	360	310	328	493	458	592	728	1,260	962	1,060
23	186	306	362	458	370	706	464	672	665	1,470	928	750
24	496	304	327	442	338	928	560	742	631	1,150	862	1,080
25	699	368	274	390	333	1,000	847	794	801	1,370	912	1,010
26	755	433	277	351	301	1,000	523	816	920	899	771	1,070
27	582	229	371	315	361	1,020	511	879	1,060	1,330	1,080	1,040
28	452	352	627	328	356	945	560	809	996	1,470	1,170	1,260
29	484	375	435	293	361	1,040	631	847	954	992	1,160	1,070
30	308	390	350	399	-----	1,020	672	816	1,060	1,440	1,050	862
31	502	-----	414	431	-----	1,010	-----	862	-----	1,370	1,130	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	755	186	496	30,500
November	596	229	431	25,600
December	627	274	387	23,800
January	515	200	356	21,900
February	470	297	367	21,100
March	1,040	251	511	31,400
April	1,660	458	733	42,400
May	879	36	518	31,900
June	1,060	586	822	48,900
July	1,460	713	1,150	70,700
August	1,300	685	1,050	64,600
September	1,260	750	1,050	62,500
The year	1,660	36	656	475,000

## BEAR RIVER NEAR WESTON, IDAHO

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  SE.  $\frac{1}{4}$  sec. 17, T. 16 S., R. 39 E., at Weston-Fairview highway bridge 3 miles east of Weston.

RECORDS AVAILABLE.—October, 1919, to September, 1928. Records are comparable with those obtained near Preston, Idaho, October, 1889, to January, 1917.

EXTREMES.—Maximum mean daily discharge during year, 2,500 second-feet April 2; minimum, 176 second-feet March 5.

1919-1928: Maximum discharge, 6,100 second-feet May 8 or 9, 1922 (gage height, 12.1 feet); minimum, 100 second-feet November 1, 1925.

REMARKS.—Records fair. West Cache Canal and numerous irrigation ditches divert above station. Regulation caused by storage in Bear Lake Reservoir and operation of power plants above gage. Records furnished by Utah Power & Light Co.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	800	750	714	590	570	620	1,330	1,480	498	391	1,060	1,120
2.....	700	746	696	560	595	720	2,500	1,610	660	620	1,010	1,570
3.....	566	831	750	700	680	575	2,380	1,490	550	579	997	898
4.....	588	700	759	630	930	490	2,060	1,390	446	397	993	1,270
5.....	970	768	678	600	648	173	2,470	1,310	470	419	912	1,150
6.....	674	945	660	630	378	543	2,270	1,220	550	686	804	831
7.....	784	800	705	510	554	432	1,350	1,270	450	766	875	1,290
8.....	780	642	786	350	575	643	965	1,110	510	567	1,050	1,500
9.....	786	728	728	710	710	490	908	1,480	470	517	1,090	960
10.....	579	718	890	700	760	710	775	1,270	378	868	792	872
11.....	862	813	678	710	976	660	745	950	530	1,110	1,330	1,280
12.....	790	818	710	740	498	760	1,480	820	896	1,020	919	1,640
13.....	876	764	795	540	394	1,130	1,610	805	620	1,170	819	1,100
14.....	642	754	840	660	514	1,650	1,660	800	522	1,360	1,510	1,610
15.....	872	628	867	290	558	1,400	1,310	878	597	1,060	940	1,230
16.....	831	772	696	980	558	450	790	1,020	429	764	918	1,270
17.....	678	646	680	700	750	358	382	1,000	441	738	1,620	931
18.....	764	606	540	570	902	267	246	1,060	328	911	1,360	1,280
19.....	930	592	610	650	530	346	615	1,030	438	778	844	950
20.....	692	960	860	1,020	374	620	685	866	644	774	1,090	1,070
21.....	1,300	1,220	1,190	560	558	446	680	908	768	886	1,010	1,420
22.....	965	818	1,250	370	775	462	595	970	542	769	1,030	924
23.....	381	732	760	630	595	940	282	1,000	415	733	1,210	1,400
24.....	369	534	360	680	670	1,750	930	685	401	966	1,240	1,070
25.....	534	381	290	780	640	1,840	860	600	339	1,220	1,370	1,440
26.....	849	489	310	760	558	2,180	1,190	628	671	1,090	1,090	1,130
27.....	926	405	780	990	358	2,190	1,420	624	387	602	1,250	922
28.....	754	669	500	580	538	2,290	908	514	672	784	1,260	1,150
29.....	984	669	640	290	648	2,160	1,270	620	764	1,100	1,010	1,770
30.....	759	687	770	520	-----	1,630	1,270	570	585	1,070	1,230	1,370
31.....	620	-----	690	540	-----	1,690	-----	450	-----	1,030	1,170	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,300	369	760	46,700
November.....	1,220	381	719	42,800
December.....	1,250	290	713	43,800
January.....	1,020	290	631	38,800
February.....	976	358	615	35,300
March.....	2,290	173	989	60,800
April.....	2,500	246	1,200	71,300
May.....	1,610	450	982	60,400
June.....	896	328	632	31,700
July.....	1,360	391	830	51,000
August.....	1,620	792	1,090	67,000
September.....	1,770	831	1,210	72,000
The year.....	2,500	173	856	622,000

## BEAR RIVER NEAR COLLINSTON, UTAH

LOCATION.—Water-stage recorder in W.  $\frac{1}{2}$  sec. 34, T. 13 N., R. 2 W., 1 mile below Cutler plant of Utah Power & Light Co. at Wheelon railroad siding and 4 miles north of Collinston.

DRAINAGE AREA.—6,000 square miles.

RECORDS AVAILABLE.—July, 1889, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 4,210 second-feet March 25; minimum, 19 second-feet July 20.

1889–1928: Maximum discharge, 11,600 second-feet June 7–10, 1909 (gage height, 7.7 feet); practically no flow at midnight August 5, 1920 (gage height, 0.42 foot).

REMARKS.—Records good. Numerous canals divert above station. Flow regulated by storage in reservoirs and operation of power plants above gage. Records furnished by Utah Power & Light Co.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,610	1,340	1,320	950	1,220	1,520	2,300	2,740	1,450	48	152	708
2.....	1,360	1,270	1,340	1,470	1,340	934	2,520	3,130	1,390	65	786	198
3.....	1,430	1,300	1,320	1,610	1,320	1,270	2,920	3,200	464	144	287	742
4.....	899	1,860	1,300	1,700	1,560	725	2,900	3,320	1,170	57	24	334
5.....	1,060	1,270	1,300	1,370	1,090	1,270	2,680	3,250	831	24	47	499
6.....	1,170	1,140	1,890	1,680	1,640	1,500	2,660	2,660	884	23	324	520
7.....	1,120	1,460	2,220	1,770	1,340	1,370	2,580	1,680	577	21	198	236
8.....	1,120	1,370	1,680	1,290	1,160	1,640	2,440	1,810	605	21	70	348
9.....	1,040	1,490	1,090	1,450	1,060	1,440	2,000	2,370	465	21	406	668
10.....	987	1,320	1,430	1,040	1,160	1,120	1,780	2,850	380	21	403	550
11.....	976	1,460	1,270	936	1,530	1,430	1,790	2,790	205	23	101	200
12.....	1,220	1,460	1,410	1,310	1,100	2,300	1,510	2,710	750	21	396	685
13.....	1,300	1,570	1,350	1,230	1,700	2,120	1,820	2,850	1,100	21	380	861
14.....	1,190	1,300	1,380	1,500	1,220	2,500	2,320	3,000	1,420	21	45	797
15.....	1,020	1,280	950	1,130	970	3,040	2,140	2,920	1,340	21	338	1,100
16.....	1,120	1,220	1,270	1,890	1,340	2,190	2,250	2,850	1,740	21	236	807
17.....	1,040	1,220	1,400	1,030	1,000	1,070	2,070	2,720	953	26	165	733
18.....	899	1,320	930	1,530	1,620	998	1,760	2,390	1,470	144	537	425
19.....	1,040	934	1,020	1,220	1,060	1,200	1,250	2,200	1,300	57	404	654
20.....	987	1,230	890	1,190	1,450	748	1,450	1,940	1,100	19	190	550
21.....	1,500	1,400	994	1,100	1,270	655	1,640	1,740	725	21	200	666
22.....	910	1,800	1,200	970	1,090	282	1,080	2,120	1,190	21	320	783
23.....	1,360	1,680	2,060	760	1,070	1,390	956	2,190	1,280	21	311	715
24.....	182	1,260	1,700	920	1,480	2,720	1,270	2,320	900	21	286	717
25.....	274	718	1,000	1,100	1,440	4,210	1,710	2,110	470	101	456	718
26.....	822	642	700	1,420	953	3,760	1,810	1,930	50	536	523	853
27.....	1,180	920	720	1,480	1,270	4,060	1,960	1,360	45	155	337	1,160
28.....	1,370	1,000	675	1,710	1,250	4,080	2,550	2,610	45	21	454	437
29.....	1,200	1,340	990	1,050	1,210	3,800	2,950	2,330	45	28	517	546
30.....	1,360	1,360	1,210	1,080	-----	3,400	2,320	1,510	37	23	449	1,120
31.....	1,310	-----	1,250	1,090	-----	2,900	-----	1,800	-----	24	409	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,610	182	1,100	67,600
November.....	1,900	642	1,280	76,200
December.....	2,220	675	1,270	75,100
January.....	1,890	760	1,290	79,800
February.....	1,700	953	1,270	75,000
March.....	4,210	282	1,690	122,000
April.....	2,950	956	2,060	125,000
May.....	3,320	1,360	2,430	149,000
June.....	1,740	37	513	45,400
July.....	556	19	57.6	3,540
August.....	766	24	315	19,400
September.....	1,160	198	644	35,800
The year.....	4,210	19	1,210	878,000

## SURFACE WATER SUPPLY, 1928, PART X

## SODA CREEK NEAR SODA SPRINGS, IDAHO

LOCATION.—Staff gage in sec. 24, T. 8 S., R. 41 E., at George Schmidt ranch, one-eighth mile below confluence of two branches of creek and 5 miles north of Soda Springs.

RECORDS AVAILABLE.—March, 1913, to October, 1926, and May to September, 1928.

EXTREMES.—Maximum discharge during year, 75.2 second-feet July 25 (gage height, 0.99 foot); minimum, 41.0 second-feet June 3-5 and August 22-24.

1913-1926, 1928: Maximum discharge, 324 second-feet April 6, 1913; minimum, 38 second-feet January 8 and 12-15, 1919.

REMARKS.—Records fair. Flow regulated at dam at outlet of Five-mile Meadows and by diversions above. Gage-height record and discharge measurements furnished by Twin Falls Canal Co.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1		43.8	46.6	55.8	45.2	16	46.6	51.7	58.0	43.8	51.7
2		42.4	46.6	53.6	45.2	17	48.2	53.6	58.0	43.8	53.6
3		41.0	46.6	51.7	45.2	18	49.8	51.7	59.1	43.8	52.6
4		41.0	46.6	49.8	45.9	19	49.8	49.8	60.2	43.1	51.6
5		41.0	46.6	49.8	46.6	20	49.8	49.8	58.0	42.4	53.6
6		42.4	46.6	49.8	46.6	21	49.8	49.8	55.8	41.7	55.8
7		43.8	46.6	49.0	46.6	22	49.8	49.8	53.7	41.0	55.8
8		43.8	46.6	48.2	47.4	23	49.8	49.8	51.6	41.0	55.8
9		43.8	46.6	47.4	48.2	24	49.8	49.8	63.4	41.0	55.8
10		49.8	46.6	46.6	48.2	25	47.5	49.8	75.2	41.7	55.8
11		46.6	46.6	46.6	48.2	26	45.2	49.8	71.2	42.4	55.8
12		48.2	46.6	46.6	48.2	27	45.2	49.8	67.2	43.1	55.8
13		49.8	53.6	46.6	48.2	28	45.2	49.8	64.8	43.8	55.8
14		49.8	55.8	46.6	49.0	29	44.5	46.6	62.4	44.2	55.8
15		49.8	58.0	45.2	49.8	30	43.8	46.6	60.2	44.5	55.8
						31	43.8		58.0	44.8	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
May 16-31	49.8	43.8	47.4	1,500
June	53.6	41.0	47.5	2,830
July	75.2	46.6	54.9	3,380
August	55.8	41.0	45.8	2,820
September	55.8	45.2	51.0	3,030
The period	75.2	41.0	49.5	13,600

## EAST FORK OF LITTLE BEAR RIVER NEAR AVON, UTAH

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 18, T. 9 N., R. 2 E., at mouth of canyon, 100 yards east of Law ranch house,  $1\frac{1}{2}$  miles below Pole Creek,  $1\frac{1}{2}$  miles above diversion dam of Avon-Paradise Canal, and 2 miles east of Avon.

DRAINAGE AREA.—67 square miles.

RECORDS AVAILABLE.—April, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 550 second-feet, afternoon readings from April 28 to May 1 (gage height, 3.30 feet); minimum, 17 second-feet for several days during September.

1927-28: Maximum discharge, about 800 second-feet April 27, 1927; minimum, 17 second-feet for several days during September, 1928.

REMARKS.—Records fair. No large diversions above station.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	24	22	23	21	21	21	108	541	72	32	23	18
2.....	24	21	23	21	21	21	107	544	68	32	22	18
3.....	24	22	22	21	21	21	105	527	68	32	22	18
4.....	23	21	21	21	22	21	102	510	63	32	21	18
5.....	24	21	21	21	21	22	87	462	62	32	21	18
6.....	24	21	21	21	22	21	84	307	62	33	20	18
7.....	24	24	21	21	21	22	83	299	61	32	20	18
8.....	23	22	21	21	21	24	80	290	60	32	20	18
9.....	23	21	21	21	21	27	82	297	59	31	20	18
10.....	24	24	21	21	21	31	82	309	58	30	20	18
11.....	23	24	21	21	21	33	80	307	60	30	20	18
12.....	24	22	21	21	21	40	82	299	60	30	20	18
13.....	23	22	21	21	21	38	82	304	53	30	20	18
14.....	24	23	22	22	21	38	80	243	51	29	20	18
15.....	23	22	21	21	21	35	82	214	51	27	20	18
16.....	24	21	21	21	21	32	84	208	46	27	20	18
17.....	23	22	21	21	21	33	107	199	47	27	20	18
18.....	24	21	20	21	21	35	107	199	45	27	20	17
19.....	23	21	19	21	21	38	108	175	43	26	20	18
20.....	24	21	19	21	21	44	105	171	41	25	20	17
21.....	23	23	20	20	21	52	107	158	39	24	19	18
22.....	24	22	21	20	21	68	107	154	39	24	19	17
23.....	23	21	21	21	21	83	128	149	38	24	18	18
24.....	23	21	21	21	21	83	199	145	37	23	18	17
25.....	23	21	21	21	21	236	259	131	37	23	18	18
26.....	23	21	21	21	21	216	380	119	36	23	18	17
27.....	22	21	21	21	21	140	490	113	36	23	18	18
28.....	22	22	21	21	21	121	521	102	35	23	18	17
29.....	23	21	21	21	21	105	536	93	34	23	18	18
30.....	23	21	21	21	-----	108	544	90	33	23	18	17
31.....	23	-----	21	21	-----	111	-----	79	-----	23	18	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	24	22	23.4	1,440
November.....	24	21	21.7	1,290
December.....	23	19	21.0	1,290
January.....	22	20	21.0	1,290
February.....	22	21	21.1	1,210
March.....	236	21	61.9	3,810
April.....	544	80	171	10,200
May.....	544	79	250	15,400
June.....	72	33	49.8	2,960
July.....	33	23	27.5	1,690
August.....	23	18	19.6	1,210
September.....	18	17	17.8	1,060
The year.....	544	17	58.9	42,800

## SURFACE WATER SUPPLY, 1928, PART X

## LOGAN RIVER ABOVE STATE DAM, NEAR LOGAN, UTAH

LOCATION.—Water-stage recorder in sec. 36, T. 12 N., R. 1 E. at Logan plant of Utah Power & Light Co., 125 feet above confluence of tailrace with river and 2½ miles east of Logan.

DRAINAGE AREA.—218 square miles.

RECORDS AVAILABLE.—May, 1913, to September, 1928. June, 1896, to December, 1912, at old station a quarter of a mile downstream; flow at present station plus that of tailrace comparable to flow at old station.

EXTREMES.—Maximum discharge during year, 902 second-feet May 25 (gage height, 4.45 feet); minimum, 12 second-feet November 23 and 24 (gage height, 1.84 feet).

1913–1928: Maximum discharge (estimated), 2,000 second-feet March 21, 1916 (gage height, 5.6 feet); minimum, 8 second-feet December 11, 1915.

REMARKS.—Records good. Water diverted from river and springs upstream for power, irrigation, and municipal supply. Flow regulated by operation of power plants above station.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	15	15	15	17	23	24	92	423	620	107	18	15
2.....	17	15	15	17	23	20	78	441	580	96	17	15
3.....	15	18	15	17	23	20	92	373	590	82	17	16
4.....	15	15	15	16	24	18	84	318	547	74	17	15
5.....	15	15	15	17	21	22	66	318	495	69	17	15
6.....	14	15	16	17	23	21	50	369	463	69	17	15
7.....	14	17	16	17	22	22	47	450	445	71	17	15
8.....	14	17	15	17	22	22	30	576	419	59	15	15
9.....	14	17	15	17	22	25	37	710	390	50	15	15
10.....	14	16	15	17	20	27	42	710	385	56	15	15
11.....	14	15	15	17	20	34	38	716	377	58	15	15
12.....	14	15	15	17	20	47	36	754	390	69	17	15
13.....	15	15	15	17	20	37	37	732	357	68	17	15
14.....	15	15	14	17	24	36	33	595	253	64	17	15
15.....	15	15	14	17	20	34	30	509	263	62	17	15
16.....	15	14	14	17	20	34	39	495	256	62	16	15
17.....	15	15	14	17	20	50	52	486	256	58	15	15
18.....	15	14	14	17	20	34	50	491	239	48	16	15
19.....	15	14	14	17	19	34	53	571	214	44	17	16
20.....	15	14	14	17	21	34	52	660	201	42	17	16
21.....	15	14	15	21	21	38	48	760	204	36	16	15
22.....	15	14	15	21	22	28	53	792	207	28	15	15
23.....	15	14	15	29	22	27	74	809	207	33	15	15
24.....	15	14	15	28	21	27	111	792	204	22	15	15
25.....	15	14	15	29	21	158	132	792	195	34	15	15
26.....	15	15	15	25	20	192	172	792	181	33	15	15
27.....	15	15	15	21	21	135	226	831	166	27	15	16
28.....	15	15	17	23	22	105	281	809	147	22	15	16
29.....	15	15	17	22	25	90	345	770	128	20	15	15
30.....	15	15	17	26	-----	80	329	738	111	20	15	15
31.....	15	-----	16	26	-----	69	-----	694	-----	20	16	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	17	14	14.8	910
November.....	18	14	15.0	893
December.....	17	14	15.1	928
January.....	29	16	19.7	1,210
February.....	25	19	21.4	1,230
March.....	192	18	49.8	3,060
April.....	345	30	93.6	5,570
May.....	831	318	622	38,200
June.....	620	111	316	18,800
July.....	107	20	51.7	3,180
August.....	18	15	16.0	984
September.....	16	15	15.2	904
The year.....	831	14	105	75,900

## UTAH POWER &amp; LIGHT CO.'S TAILRACE NEAR LOGAN, UTAH

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 36, T. 12 N., R. 1 E., 100 feet below power house of Utah Power & Light Co. and  $2\frac{1}{2}$  miles east of Logan.

RECORDS AVAILABLE.—May, 1913, to September, 1928.

REMARKS.—Records good. Flow regulated by operation of power plant above gage. This canal diverts from right bank of Logan River in SE.  $\frac{1}{4}$  SW.  $\frac{1}{4}$  sec. 29, T. 12 N., R. 2 E., for power development. Water is returned to river 125 feet below gaging station on Logan River above State dam.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	156	132	129	114	96	87	113	154	172	178	181	136
2.....	152	128	131	121	96	91	112	154	172	178	181	131
3.....	154	131	135	120	91	94	112	154	136	178	181	134
4.....	150	134	134	120	96	93	103	154	145	178	176	136
5.....	155	135	139	118	95	94	113	154	158	176	162	136
6.....	156	134	135	114	95	93	128	154	164	176	173	135
7.....	155	148	128	114	94	94	129	154	162	175	176	135
8.....	154	150	125	109	94	94	127	154	164	175	175	135
9.....	150	138	124	112	94	94	127	154	162	175	172	135
10.....	149	148	121	113	94	95	127	154	154	176	170	134
11.....	148	142	120	113	96	94	125	154	150	178	167	134
12.....	138	138	122	112	96	95	125	155	168	178	156	132
13.....	136	136	112	112	93	95	125	160	94	178	162	132
14.....	135	138	120	114	96	96	125	160	175	178	164	132
15.....	134	135	118	113	96	95	125	160	178	176	159	132
16.....	134	134	104	113	91	95	125	160	181	176	158	131
17.....	131	139	112	107	94	71	125	160	181	178	153	129
18.....	134	132	95	112	94	94	126	169	181	181	148	128
19.....	131	131	96	105	94	95	125	158	180	181	136	128
20.....	128	128	102	107	94	94	125	161	178	181	144	126
21.....	131	134	109	98	96	114	125	167	178	181	148	125
22.....	129	131	112	94	94	139	125	170	178	181	146	125
23.....	129	114	112	95	94	172	125	170	178	181	146	125
24.....	128	134	109	95	91	152	125	170	178	181	146	125
25.....	124	125	102	94	93	114	125	170	178	181	146	124
26.....	128	125	120	96	93	112	135	169	178	181	146	124
27.....	127	125	122	99	93	114	155	169	178	183	146	125
28.....	129	131	120	96	93	114	155	172	178	183	147	125
29.....	131	132	114	96	93	113	155	172	178	183	147	122
30.....	131	131	116	96	-----	112	155	172	178	183	138	121
31.....	139	-----	113	96	-----	113	-----	174	-----	183	138	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	156	124	139	8,550
November.....	150	114	134	7,970
December.....	139	93	118	7,620
January.....	121	94	107	6,580
February.....	96	91	94.1	5,410
March.....	172	71	104	6,400
April.....	155	103	127	7,560
May.....	174	154	161	9,900
June.....	181	94	166	9,880
July.....	183	175	179	11,000
August.....	181	136	158	9,720
September.....	136	121	130	7,740
The year.....	183	71	135	97,600



## LOGAN, HYDE PARK &amp; SMITHFIELD CANAL NEAR LOGAN, UTAH

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 25, T. 12 N., R. 1 E., at concrete rating flume  $1\frac{1}{4}$  miles below head of canal and  $2\frac{1}{2}$  miles east of Logan.

RECORDS AVAILABLE.—June, 1904, to September, 1928.

REMARKS.—Records good except those for estimated periods, which are fair. No diversions above gage. Flow regulated by head gates at diversion works. This canal diverts water from Logan River in NE.  $\frac{1}{4}$  NE.  $\frac{1}{4}$  sec. 31, T. 12 N., R. 2 E., for irrigation and domestic use in territory north of Logan. Gage-height record furnished by Logan, Hyde Park & Smithfield Canal Co.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	17	} " 24	18	} " 5	4	} " 2	} " 15	67	122	124	50	40
2.....	21		16		4			88	124	123	49	43
3.....	18		13		4			87	124	123	46	40
4.....	16		13		4			90	125	122	47	38
5.....	9		13		4			108	125	122	61	35
6.....	9	} " 8	13	} " 4	4	} " 2	} " 15	120	125	116	49	34
7.....	8		13		4			119	125	112	42	33
8.....	8		13		4			124	123	109	42	33
9.....	8		13		4			126	121	109	41	33
10.....	8		26		3			126	119	103	42	34
11.....	10	24	} " 8	} " 4	3	} " 2	} " 15	126	117	95	43	32
12.....	16	23			4			126	116	85	51	32
13.....	18	23			4			112	103	78	45	35
14.....	18	23			4			99	103	72	41	34
15.....	18	22			4			93	107	70	43	33
16.....	18	22	} " 8	} " 4	} " 2	} " 15	} " 80	93	111	69	43	32
17.....	18	22						93	110	64	45	32
18.....	18	22						93	103	63	45	31
19.....	19	22						96	98	63	52	31
20.....	23	22						95	95	62	45	31
21.....	} " 24	23	} " 5	} " 4	} " 2	} " 15	} " 80	87	63	40	31	31
22.....		21						85	66	40	30	30
23.....		20						85	60	41	30	30
24.....		20						85	66	40	30	30
25.....		21						29	68	92	39	30
26.....	} " 24	20	} " 5	} " 4	} " 2	} " 15	} " 80	32	76	97	45	38
27.....		21						34	77	102	49	38
28.....		21						42	87	114	55	36
29.....		21						46	105	124	53	36
30.....		18						51	112	124	49	40
31.....				4				120		50	40	---
Month								Maximum	Minimum	Mean	Run-off in acre-feet	
October.....									8	18.1	1,110	
November.....									18	22.4	1,380	
December.....								18		9.2	566	
January.....										4.5	277	
February.....										3.9	224	
March.....								6		3.5	215	
April.....								51		13.3	791	
May.....								126		97.8	6,010	
June.....								125	85	110	6,550	
July.....								124	45	80.4	4,940	
August.....								61	30	43.5	2,670	
September.....								43	30	33.1	1,970	
The year.....								126		36.7	26,700	

\* Estimated.

## BLACKSMITH FORK ABOVE UTAH POWER &amp; LIGHT CO.'S DAM NEAR HYRUM, UTAH

**LOCATION.**—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 8, T. 10 N., R. 2 E., 1 mile above diversion dam,  $3\frac{1}{2}$  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, 1928.

**EXTREMES.**—Maximum discharge during year, 842 second-feet April 29 (gage height, 4.20 feet); minimum, about 75 second-feet during winter.

1913–1928: Maximum discharge, about 1,620 second-feet May 15, 1917 (gage height, 6.5 feet); minimum, about 22 second-feet February 6, 1916 (gage height, 0.85 foot).

**REMARKS.**—Records good, except those for estimated periods, which are fair. No large diversions above station. Gage-height record and results of seven discharge measurements furnished by Utah Power & Light Co.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	91	87	78		77	160	590	142	125	111	97
2	98	91	87	78		76	151	511	139	122	109	95
3	95	91	88	78		75	155	403	137	121	111	95
4	94	91	86			75	143	355	135	118	111	94
5	94	93	86			75	137	344	133	117	109	94
6	94	95	86			75	131	361	130	117	111	94
7	94	97	85		* 78	76	126	330	125	121	109	93
8	94	93	87			80	124	412	128	118	109	93
9	93	91	87			88	122	427	126	117	108	93
10	93	93	83			94	122	415	126	118	107	93
11	93	94	87			112	121	403	137	118	106	93
12	91	91	88			121	131	403	139	118	105	93
13	90	93	88			97	124	415	133	114	105	93
14	91	93				95	121	358	133	114	104	93
15	91	91			77	91	119	322	130	112	103	93
16	90	91			77	90	128	300	128	112	102	92
17	90	91		* 75	77	88	141	230	131	105	101	92
18	93	90			77	93	139	279	130	111	100	91
19	93	88			77	98	135	232		111	98	91
20	96	88			77	104	137	274		106	98	91
21	93	90			77	111	137	264		111	98	91
22	94	87	* 80		80	122	147	262		112	98	91
23	93	86			80	133	168	266		111	100	91
24	98	86			80	147	212	244	* 126	112	98	91
25	91	86			79	335	256			112	100	91
26	93	86			79		352			112	101	91
27	91	88			79		409	* 200		112	101	91
28	93	91			77	* 175	554			112	101	91
29	93	91			77		629			111	100	93
30	93	87					544			105	98	93
31	95									111	97	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	98	90	92.9	5,710
November	98	86	90.6	5,390
December	88		82.7	5,080
January			75.3	4,630
February			78.0	4,490
March	335	75	119	7,320
April	629	119	202	12,000
May	590		321	19,700
June	142		130	7,740
July	123	109	114	7,010
August	111	97	104	6,400
September	97	91	92.6	5,510
The year	629		125	91,000

\* Estimated.

## SURFACE WATER SUPPLY, 1928, PART X

## WEST SIDE CANAL NEAR COLLINSTON, UTAH

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  sec. 27, T.13 N., R. 2 W., at Wheelon siding on Oregon Short Line Railroad, 4,200 feet below Cutler Dam and 4 miles north of Collinston.

RECORDS AVAILABLE.—June, 1912, to September, 1928.

REMARKS.—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 same diversion dam as Hammond (East Side) Canal and Cutler power plant. Records furnished by Utah Power & Light Co.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	264	65	46		*	35		176	640	603	544	573
2.....	262	65	38			35		201	640	602	546	575
3.....	262	66	38			34		225	639	603	547	573
4.....	215	66	37			31		255	640	603	546	575
5.....	215	66	35			13		251	627	602	544	576
6.....	213	66	34					318	608	602	546	578
7.....	155	66	34					348	608	603	549	578
8.....	159	66	34					358	608	607	552	567
9.....	160	65	34					431	603	607	554	546
10.....	157	65	34					475	573	608	554	536
11.....	158	63						512	482	610	555	536
12.....	161	63						539	335	608	560	522
13.....	161	64					0	416	396	607	565	486
14.....	162	65						344	424	600	573	392
15.....	162	65			* 33			437	424	592	578	314
16.....	163	65		* 32				437	420	576	589	484
17.....	198	65						470	402	549	605	482
18.....	198	65				0		469	400	551	603	480
19.....	210	65						478	402	551	608	476
20.....	216	65						490	399	551	610	474
21.....	219	65	* 25					504	431	549	611	470
22.....	229	65						523	444	549	613	466
23.....	266	65						557	512	549	613	440
24.....	296	64						504	498	549	615	427
25.....	297	65					54	618	590	549	615	423
26.....	232	65					109	618	597	546	610	421
27.....	212	64					109	615	607	544	586	417
28.....	160	64					109	615	605	541	567	412
29.....	173	57					108	616	602	543	568	409
30.....	173	52					132	621	607	547	570	407
31.....	105							624		543	571	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	297	105	200	12,300
November.....	66	52	64.2	3,820
December.....	46		28.7	1,760
January.....			* 32	1,970
February.....			* 33	1,900
March.....	35	0	4.8	295
April.....	132	0	20.7	1,230
May.....	624	176	456	28,000
June.....	640	335	523	31,100
July.....	610	541	576	35,400
August.....	615	544	576	35,400
September.....	578	314	487	29,000
The year.....	640	0	251	182,000

\* Estimated.

## HAMMOND (EAST SIDE) CANAL NEAR COLLINSTON, UTAH

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 27, T. 13 N., R. 2 W., at Wheelon siding on Oregon Short Line Railroad, 3,600 feet below Cutler Dam and 4 miles north of Collinston.

RECORDS AVAILABLE.—June, 1912, to September, 1928.

REMARKS.—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 same diversion dam as West Side Canal and Cutler power plant. Records furnished by Utah Power & Light Co.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Apr.	May	June	July	Aug.	Sept.
1	70	16	11		70	142	168	156	148
2	62	16	11		81	147	168	156	148
2	62	16	5		96	146	167	156	148
4	60	16			101	146	167	157	148
5	60	16			101	147	166	157	148
6	60	16			139	147	167	156	148
7	54	16			72	147	168	155	148
8	64	16			0	146	167	154	143
9	60	16		0	0	146	167	160	132
10	60	16			36	147	164	164	126
11	60	13			94	130	157	164	126
12	60	11			122	76	158	163	124
13	59	11			129	78	156	163	121
14	59	11			129	78	157	163	122
15	59	12			138	78	158	162	120
16	63	12			147	79	156	162	120
17	63	12	0	27	149	80	156	163	120
18	64	12		32	148	78	156	163	120
19	64	11		33	139	78	156	163	120
20	64	11		34	133	80	157	162	120
21	64	11		34	136	92	155	162	120
22	61	11		35	137	98	156	162	120
23	58	11		35	131	122	156	162	120
24	58	11		37	137	130	156	162	120
25	58	11		37	134	134	156	156	120
26	58	11		37	135	149	156	147	121
27	58	11		38	136	158	156	147	120
28	40	11		38	135	160	157	147	120
29	22	11		51	137	166	157	147	121
30	22	11		72	134	168	158	147	121
31	19				139		157	147	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	70	19	56.3	3,460
November	16	11	12.9	768
December	11	0	9	55
April	72	0	18.0	1,070
May	149	0	113	6,970
June	168	76	122	7,290
July	168	155	160	9,830
August	164	147	158	9,690
September	148	120	128	7,640
The year	168	0	64.4	46,800

NOTE.—No flow during January, February, and March.

## WEBER RIVER BASIN

## WEBER RIVER NEAR OAKLEY, UTAH

LOCATION.—Staff gage in NE.  $\frac{1}{4}$  sec. 15, T. 1 S., R. 6 E., near mouth of canyon, 3 miles northeast of Oakley. South Fork of Weber River enters 2 miles above station, and Beaver or Kamas Creek 6 miles below.

DRAINAGE AREA.—163 square miles.

RECORDS AVAILABLE.—October, 1904, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,970 second-feet May 29 (gage height, 7.7 feet); minimum, about 55 second-feet during winter.

1904-1928: Maximum discharge, 4,000 second-feet July 6, 1907, and June 5-7, 1909; minimum, 46 second-feet part of February and March, 1908 (gage height, 4.0 feet).

REMARKS.—Records fair. No large diversions above gage. Flow regulated slightly by storage in Fish Lake and a small reservoir on Smith and Morehouse Creeks. The capacity of both reservoirs, about 1,500 acre-feet.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	90	90				114	730	1,530	320	136	69
2	99	90	90				104	920	1,210	301	124	69
3	99	90	90				96	670	1,130	284	120	69
4	99	90	74				87	560	990	250	114	69
5	99	90				* 55	80	560	1,060	233	116	69
6	99	94					75	670	1,130	233	114	69
7	94	108					72	920	1,060	233	114	66
8	94	108				59	72	1,210	990	233	104	66
9	94	99					80	1,370	850	202	104	62
10	94	118					87	1,290	730	188	96	62
11	94	108				* 59	96	1,290	670	188	96	62
12	90	108					104	1,290	600	188	96	62
13	90	108					96	1,210	560	173	96	62
14	90	108				59	87	920	510	173	90	62
15	90	106		* 60	* 55	59	96	730	560	173	89	62
16	90	104				59	96	790	560	188	89	60
17	90	104				59	101	850	535	160	87	60
18	90	99	* 65			66	104	760	465	160	87	60
19	90	99				72	101	790	420	160	87	60
20	90	99				87	96	920	373	136	84	60
21	90	94				96	96	1,290	465	129	84	60
22	90	94				96	101	1,450	465	124	80	60
23	90	99				104	104	1,310	465	124	80	60
24	87	99				124	147	1,290	465	120	80	60
25	87	99				173	188	1,530	442	114	75	62
26	87	99				136	233	1,530	420	124	75	62
27	87	94				129	301	1,700	399	124	75	60
28	94	94				136	378	1,880	378	129	72	69
29	112	94				136	465	1,970	338	129	72	66
30	104	90				124	510	1,890	338	126	69	64
31	99					124		1,790		129	69	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	112	87	93.9	5,770
November	118	90	99.2	5,900
December			67.7	4,160
January			* 60	3,690
February			* 55	3,160
March	173		83.2	5,120
April	510	72	146	8,690
May	1,970	560	1,160	71,300
June	1,530	338	670	39,900
July	320	114	179	11,000
August	136	69	92.7	5,700
September	69	60	63.7	3,790
The year	1,970		232	168,000

\* Estimated.

## WEBER RIVER NEAR COALVILLE, UTAH

LOCATION.—Staff gage in NE.  $\frac{1}{4}$  sec. 20, T. 2 N., R. 5 E., at river bridge above high-water contour for Echo Reservoir,  $1\frac{1}{2}$  miles south of Coalville.

DRAINAGE AREA.—438 square miles.

RECORDS AVAILABLE.—April, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,650 second-feet May 29–31 (gage height, 4.10 feet); minimum, 32 second-feet August 24 (gage height, 0.26 foot).

1927–28: Same as above.

REMARKS.—Records fair. There are numerous irrigation diversions above and below station. Flow slightly regulated by two small reservoirs above station. Gage-height record furnished by United States Bureau of Reclamation.

## Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	170	208	206	150	115	136	281	955	1,510	217	52	41
2.....	170	208	214			139	281	1,090	1,310	222	51	46
3.....	170	198	219			139	272	955	1,360	182	47	52
4.....	170	198	156			134	236	862	1,040	147	52	51
5.....	178	198				136	236	765	933	139	54	46
6.....	170	198		150	115	154	236	845	900	126	53	46
7.....	170	225				152	208	1,020	884	165	52	46
8.....	170	231				156	208	1,090	760	154	52	44
9.....	168	198				97	237	1,370	690	143	45	40
10.....	163	195				281	222	1,370	651	126	48	36
11.....	156	281		140	90	281	208	1,370	631	122	48	39
12.....	158	236				287	217	1,370	670	122	46	42
13.....	158	281				294	281	1,360	593	116	44	40
14.....	158	198				330	234	1,050	534	116	38	44
15.....	152	263				208	236	999	461	92	41	43
16.....	147	234		120	116	97	228	222	933	421	97	45
17.....	147	287				106	182	236	1,210	402	97	45
18.....	147	281				116	195	236	988	413	99	44
19.....	147	219				126	192	231	933	369	101	41
20.....	158	198				116	208	231	1,010	340	82	39
21.....	147	198		120	116	106	354	231	1,100	327	72	38
22.....	147	190				116	330	228	1,250	320	65	36
23.....	147	192				118	320	234	1,310	313	66	36
24.....	147	147				116	316	313	1,260	281	66	32
25.....	147	192				114	402	361	1,360	269	66	33
26.....	139	198		120	116	116	376	406	1,480	269	64	34
27.....	139	198				116	376	503	1,580	257	61	34
28.....	152	198				136	281	612	1,590	228	58	34
29.....	158	260				136	281	760	1,650	222	56	35
30.....	198	234				287	765	1,640	239	53	33	53
31.....	313					266		1,650		53	33	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	313	139	163	10,000
November.....	287	147	218	13,000
December.....			148	9,100
January.....			135	8,300
February.....			115	6,620
March.....	402	97	243	14,900
April.....	765	208	305	18,100
May.....	1,650	765	1,210	74,400
June.....	1,510	222	587	34,900
July.....	222	53	108	6,640
August.....	54	32	42.4	2,610
September.....	58	36	45.4	2,700
The year.....	1,650	32	277	201,000

\* Estimated.

## WEBER RIVER AT ECHO, UTAH

LOCATION.—Staff gage in SE.  $\frac{1}{4}$  NE.  $\frac{1}{4}$  sec. 25, T. 3 N., R. 4 E., one-fourth mile downstream from Echo dam site, one-fourth mile upstream from Echo Creek, and half a mile southeast of Echo.

DRAINAGE AREA.—732 square miles.

RECORDS AVAILABLE.—April, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,090 second-feet May 29 (gage height, 3.62 feet); minimum, 47 second-feet August 30 and 31 (gage height, -0.02 foot).

1927-28: Maximum discharge, 2,140 second-feet May 18, 1927 (gage height, 3.70 feet); minimum discharge, 47 second-feet August 30 and 31, 1928 (gage height -0.02 foot).

REMARKS.—Records fair. Discharge estimated December 15 to February 24 and April 29 to May 6. Numerous irrigation diversions above and below station. One small diversion between gage and Echo dam site. Flow regulated by two small reservoirs above station. Gage-height record furnished by United States Bureau of Reclamation.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	218	274	252	a 170	170	155	361	1,400	1,850	290	82	56
2-----	210	227	255			160	369	1,600	1,630	287	79	60
3-----	221	218	264			165	361	1,400	1,540	233	74	67
4-----	204	218	248			173	262	1,200	1,260	197	79	67
5-----	213	216	233			175	262	1,100	1,180	194	82	62
6-----	218	213	218	a 190	190	200	262	1,200	1,090	181	82	64
7-----	204	264	213			200	246	1,340	1,130	221	82	68
8-----	204	274	154			237	246	1,500	996	209	79	67
9-----	204	252	178			160	284	1,760	859	192	74	60
10-----	221	252	255			276	273	1,910	761	173	77	58
11-----	218	378	233	b 140	140	313	262	1,890	712	165	77	60
12-----	188	284	230			317	270	1,860	761	162	74	65
13-----	191	264	204			321	365	2,040	755	155	68	59
14-----	218	258	181			270	321	1,560	675	152	62	62
15-----	191	313				262	276	1,460	612	138	65	62
16-----	191	284		a 160	160	215	262	1,800	573	150	67	59
17-----	181	340				215	305	1,540	530	148	65	59
18-----	181	357				230	305	1,460	540	145	64	59
19-----	181	271				230	313	1,370	489	150	58	60
20-----	191	264				280	290	1,430	455	134	58	62
21-----	181	258		a 170	170	494	287	1,540	422	120	54	62
22-----	181	245				479	298	1,720	408	124	53	64
23-----	178	233				422	321	1,740	408	118	54	72
24-----	176	191				422	365	1,720	373	118	49	68
25-----	171	204				143	445	1,790	357	114	50	68
26-----	166	248			143	525	535	1,940	344	107	49	70
27-----	188	248			148	573	617	2,000	344	101	49	65
28-----	188	252			152	377	813	1,970	309	99	49	72
29-----	264	321			143	369	1,200	2,090	290	90	49	75
30-----	264	271				369	1,200	2,030	305	82	47	74
31-----	357					336		2,000		75	47	
Month						Maximum	Minimum	Mean		Run-off in acre-feet		
October-----						357	166	205		12,600		
November-----						378	191	263		15,600		
December-----						264		194		11,900		
January-----								175		10,800		
February-----								150		8,630		
March-----						573	155	302		18,600		
April-----						1,200	246	398		23,700		
May-----						2,090	1,100	1,640		101,000		
June-----						1,850	290	732		43,600		
July-----						290	75	156		9,590		
August-----						82	47	64.5		3,970		
September-----						75	56	64.2		3,820		
The year-----						2,090	47	363		264,000		

• Estimated.

## WEBER RIVER AT DEVILS SLIDE, UTAH

**LOCATION.**—Staff gage in SW.  $\frac{1}{4}$  sec. 19, T. 4 N., R. 4 E., 300 feet north of hotel and 500 feet downstream from highway bridge at Devils Slide. Lost Creek enters from right a quarter of a mile above station.

**DRAINAGE AREA.**—1,090 square miles.

**RECORDS AVAILABLE.**—February, 1905, to September, 1928.

**EXTREMES.**—Maximum discharge during year (estimated), 2,800 second-feet May 13; minimum, 52 second-feet August 25–28 (gage height, 1.61 feet). 1905–1928: Maximum discharge, 6,000 second-feet May 22, 1920 (gage height, 8.0 feet); minimum, 31 second-feet September 3, 1919.

**REMARKS.**—Records fair; discharge estimated May 11–31. Numerous diversions above station for irrigation and domestic use. Flow regulated by two small reservoirs above station.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	250	317	317	194	187	223	518	2, 110	2, 080	258	83	59
2.....	262	271	308	242	184	201	529	2, 380	1, 840	250	83	59
3.....	246	254	339	246	180	204	535	1, 960	1, 790	235	83	61
4.....	231	258	275	250	198	208	465	1, 740	1, 400	223	78	66
5.....	235	250	208	246	208	223	434	1, 680	1, 280	204	83	74
6.....	235	258	262	219	227	246	424	1, 780	1, 200	187	83	70
7.....	235	344	190	216	194	287	376	2, 110	1, 180	216	78	66
8.....	231	358	161	204	176	287	358	2, 390	1, 050	198	78	63
9.....	235	296	219	173	180	344	367	2, 630	959	184	74	63
10.....	235	339	258	190	148	429	405	2, 740	840	176	74	61
11.....	227	439	238	194	148	414	414	2, 700	801	161	78	61
12.....	223	344	219	216	139	611	450	2, 700	875	154	74	59
13.....	223	321	246	216	125	395	475	2, 800	808	158	74	63
14.....	223	414	219	223	161	358	405	2, 500	742	151	68	66
15.....	221	367	194	216	136	321	390	2, 200	684	145	68	66
16.....	219	335	223	167	134	283	400	1, 900	581	139	66	66
17.....	208	414	227	187	148	271	475	2, 100	581	139	66	66
18.....	219	400	154	180	142	321	552	2, 000	593	139	66	66
19.....	219	326	161	148	161	414	465	1, 900	540	128	63	70
20.....	216	304	173	154	167	497	455	2, 000	507	128	61	70
21.....	208	296	173	154	173	529	455	2, 100	450	120	61	66
22.....	208	291	198	161	194	623	455	2, 100	419	120	59	66
23.....	208	296	204	194	190	749	475	2, 100	395	117	59	66
24.....	201	238	173	204	194	587	587	2, 200	362	112	55	66
25.....	201	271	167	208	173	808	672	2, 300	358	102	52	66
26.....	198	296	180	201	187	1, 080	854	2, 300	344	96	52	66
27.....	194	300	187	173	187	808	1, 210	2, 300	308	92	52	70
28.....	216	304	205	161	194	587	1, 360	2, 300	296	87	52	76
29.....	348	308	227	187	201	539	1, 730	2, 400	283	87	54	76
30.....	304	317	208	194	-----	524	1, 700	2, 300	283	83	54	74
31.....	300	-----	158	187	-----	491	-----	2, 200	-----	78	55	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	348	194	232	14, 300
November.....	439	238	318	18, 900
December.....	339	154	215	13, 200
January.....	250	148	197	12, 100
February.....	227	125	174	10, 000
March.....	1, 080	201	447	27, 500
April.....	1, 730	358	613	36, 500
May.....	2, 800	1, 680	2, 220	136, 000
June.....	2, 080	283	794	47, 200
July.....	258	78	151	9, 280
August.....	83	52	67. 3	4, 140
September.....	76	59	66. 2	3, 940
The year.....	2, 800	52	460	333, 000



## WEBER RIVER AT GATEWAY, UTAH

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  SW.  $\frac{1}{4}$  sec. 27, T. 5 N., R. 1. E., 300 feet below mouth of Strawberry Creek, 1,400 feet above Union Pacific Railroad bridge, and 4,400 feet above section house at Gateway.

DRAINAGE AREA.—1,610 square miles.

RECORDS AVAILABLE.—June to September 1919; July, 1920, to September, 1928.

October, 1889, to July 1903, at a station 1 mile downstream known as Weber River near Uinta, Utah. Records are comparable.

EXTREMES.—Maximum discharge during year, 4,070 second-feet May 10 (gage height, 5.74 feet); minimum, 102 second-feet September 20 (gage height, 0.33 foot).

1889–1903, 1919–1928: Maximum discharge, 7,980 second-feet May 31, 1896; minimum, 65 second-feet August 7–13, 1898.

REMARKS.—Records fair. Discharge estimated October 7, 8, December 8, 9, December 11 to March 20, April 6–20, April 25 to May 9, June 6–20, July 6, 7, and September 21–27. There are numerous diversions for irrigation above and below station. Flow regulated by storage in Fast Canyon Creek Reservoir.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	389	440	480	350	310	360	960	3,240	2,310	469	327	257
2.....	381	369	488	370	310	360	954	3,500	2,030	460	315	264
3.....	389	350	516	380	310	360	992	3,300	1,840	442	327	261
4.....	369	350	448	380	330	380	916	2,760	1,640	420	315	275
5.....	346	354	381	380	350	420	867	2,640	1,390	399	319	268
6.....	343	358	402	360	360	450	800	2,760	1,360	400	315	264
7.....	340	431	369	340	340	470	760	3,140	1,260	410	323	250
8.....	335	530	330	330	320	520	710	3,500	1,180	429	319	162
9.....	332	466	370	300	320	600	670	3,640	1,100	416	300	136
10.....	324	587	406	310	290	800	670	3,880	1,000	403	293	126
11.....	324	724	370	320	290	1,000	680	3,810	980	399	289	128
12.....	321	544	340	330	310	1,380	780	3,800	980	407	286	123
13.....	321	507	350	340	310	850	810	3,840	940	399	282	123
14.....	318	568	350	360	300	700	710	3,380	860	391	275	128
15.....	318	554	340	360	300	620	670	2,910	800	386	271	123
16.....	318	507	360	330	290	570	630	2,600	760	386	275	120
17.....	307	632	360	310	290	550	670	2,730	740	386	271	118
18.....	300	602	290	310	290	600	880	2,610	720	382	275	113
19.....	300	511	290	280	300	700	920	2,490	660	374	271	109
20.....	304	462	300	280	310	800	890	2,470	640	370	268	106
21.....	307	440	310	290	310	938	819	2,560	583	366	264	107
22.....	304	431	310	300	330	992	803	2,670	563	366	261	107
23.....	300	389	330	320	330	1,160	819	2,730	510	366	282	108
24.....	297	358	310	330	320	1,210	910	2,530	482	374	289	109
25.....	293	385	300	340	310	2,350	1,000	2,480	464	374	278	109
26.....	286	406	300	330	320	2,120	1,400	2,620	455	354	275	110
27.....	274	427	310	310	320	1,580	1,820	2,690	464	354	275	111
28.....	284	530	330	300	320	1,300	2,280	2,790	442	342	271	111
29.....	365	637	350	310	340	1,140	2,800	2,730	460	338	275	116
30.....	389	526	310	320	-----	1,040	2,780	2,640	482	327	271	118
31.....	410	-----	280	320	-----	970	-----	2,510	-----	323	261	-----
Month	Maximum					Minimum		Mean		Run-off in acre-feet		
October.....	410					274		329		20,200		
November.....	724					350		479		28,500		
December.....	516					280		354		21,800		
January.....	380					280		329		20,200		
February.....	360					290		315		18,100		
March.....	2,350					360		880		54,100		
April.....	2,800					630		1,050		62,500		
May.....	3,880					2,470		2,970		183,000		
June.....	2,310					442		936		55,700		
July.....	469					323		387		23,800		
August.....	327					261		288		17,700		
September.....	275					106		152		9,040		
The year.....	3,880					106		708		515,000		

## WEBER RIVER NEAR PLAIN CITY, UTAH

LOCATION.—Chain gage in SE.  $\frac{1}{4}$  sec. 5, T. 6 N., R. 2 W., at county highway bridge 1 mile south of Plain City, 1 mile below mouth of Fourmile Creek, and 6 miles above point where Weber River empties into Great Salt Lake.

DRAINAGE AREA.—2,060 square miles.

RECORDS AVAILABLE.—May, 1905, to September, 1928. Records obtained in 1904 by State engineer.

EXTREMES.—Maximum discharge during year, 4,620 second-feet May 13 (gage height, 16.81 feet); minimum not recorded.

1904-1928: Maximum discharge, 7,580 second-feet June 6, 1909 (gage height, 19.1 feet); river practically dry during later part of several summers since 1915.

REMARKS.—Records fair. In summer practically entire flow of Weber River above station is diverted for irrigation. Flow is slightly regulated by storage in East Canyon Creek Reservoir.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1.....	354	409	610	340	370	401	1,640	3,930	1,960	44	} * 6	}	
2.....	354	403	585	344	354	405	1,570	4,380	1,470	42			
3.....	340	397	590	382	378	424	1,610	4,480	1,350	42			
4.....	325	401	598	448	444	444	1,520	3,740	1,180	40			
5.....	315	416	602	464	484	505	1,400	3,270	943	34			
6.....	310	514	480	471	505	536	1,340	3,190	1,080	33			
7.....	297	519	418	459	475	610	1,240	3,350	808	31			
8.....	295	531	370	440	444	730	1,140	3,840	632	31			
9.....	288	480	384	422	405	853	1,100	4,100	510	27			
10.....	282	529	388	424	399	970	1,100	4,270	462	24			
11.....	279	817	412	431	386	1,120	1,110	4,410	491	20	} * 6	}	
12.....	277	618	437	446	370	2,630	1,100	4,360	638	17			
13.....	277	630	405	471	350	1,530	1,190	4,620	652	17			9
14.....	274	769	380	475	334	1,160	1,120	4,170	630	17			8
15.....	272	625	350	468	323	877	1,050	3,660	612	18			7
16.....	270	615	412	455	313	823	1,080	3,180	505	20			7
17.....	265	763	397	444	313	758	1,110	2,930	422	24			7
18.....	262	742		433	313	823	1,280	3,000	380	17			7
19.....	252	612		372	346	979	1,290	2,460	344	15			10
20.....	248	578		356	352	1,210	1,280	2,710	291	14			13
21.....	248	543	} * 350	429	352	1,290	1,220	2,670	250	8	34		
22.....	245	514			352	1,390	1,160	2,650	213	12	32		
23.....	245	487	} * 400	390	1,650	1,170	2,610	98	10	30	30		
24.....	237	457			393	1,650	1,330	2,450	73	10	33		
25.....	232	440		336	420	397	2,480	1,500	2,210	59	9	34	
26.....	226	468	330	397	390	4,220	1,920	2,260	53	8	34		
27.....	222	529	354	346	380	2,960	2,350	2,330	48	8	34		
28.....	240	650	350	336	386	2,720	2,790	2,280	46	8	33		
29.....	338	670	354	332	393	2,280	3,030	2,200	44	7	30		
30.....	399	638	358	386		1,930	3,660	2,060	43	7	30		
31.....	418		346	386		1,710		1,960		7			
<hr/>													
Month						Maximum	Minimum	Mean		Run-off in acre-feet			
October.....						418	222	287		17,600			
November.....						817	397	559		33,300			
December.....						610	330	410		25,200			
January.....						475	332	412		25,300			
February.....						505	313	383		22,000			
March.....						4,220	401	1,360		83,600			
April.....						3,560	1,050	1,510		89,800			
May.....						4,620	1,960	3,220		198,000			
June.....						1,960	43	542		32,300			
July.....						44	7	20		1,230			
August.....								* 6		369			
September.....						34		15.5		922			
The year.....						4,620		729		530,000			

a Estimated.

## CHALK CREEK AT COALVILLE, UTAH

LOCATION.—Staff gage in SE.  $\frac{1}{4}$  sec. 8, T. 2 N., R. 5 E., at highway bridge one-fourth mile northwest of Coalville and one-third mile above confluence with Weber River.

DRAINAGE AREA.—253 square miles.

RECORDS AVAILABLE.—October, 1904, to December, 1905; April, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 578 second-feet May 8 (gage height, 3.74 feet); minimum, 4 second-feet September 16-30.

1927-28: Maximum discharge during period, 655 second-feet May 16 or 17, 1927 (gage height, 4.0 feet); minimum, 4 second-feet September 16-30, 1928.

REMARKS.—Records fair. No large diversions below station. Flow regulated by irrigation diversions above. Gage-height record furnished by United States Bureau of Reclamation.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	29	32	23	21	17	80	407	309	56	17	9
2	30	22	34	23	21	21	91	466	279	52	15	9
3	30	26	34	27	21	21	102	445	246	31	14	11
4	30	25	16	27	26	21	95	301	228	31	13	11
5	30	25	6	27	24	21	95	301	201	31	14	11
6	30	25	34	21	21	20	95	394	271	29	14	14
7	26	29	24	22	21	21	27	480	176	31	14	17
8	26	35	9	22	22	23	27	578	170	29	14	17
9	30	29	28	22	20	18	27	570	130	26	14	11
10	29	31	33	23	21	25	27	560	132	26	14	11
11	27	35	33	27	26	25	28	529	176	26	14	11
12	26	32	23	27	24	25	31	488	142	26	14	11
13	26	35	28	27	26	25	66	475	142	25	14	6
14	26	35	21	27	26	35	49	424	142	23	14	6
15	25	35	23	27	21	25	61	382	122	27	14	6
16	26	32	23	27	17	21	61	407	117	27	13	4
17	21	35	23	21	17	17	106	458	132	29	10	4
18	25	35	23	18	16	25	104	484	132	29	10	4
19	25	35	23	22	21	25	104	445	127	29	9	4
20	25	32	23	27	21	30	66	475	174	29	9	4
21	22	29	23	27	26	30	62	511	91	29	9	4
22	22	32	23	22	21	28	86	520	87	29	9	4
23	21	21	23	21	21	49	108	458	87	28	9	4
24	21	13	23	22	21	73	127	441	87	28	11	4
25	21	13	23	25	21	74	40	411	80	28	11	4
26	17	29	23	25	21	68	62	382	59	26	11	4
27	17	29	23	25	17	65	82	424	59	23	10	4
28	21	35	23	27	17	62	211	454	64	23	10	4
29	30	38	24	22	17	58	298	432	56	18	10	4
30	25	35	24	22	58	305	398	56	17	10	4	4
31	33	-----	24	21	-----	58	-----	361	-----	17	10	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	33	17	25.6	1,570
November	38	13	29.7	1,770
December	34	6	24.2	1,490
January	27	18	24.1	1,480
February	26	16	21.2	1,220
March	74	17	35.0	2,150
April	305	27	90.8	5,400
May	578	301	447	27,500
June	309	56	135	8,030
July	56	17	28.3	1,740
August	17	9	12.1	744
September	17	4	7.4	440
The year	578	4	73.8	53,500

## LOST CREEK AT DEVILS SLIDE, UTAH

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 19, T. 4 N., R. 4 E., a quarter of a mile above confluence with Weber River and half a mile east of Devils Slide.

DRAINAGE AREA.—228 square miles.

RECORDS AVAILABLE.—April, 1921, to September, 1928, at present site; February to December, 1905, at a site 150 feet above mouth of creek (published as "Lost Creek near Croyden, Utah").

EXTREMES.—Maximum discharge during year, 975 second-feet May 2 (gauge height, 3.64 feet); minimum, 7 second-feet September 17–20 and 27–30.

1905, 1921–1928: Maximum discharge, about 1,390 second-feet May 11, 1923 (gauge height, 4.39 feet); minimum, 6 second-feet October 1–12, 1926.

REMARKS.—Records good, except those for estimated periods and discharge above 300 second-feet which are fair. Practically all the water is diverted above gauge during late irrigation season.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	10	23	28		22	22	129	865	80	28	14	10
2.....	11	21	28		22	20	126	915	70	27	15	10
3.....	12	20	27		23	22	131	765	61	23	16	10
4.....	12	19	27		23	23	124	638	62	22	17	9
5.....	12	19	24		23	24	120	607	65	23	16	9
6.....	12	20	26		23	26	115	661	58	26	14	9
7.....	13	21	19		21	27	109	740	49	27	14	9
8.....	14	23	16		23	28	100	790	43	27	14	8
9.....	15	23	20		23	30	96	750	43	24	16	8
10.....	15	26	21		19	33	100	705	43	23	14	8
11.....	14	29	21		20	37	94	695	44	23	14	8
12.....	15	29	18		22	45	98	643	50	22	14	8
13.....	16	29	21		18	44	90	576	45	21	14	8
14.....	16	28	20	* 20	19	43	86	474	45	20	12	8
15.....	16	27	16		21	39	86	398	41	20	12	8
16.....	16	27	16		18	36	94	367	39	19	12	8
17.....	16	26	16		19	37	122	364	47	19	10	7
18.....	16	26			20	40	143	334	44	17	12	7
19.....	16	26			23	43	148	320	43	17	11	7
20.....	16	26			22	47	146	302	36	16	10	7
21.....	16	26			23	55	138	271	29	16	10	8
22.....	17	25			26	70	136	230	31	16	10	8
23.....	17	25			26	98	146	200	30	16	10	8
24.....	17	24	* 18		25	104	182	175	29	17	10	8
25.....	18	23			22	161	208	151	29	16	10	8
26.....	18	23			23	226	295	134	27	17	10	8
27.....	19	23			20	199	438	126	24	15	10	7
28.....	19	25			23	171	544	113	24	14	10	7
29.....	19	29		20	22	153	715	106	26	14	10	7
30.....	21	28		21		138	690	100	29	14	10	7
31.....	23			21		129		92		14	10	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	23	10	15.7	965
November.....	29	19	24.6	1,460
December.....	28		19.9	1,220
January.....			20.1	1,240
February.....	26	18	21.9	1,260
March.....	226	20	70.0	4,300
April.....	715	86	192	11,400
May.....	915	92	439	27,000
June.....	80	24	42.9	2,550
July.....	28	14	19.8	1,220
August.....	17	10	12.3	756
September.....	10	7	8.1	482
The year.....	915	7	74.2	53,900

\* Estimated.

## SOUTH FORK OF OGDEN RIVER NEAR HUNTSVILLE, UTAH

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 12, T. 6 N., R. 2 E., half a mile below mouth of Magpie Creek, 1 mile above heading of Huntsville Mountain Canal, and  $5\frac{1}{2}$  miles east of Huntsville.

RECORDS AVAILABLE.—March, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,180 second-feet April 28 (gauge height, 4.70 feet); minimum, 42 second-feet for several days during September.

1921–1928: Maximum discharge, 1,450 second-feet May 10, 1923 (gauge height, 5.4 feet); minimum, 30 second-feet October 5, 1924, and August 30, 1926.

REMARKS.—Records good except those for estimated periods, which are fair. Recorder not in operation October 20 to March 18; weekly readings used and estimates made. No large diversions above gauge.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52						212	1,080	202	a 74	52	44
2	50						210	1,060	194	a 73	51	44
3	49						214	865	186	a 72	50	43
4	48						197	738	166	70	49	43
5	49	49				a 75	184	738	a 157	68	49	42
6	48						171	825	a 149	70	48	43
7	47		53	55			157	940	a 141	68	48	43
8	47				62		148	1,060	a 132	66	48	42
9	47						143	1,040	124	62	48	43
10	47					112	144	980	126	62	48	44
11	47						136	960	130	61	48	44
12	47						139	900	127	62	47	44
13	47						133	790	124	61	47	45
14	47		52	64		a 110	131	670	116	59	47	44
15	47				56		131	572	110	58	47	44
16	47	53					150	a 540	106	59	46	44
17	47					106	193	a 510	105	58	46	43
18	47					a 117	202	a 490	a 102	57	45	42
19	47					128	198	480	99	56	45	43
20	a 47					151	197	466	96	55	45	43
21	a 47			46		178	184	446	94	55	45	44
22	a 47		53		56	206	182	415	90	54	45	44
23	a 47	48				234	210	377	87	54	44	44
24	47					243	274	342	85	54	44	44
25	a 47					614	326	329	82	54	44	42
26	a 47					489	504	306	8	54	44	42
27	a 47					374	647	285	80	53	44	43
28	a 47			48		296	880	264	77	53	44	44
29	a 47				56	260	1,020	248	76	54	44	43
30	a 47	55	51			228	900	231	76	52	44	43
31	a 47					208		216		52	44	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	52	47	47.5	2,920
November			a 50	2,980
December			a 52	3,200
January			a 50	3,070
February			a 55	3,160
March	614		170	10,500
April	1,020	131	284	16,900
May	1,080	216	618	38,000
June	202	76	117	6,960
July	74	52	60.0	3,690
August	52	44	46.5	2,860
September	45	42	43.3	2,580
The year	1,080	42	133	96,800

a Estimated.

## JORDAN RIVER BASIN

## JORDAN RIVER NEAR LEHI, UTAH

LOCATION.—Water-stage recorder in sec. 25, T. 5 S., R. 1 W., 800 feet below pumping station at outlet of Utah Lake and 4 miles southwest of Lehi.

DRAINAGE AREA.—2,570 square miles.

RECORDS AVAILABLE.—May to December, 1904; July, 1913, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 821 second-feet July 18 and 19 (gage height, 5.90 feet); no flow March 11–18.

1913–1928: Maximum mean daily discharge, 1,370 second-feet June 8, 1923 (gage height, 7.78 feet); no flow for several short periods

REMARKS.—Records fair. Flow represents pumped outflow from Utah Lake and is controlled by operation of gates and pumping plant 800 feet above gage. Daily gage-height records furnished by W. A. Knight, water commissioner.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	146	77	77	77	77	56	77	367	724	797	747	708
2.....	76	77	77	77	77	56	77	558	721	805	742	706
3.....	76	77	77	77	77	63	77	619	734	808	750	706
4.....	76	77	77	77	77	72	51	575	724	808	737	700
5.....	76	77	77	77	77	73	81	567	721	808	732	700
6.....	76	77	77	77	77	73	77	567	721	799	734	698
7.....	76	77	77	77	77	73	77	570	721	810	732	690
8.....	76	77	77	77	77	75	77	570	706	805	721	685
9.....	76	77	77	77	77	75	86	639	706	808	687	686
10.....	76	77	77	77	77	36	77	656	690	808	721	677
11.....	76	77	77	77	77	0	77	654	667	797	719	677
12.....	76	77	77	77	77	0	86	636	644	805	716	563
13.....	76	77	77	77	77	0	81	626	616	813	716	596
14.....	128	77	77	77	77	0	96	667	612	816	713	656
15.....	174	77	77	77	77	0	96	662	619	821	711	652
16.....	176	77	77	77	77	0	96	656	646	816	706	662
17.....	176	77	77	77	77	0	81	662	669	805	703	672
18.....	176	77	77	77	77	0	112	659	652	821	703	672
19.....	173	77	77	77	77	16	93	652	667	821	713	636
20.....	170	77	77	77	77	50	86	646	677	816	716	622
21.....	169	77	77	77	77	70	77	644	703	813	711	646
22.....	171	77	77	77	77	75	94	644	716	808	700	589
23.....	171	77	77	77	77	75	96	644	742	808	703	587
24.....	105	77	77	77	77	75	98	649	745	802	703	587
25.....	76	77	77	77	74	75	102	649	739	797	700	589
26.....	76	77	77	77	52	75	133	695	745	789	693	587
27.....	76	77	77	77	55	78	181	687	742	789	695	570
28.....	76	77	77	77	67	81	281	693	734	789	695	548
29.....	76	77	77	77	66	85	286	690	760	781	698	530
30.....	76	77	77	77	-----	85	300	732	763	768	703	393
31.....	76	-----	77	77	-----	85	-----	721	-----	760	708	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	176	76	109	6,700
November.....	77	77	77.0	4,580
December.....	77	77	77.0	4,730
January.....	77	77	77.0	4,730
February.....	77	52	74.6	4,290
March.....	85	0	50.9	3,130
April.....	300	51	110	6,550
May.....	732	367	634	39,000
June.....	763	612	701	41,700
July.....	821	760	803	49,400
August.....	750	687	714	43,900
September.....	708	393	632	37,600
The year.....	821	0	339	246,000

## SALT CREEK NEAR NEPHI, UTAH

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 1, T. 13 S., R. 1 E., 50 feet below tailrace of Nephi municipal power plant, 100 feet above intake of Nephi Plaster Co.'s canal,  $2\frac{1}{2}$  miles below mouth of South Fork, and  $3\frac{1}{2}$  miles east of Nephi.

RECORDS AVAILABLE.—April, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 128 second-feet May 10 (gage height, 1.20 feet); minimum, 10 second-feet December 17–20.

1925–1928: Maximum discharge, 199 second-feet April 7 and May 6, 1926 (gage height, 1.60 feet); minimum, 6 second-feet January 23–27, 1926.

REMARKS.—Records fair. There are a few small diversions above station.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	16	16	15	11	13	14	35	114	77	30	16	14
2.....	16	16	15	12	14	14	34	114	74	30	15	14
3.....	16	16	15	12	14	16	35	85	66	30	15	13
4.....	16	16	14	13	14	16	32	75	59	30	15	14
5.....	16	16	14	14	15	16	29	85	55	27	15	14
6.....	16	16	12	14	15	16	30	85	56	27	15	14
7.....	16	16	12	13	14	16	29	87	60	27	14	14
8.....	16	16	12	13	13	16	28	120	53	27	14	14
9.....	16	16	12	13	12	16	28	121	53	27	14	13
10.....	16	19	12	12	13	16	28	128	49	26	14	13
11.....	16	16	12	12	13	18	28	111	47	24	14	12
12.....	16	16	12	12	13	21	30	94	69	22	14	12
13.....	16	16	12	13	13	18	28	94	46	21	15	12
14.....	16	18	11	13	13	17	28	74	43	20	14	12
15.....	16	17	11	13	13	18	36	66	42	24	18	12
16.....	15	16	11	13	12	18	36	76	41	21	16	12
17.....	16	16	10	13	12	18	40	64	36	20	16	12
18.....	15	16	10	12	13	18	37	64	34	21	14	12
19.....	16	16	10	11	13	19	36	76	34	19	14	12
20.....	15	16	10	11	14	19	36	76	35	19	14	13
21.....	16	16	11	12	14	21	35	76	35	18	14	14
22.....	15	16	11	12	15	26	36	85	35	18	14	14
23.....	16	15	12	12	14	29	36	87	35	18	14	13
24.....	15	14	12	12	14	81	38	90	36	16	14	13
25.....	16	15	12	12	14	87	42	91	36	16	14	13
26.....	15	15	12	12	14	65	45	105	35	16	16	13
27.....	16	16	12	13	14	55	62	111	33	16	16	14
28.....	19	16	12	14	14	43	76	110	33	16	15	14
29.....	18	15	12	14	14	40	87	105	33	16	14	13
30.....	19	15	12	14	-----	37	101	87	32	15	14	13
31.....	21	-----	11	13	-----	35	-----	85	-----	16	14	-----
Month	Maximum		Minimum		Mean		Run-off in		acre-feet			
October.....	21		15		16.2		996					
November.....	19		14		16.0		952					
December.....	15		10		12.0		738					
January.....	14		11		12.6		775					
February.....	15		12		13.6		782					
March.....	87		14		27.7		1,700					
April.....	101		28		40.0		2,380					
May.....	128		64		91.6		5,630					
June.....	77		32		45.7		2,720					
July.....	30		15		21.7		1,330					
August.....	18		14		14.7		904					
September.....	14		12		13.1		780					
The year.....	128		10		27.1		19,700					

## PROVO RIVER AT FORKS, UTAH

LOCATION.—Staff gage in sec. 26, T. 5 S., R. 3 E., at Vivian Park summer resort, just above Forks and 400 feet above South Fork.

DRAINAGE AREA.—600 square miles.

RECORDS AVAILABLE.—November, 1911, to September, 1928. Records have been obtained at various points below mouth of South Fork since 1890.

EXTREMES.—Maximum discharge during year, 1,700 second-feet May 15 (gage height, 4.96 feet); minimum, 157 second-feet September 8–10.

1911–1928: Maximum discharge, 3,180 second-feet June 11, 1921 (gage height, 6.13 feet); minimum, 122 second-feet September 18, 1924.

REMARKS.—Records fair. Station is below diversions for irrigation in Heber Valley and above those in vicinity of Provo. Small lakes at headwaters have been utilized as storage reservoirs, and flow is slightly regulated. Results of seven discharge measurements furnished by Utah Power & Light Co.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	255	341	399	304	289	289	469	820	1,280	296	235	189
2.....	255	312	399	363	289	304	460	1,080	1,120	296	228	189
3.....	252	325	399	354	296	296	450	1,120	990	296	228	183
4.....	255	316	381	337	289	337	441	885	890	273	228	183
5.....	259	325	337	329	296	390	413	810	776	289	228	175
6.....	252	329	354	329	320	381	413	820	737	296	225	167
7.....	252	399	296	320	296	408	394	895	680	304	225	162
8.....	252	320	289	304	281	399	376	1,180	643	320	219	157
9.....	255	337	320	304	289	399	394	1,290	606	296	212	157
10.....	255	541	372	304	273	426	394	1,640	560	289	212	157
11.....	255	513	345	312	266	417	394	1,640	541	289	216	162
12.....	255	426	354	320	296	550	413	1,560	625	289	209	162
13.....	252	417	363	329	266	408	413	1,560	579	289	216	162
14.....	248	541	372	320	259	372	376	1,310	550	289	216	167
15.....	248	465	304	312	289	376	350	1,700	474	281	216	167
16.....	255	417	329	312	194	337	350	1,560	417	289	209	167
17.....	255	436	345	289	238	329	341	1,160	408	296	219	167
18.....	255	426	231	296	259	337	350	1,090	417	289	206	167
19.....	248	408	289	296	273	350	354	1,030	390	289	200	167
20.....	242	394	289	289	281	359	341	1,030	363	273	194	167
21.....	242	372	289	231	281	381	341	1,220	329	270	194	172
22.....	242	372	320	231	289	381	308	1,420	320	270	189	172
23.....	242	363	329	304	281	426	308	1,500	296	262	189	172
24.....	248	354	304	304	281	445	367	1,270	285	262	189	169
25.....	248	363	329	304	273	925	376	1,220	304	248	194	169
26.....	252	372	329	296	273	820	385	1,280	329	252	189	162
27.....	255	372	329	273	273	629	441	1,300	312	248	194	162
28.....	292	408	345	252	273	565	555	1,400	304	252	189	162
29.....	316	513	329	296	273	489	675	1,470	312	258	189	172
30.....	300	408	329	304	-----	546	723	1,390	304	259	189	172
31.....	489	-----	304	289	-----	460	-----	1,340	-----	219	189	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	489	242	264	16,200
November.....	541	312	396	23,600
December.....	399	231	332	20,400
January.....	363	231	303	18,600
February.....	320	194	277	15,900
March.....	925	289	436	26,800
April.....	723	308	412	24,500
May.....	1,700	810	1,260	77,500
June.....	1,280	285	538	32,000
July.....	320	219	278	17,100
August.....	235	189	208	12,800
September.....	189	157	169	10,100
The year.....	1,700	157	407	296,000



## SOUTH FORK OF PROVO RIVER AT FORKS, UTAH

LOCATION.—Staff gage in sec. 26, T. 5 S., R. 3 E., at Vivian Park summer resort, just above Forks and a quarter of a mile above confluence with Provo River.

DRAINAGE AREA.—30 square miles.

RECORDS AVAILABLE.—November, 1911, to September, 1928.

EXTREMES.—Maximum discharge during year, 71 second-feet May 28; minimum, 16 second-feet June 15.

1911-1928: Maximum discharge, 123 second-feet May 27, 1922; minimum, 14 second-feet April 17, 1925.

REMARKS.—Records fair. Station below all diversions. Flow regulated by diversions above. Results of seven discharge measurements furnished by Utah Power & Light Co.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	27	36	29	29	31	23	33	36	49	26	30	32
2.....	27	34	29	29	28	23	31	38	42	26	30	34
3.....	27	34	29	29	28	25	31	35	38	26	28	34
4.....	27	34	29	29	28	26	30	33	36	26	28	34
5.....	27	34	29	29	26	26	28	31	33	26	29	34
6.....	26	39	29	30	28	25	26	31	30	26	30	34
7.....	26	45	28	30	26	25	25	33	29	26	30	33
8.....	26	43	26	28	28	25	25	34	29	26	30	32
9.....	30	48	26	28	28	25	26	44	29	26	30	32
10.....	36	52	28	28	28	25	26	57	29	26	33	32
11.....	36	34	28	30	28	25	26	60	28	26	36	30
12.....	36	33	28	30	28	30	28	68	28	26	33	30
13.....	37	32	27	30	23	26	26	60	28	26	33	30
14.....	36	29	27	28	23	26	27	57	19	26	33	34
15.....	36	29	27	28	25	26	28	52	16	26	33	34
16.....	36	29	27	29	23	26	28	44	19	27	43	33
17.....	36	29	27	29	23	26	28	40	23	27	37	33
18.....	37	29	26	29	24	26	30	38	26	27	34	35
19.....	36	29	26	29	24	26	30	38	26	27	36	35
20.....	36	29	27	29	24	26	30	38	26	27	34	35
21.....	36	29	27	29	25	26	30	40	24	27	32	35
22.....	36	29	28	28	25	26	30	44	26	27	32	33
23.....	36	29	28	29	25	26	30	46	26	27	32	33
24.....	36	26	28	29	25	28	30	45	26	27	29	33
25.....	36	26	28	29	24	43	30	45	26	27	26	34
26.....	36	26	28	30	24	36	30	45	26	27	27	33
27.....	36	26	28	29	23	33	30	45	26	27	29	33
28.....	36	27	29	29	23	33	30	71	26	27	29	33
29.....	37	29	29	30	23	35	33	62	26	29	30	33
30.....	34	29	29	31	-----	35	33	50	26	29	30	33
31.....	37	-----	29	31	-----	35	-----	50	-----	26	32	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	37	26	33.5	2,060
November.....	52	26	32.6	1,940
December.....	29	26	27.8	1,710
January.....	31	28	29.2	1,800
February.....	31	23	25.6	1,470
March.....	43	23	28.0	1,720
April.....	33	25	28.9	1,720
May.....	71	31	45.5	2,800
June.....	49	16	28.0	1,670
July.....	29	26	26.7	1,640
August.....	43	26	31.5	1,940
September.....	35	30	33.1	1,970
The year.....	71	16	30.9	22,400

## SEVIER LAKE BASIN

## SEVIER RIVER AT HATCH, UTAH

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 28, T. 36 S., R. 5 W., at county bridge at Hatch, 2 miles below confluence of Asay and Mammoth Creeks; which form Sevier River.

DRAINAGE AREA.—260 square miles.

RECORDS AVAILABLE.—June, 1911, to September, 1928 (fragmentary).

EXTREMES.—Maximum and minimum discharge during year not determined.

1911-1928: Maximum discharge not determined, occurred May 25, 1914, owing to failure of Hatchtown Dam; maximum recorded discharge, 1,490 second-feet May 26, 1922 (gage height, 5.25 feet); minimum, 10 second-feet on several days in 1912 when water was being stored at reservoir upstream.

REMARKS.—Records poor; gage-height record fragmentary.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				98	380	} a 300	}	} a 74	} a 65
2				98	421				
3				98	410				
4					392	} 215	}	}	}
5					395				
6					430	197	} a 95	} 74	} 64
7					495	192			
8				} a 100	505	184	}	}	} 62
9		84			478	179			
10					430	169			
11		84		} 101	} a 400	} a 150	} 87	} a 80	} a 63
12									
13									
14		81					}	}	} 65
15									
16		84		} a 101		137	} a 85	} 84	}
17					355	137			
18					329	137			
19				101	302	137	}	}	}
20		84			295	133			
21					267	128	} 81	}	} a 66
22		81		} a 110	264	126			
23					258				
24					305	} a 118	} a 78	} a 75	}
25					305				
26				120	325	110	}	}	}
27			150	146	355				
28				179	355	} a 108	} 74	}	}
29				218	358				
30				295	386	105	} a 74	}	} 68
31			98		375				
<hr/>									
Month	Mean	Run-off in acre-feet	Month				Mean	Run-off in acre-feet	
April	117	6,960	August				76.4	4,700	
May	373	22,900	September				65.1	3,870	
June	164	9,760							
July	85.7	5,270	The period				147	53,500	

\* Estimated.

## SEVIER RIVER NEAR KINGSTON, UTAH

LOCATION.—Water-stage recorder in NW.  $\frac{1}{4}$  sec. 16, T. 30 S., R. 3 W., 1 mile west of Kingston and 2 miles above mouth of East Fork.

DRAINAGE AREA.—1,110 square miles.

RECORDS AVAILABLE.—June, 1914, to September, 1928.

EXTREMES.—Maximum discharge during year, 536 second-feet March 26 (gage height, 2.31 feet); minimum, 14 second-feet for several days during the summer.

1914-1928: Maximum discharge, 1,460 second-feet May 21, 1922 (gage height, 4.92 feet); minimum, 11 second-feet July 4, 1924 (gage height 0.70 foot).

REMARKS.—Records fair. Numerous diversions above station; none between gage and mouth of East Fork. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	155	112	152	} • 200		165	212	50	57	16	16	19
2.....	152	112	162			171	181	68	35	15	16	18
3.....	158	112	168			184	174	102	23	15	16	18
4.....	146	112	162			215	174	162		15	16	17
5.....	140	112	149		328	230	165	146		14	16	17
6.....	140	} • 125	146	} • 130	245	215	165	126	• 27	14	16	16
7.....	140				226	219	165	108		14	16	16
8.....	140				194	230	155	102		14	16	15
9.....	140				171	223	146	135		14	16	15
10.....	140				158	215	140	168	15	14	16	14
11.....	} • 120			} • 130	140	215	146	168	16	14	16	14
12.....		140			129	234	149	158	15	15	17	18
13.....		140			126	210	149	212	15	15	17	20
14.....		102	140			181	129	194	15	16	17	20
15.....		88	140			177	121	171	15	16	16	20
16.....	86	135		} • 140	} • 130	174	115	152	15	19	174	20
17.....	86	135				174	118	140	15	19	62	20
18.....	86	135				181	123	135	15	18	33	20
19.....	86	135				198	121	123		18	23	21
20.....	86	137				143	226	115	115	17	20	21
21.....	86	137			149	253	110	112	• 15	15	20	21
22.....	83	149			165	269	105	105		15	21	23
23.....	} • 110	152			146	273	100	98		16	23	18
24.....		152			146	269	90	86		17	24	18
25.....		152			146	302		79	14	16	25	19
26.....		152			146	433	• 60	88		15	28	19
27.....		162			149	439		95	• 15	16	115	20
28.....	135	174			149	413		90		16	28	21
29.....	129	171			149	333	30	88		16	25	23
30.....	118	165				261	30	75	15	14	23	23
31.....	112					223		60		14	19	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	155		118	7,260
November.....	174		137	8,150
December.....			143	8,790
January.....			130	7,990
February.....			165	9,490
March.....	439	165	242	14,900
April.....	212	30	122	7,260
May.....	212	50	120	7,380
June.....			18.4	1,090
July.....	19	14	15.5	953
August.....	174	16	29.2	1,800
September.....	23	14	18.8	1,120
The year.....	439		105	76,200

• Estimated.

## PIUTE RESERVOIR NEAR MARYSVALE, UTAH

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 3, T. 29 S., R. 3 W., at Piute Dam, 11 miles south of Marysvale.

RECORDS AVAILABLE.—March, 1914, to September, 1928.

REMARKS.—Records furnished by Sevier River water commissioner.

*Daily contents, in acre-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1-----	9, 100	8, 900	12, 600	20, 260	30, 400	40, 905	54, 020	42, 945	38, 695	21, 100	1, 600
2-----	8, 455	8, 700	12, 765	20, 680	30, 720	41, 160	54, 210	42, 265	38, 610	20, 400	1, 370
3-----	8, 050	8, 650	12, 930	20, 960	31, 120	41, 415	54, 400	41, 585	38, 185	19, 700	1, 040
4-----	7, 690	8, 900	13, 040	21, 310	31, 600	41, 670	54, 600	40, 990	37, 760	18, 920	740
5-----	7, 520	8, 600	13, 150	21, 660	32, 060	42, 010	54, 800	40, 480	37, 250	18, 160	640
6-----	7, 600	8, 600	13, 260	22, 000	32, 720	42, 350	54, 900	39, 800	36, 400	17, 560	540
7-----	7, 780	8, 700	13, 425	22, 220	33, 130	42, 775	54, 900	39, 290	35, 600	16, 840	440
8-----	7, 915	8, 800	13, 645	22, 575	33, 600	43, 200	54, 800	38, 750	34, 960	15, 880	340
9-----	8, 005	8, 800	13, 920	22, 950	34, 000	43, 560	54, 700	38, 270	34, 000	14, 920	240
10-----	8, 050	8, 800	14, 250	23, 325	34, 410	43, 920	54, 600	37, 930	33, 200	14, 140	260
11-----	8, 095	8, 850	14, 690	23, 700	34, 640	44, 280	54, 500	37, 590	32, 400	13, 260	300
12-----	8, 140	8, 900	15, 160	24, 075	34, 480	44, 640	54, 305	37, 335	31, 440	12, 490	300
13-----	8, 050	9, 000	15, 580	24, 450	35, 120	45, 000	54, 210	37, 335	30, 640	11, 830	270
14-----	7, 960	9, 100	15, 890	24, 825	35, 440	45, 360	53, 925	37, 420	30, 160	11, 200	240
15-----	7, 870	9, 200	16, 240	25, 275	35, 760	45, 720	53, 450	37, 505	29, 700	10, 400	180
16-----	7, 915	9, 500	16, 480	25, 575	36, 080	45, 990	52, 975	37, 675	29, 400	10, 000	700
17-----	7, 960	9, 800	16, 720	25, 875	36, 485	46, 170	52, 405	38, 100	28, 950	9, 500	600
18-----	8, 050	10, 100	16, 960	26, 175	36, 910	46, 350	51, 455	38, 440	28, 350	8, 900	500
19-----	8, 140	10, 400	17, 140	26, 550	37, 250	46, 620	50, 695	38, 780	27, 600	8, 230	50
20-----	8, 230	10, 650	17, 320	26, 850	37, 675	46, 895	50, 030	39, 120	27, 000	7, 600	0
21-----	8, 320	10, 900	17, 500	27, 150	38, 100	47, 275	49, 460	39, 375	26, 475	7, 080	0
22-----	8, 410	11, 000	17, 620	27, 450	38, 440	47, 750	48, 890	39, 630	26, 025	6, 400	0
23-----	8, 500	11, 150	17, 860	27, 750	38, 695	48, 125	48, 125	39, 800	25, 500	5, 760	0
24-----	8, 600	11, 300	18, 080	28, 050	38, 950	48, 700	47, 655	39, 715	25, 050	5, 130	0
25-----	8, 650	11, 450	18, 280	28, 275	39, 290	49, 460	46, 990	39, 460	24, 750	4, 570	0
26-----	8, 700	11, 610	18, 530	28, 500	39, 630	50, 220	46, 260	39, 290	24, 150	4, 080	0
27-----	8, 800	11, 830	18, 790	28, 800	39, 970	50, 980	45, 360	39, 035	23, 400	3, 600	0
28-----	8, 900	11, 995	19, 050	29, 100	40, 310	51, 740	44, 820	38, 865	22, 950	3, 060	0
29-----	9, 000	12, 160	19, 375	29, 400	40, 565	52, 500	44, 280	38, 695	22, 500	2, 600	0
30-----	9, 050	12, 380	19, 700	29, 700	-----	53, 070	43, 560	38, 695	22, 000	2, 120	0
31-----	9, 000	-----	19, 980	30, 080	-----	53, 640	-----	38, 695	-----	1, 800	0

NOTE.—Reservoir empty during September.

## SEVIER RIVER BELOW PIUTE DAM, NEAR MARYSVALE, UTAH

LOCATION.—Water-stage recorder in sec. 34, T. 28 S., R. 3 W., 700 yards below dam of Piute Reservoir and 11 miles south of Marysvale.

DRAINAGE AREA.—2,440 square miles.

RECORDS AVAILABLE.—May to August, 1911; May, 1912, to September, 1928.

EXTREMES.—1911-1928: Maximum discharge, 2,600 second-feet part of May 23 and 24, 1922 (gage height, 4.45 feet); practically no flow when reservoir gates are closed.

REMARKS.—Records good except those for discharges below 75 second-feet, which are fair. No diversion between gage and Piute Reservoir. Flow regulated by operation of gates in dam. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.
1.....	457	316	116			7		561	319	635	396	83
2.....	449	275	116			10	" 4	553	359	652	381	83
3.....	449	244	116			10		577	473	643	351	83
4.....	381	206	116			10	26	561	489	686	330	83
5.....	162	201	116			10	42	577	564	745	296	83
6.....	125	201	100		" 4	11	134	610	619	745	269	86
7.....	129	201	53			11	190	610	619	720	262	86
8.....	129	201	43			10	190	610	619	711	250	83
9.....	148	201	23			11	190	610	619	711	244	83
10.....	162	201				20	190	602	618	694	244	86
11.....	162	201				22	190	594	610	694	250	83
12.....	174	201			6	35	212	528	662	686	250	76
13.....	190	184			10	45	296	457	488	677	244	10
14.....	179	162			11	39	396	418	457	635	244	83
15.....	120	80				27	396	359	457	618	244	83
16.....	111	71		" 3		26	434	190	473	610	275	80
17.....	111	76				19	569	104	520	610	316	83
18.....	111	86				19	577	174	528	618	275	80
19.....	111	86				19	577	174	528	610	201	76
20.....	111	94	" 2			14	561	184	526	618	168	76
21.....	111	104			" 4	14	504	237	559	618	162	80
22.....	111	139				13	480	237	465	618	139	80
23.....	111	120				12	465	275	465	610	129	80
24.....	111	120					473	381	465	602	129	76
25.....	111	120					528	396	457	585	125	74
26.....	111	120					561	396	473	561	129	74
27.....	111	120				" 4	569	396	528	528	190	83
28.....	157	116			4		520	403	465	504	120	83
29.....	212	111			6		520	369	465	480	108	86
30.....	118	116					553	269	553	448	97	86
31.....	316							269		426	83	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	457	111	179	11,000
November.....	316	71	156	9,280
December.....	116		27.2	1,670
January.....			3	184
February.....			4.6	265
March.....	45		14.4	885
April.....	577		345	20,500
May.....	610	104	409	25,100
June.....	618	316	512	30,500
July.....	745	426	623	38,300
August.....	396	83	223	13,700
September.....	90	74	81.7	4,860
The year.....	745		215	156,000

\* Estimated.

## SEVIER LAKE BASIN

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## SEVIER RIVER AT SEVIER, UTAH

LOCATION.—Water-stage recorder in E.  $\frac{1}{2}$  sec. 32, T. 25 S., R. 4 W., at Sevier, 100 yards above railroad bridge on Y spur of Denver & Rio Grande Western Railroad. Clear Creek enters immediately above station; prior to November 15, 1916, it entered 45 yards below station.

DRAINAGE AREA.—2,850 square miles, including area of Clear Creek.

RECORDS AVAILABLE.—May, 1911, to September, 1928.

EXTREMES.—1911–1928: Maximum discharge (estimated), 2,800 second-feet during last week in May, 1922; minimum, 10 second-feet November 27, 1919 (gage height, 1.15 feet).

REMARKS.—Records fair. A few small ditches divert between station and Piute Dam. Flow regulated by operation of gates in Piute Dam. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	401	309	145	} 44	}	52	66	638	545	580	422	122
2.....	380	296	148			62	649	524	618	408	116	
3.....	373	275	145	} 44	} 40	59	659	609	623	402	109	109
4.....	367	244	145			59	654	604	618	384	107	
5.....	272	232	142	} 45	} 38	61	72	633	628	644	358	107
6.....	167	232	140			} 64	104	660	704	680	328	109
7.....	148	229	120	} 66	199		680	698	670	311	111	
8.....	148	229	100		} 45	232	704	698	670	300	109	
9.....	156	226	81	} 36		244	752	686	664	291	109	
10.....	170	226	76		} 37	256	740	675	654	287	107	
11.....	181	223	66	} 46		70	259	722	670	644	291	105
12.....	184	223	} 55		} 38	72	259	710	670	644	294	103
13.....	193	223		} 40		} 66	76	284	664	638	638	297
14.....	205	208	} 40		} 68		83	371	590	536	614	297
15.....	187	184		} 45		} 40	79	402	536	520	594	297
16.....	142	124	} 40		} 97		68	408	491	516	580	291
17.....	140	124		} 40		} 101	72	458	348	540	571	341
18.....	137	124	} 40		} 83		66	528	348	560	562	341
19.....	134	124		} 40		} 81	66	562	365	580	554	294
20.....	134	129	} 40		} 94		68	558	368	590	554	235
21.....	132	129		} 45		} 40	72	528	393	590	549	180
22.....	132	140	} 40		} 76		76	503	419	549	545	170
23.....	132	153		} 40		} 83	83	495	425	528	540	162
24.....	134	145	} 40		} 81		81	488	488	524	528	155
25.....	137	148		} 40		} 94	94	495	567	516	511	153
26.....	140	150	} 40		} 97		40	97	562	599	503	150
27.....	137	150		} 40		} 101	40	101	580	614	528	488
28.....	142	150	} 40		} 83		39	83	585	664	532	469
29.....	208	145		} 40		} 74	38	74	562	746	499	455
30.....	223	137	} 44		} 68		44	68	594	654	503	442
31.....	244	-----		44		-----	68	-----	567	-----	432	133

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	401	132	193	11,900
November.....	309	124	188	11,200
December.....	148	-----	73.1	4,490
January.....	-----	-----	44.8	2,750
February.....	-----	-----	38.9	2,240
March.....	101	-----	71.6	4,400
April.....	594	59	361	21,500
May.....	752	348	582	35,800
June.....	704	499	582	34,600
July.....	680	432	575	35,400
August.....	422	133	259	15,900
September.....	122	91	105	6,250
The year.....	752	-----	257	186,000

\* Estimated.

## SEVIER RIVER NEAR VERMILION, UTAH

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 19, T. 22 S., R. 1 W., at highway bridge half a mile below Rockyford Dam, 2 miles northeast of Vermilion, and 4 miles above mouth of Lost Creek.

DRAINAGE AREA.—3,340 square miles.

RECORDS AVAILABLE.—July to September, 1912; July, 1914, to September, 1928.

EXTREMES.—1914–1928: Maximum discharge, 2,400 second-feet May 30, 1922 (gage height, about 8.1 feet); minimum, about 1 second-foot July 16–18, 1923 (seepage only).

REMARKS.—Records fair. Entire flow usually diverted during low-water season. Flow past station at such times represents seepage and return flow from canals. Flow also regulated by dams and reservoirs above. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	84	61	120	* 130	73	73	46	117	* 5	162	22
2	35	64	61	120		75	77	44	78		158	34
3	34	54	61	128		77	73	43	49		173	23
4	34	57	61	* 125		78	98	40	32		193	20
5	34	61	60		141	82	181	39	26		209	23
6	33	68	60		152	87	173	35	18	* 5	205	39
7	32	73	58		158	155	34	17	185		38	
8	29	77	57	117	155	100	35	25	122		37	
9	27	80	60	148	* 85	78	36	36	68		36	
10	29	80	63	144		71	38	49	38		34	
11	28	77	63	* 125		140	82	41	41	54	19	34
12	26	75	63			134	82	31	50	63	3	34
13	25	73	76		148	94	30	82	80	3	35	
14	29	71	114		* 125	87	24	105	98	3	34	
15	31	73	108	96		41	120	125	3	36		
16	30	105	98	* 125		96	53	209	138	* 5	3	36
17	29	95	96			96	51	279	148		16	5
18	25	90	94		96	51	294	177	16		10	35
19	24	85	94		96	50	254	177	18		18	34
20	24	80	94	71	96	51	232	201	21		30	34
21	26	71	* 125	* 125	34	96	61	218	214	35	32	31
22	26	68			37	* 87	60	236	222	50	23	61
23	26	63			41		58	269	205	61	17	128
24	27	61			* 105		46	53	254	214	82	75
25	26	61	47	50		218	199	98	73			
26	28	61	* 120	117		48	48	177	196	122	* 5	69
27	28	61		120		41	46	173	128	141		57
28	29	61		120	34	44	155	80	141	48		
29	32	60		122	71	* 75	46	144	48	138		47
30	47	61	130	47	158		20	144	30			
31	84	* 120	130	* 75	134		162		* 75			
			180									

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	84	24	31.2	1,920
November	105	54	71.7	4,270
December		57	88.0	5,410
January			124	7,620
February	158	34	106	6,100
March			84.1	5,170
April	181	24	67.2	4,000
May	294	34	135	8,300
June	222	17	108	6,430
July	162		42.7	2,630
August	209		55.5	3,410
September	128	20	42.4	2,520
The year	294		79.5	57,800

\* Estimated.

## SEVIER RIVER BELOW SAN PITCH RIVER, NEAR GUNNISON, UTAH

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 14, T. 19 S., R. 1 W., 1,000 feet below mouth of San Pitch River and 3 miles west of Gunnison.

DRAINAGE AREA.—4,880 square miles.

RECORDS AVAILABLE.—October, 1917, to September, 1928. Records obtained at station half a mile above confluence with San Pitch River June, 1900, to September, 1917.

EXTREMES.—1917-1928: Maximum discharge, 2,620 second-feet June 1, 1922 (gage height, 5.32 feet); minimum, 31 second-feet July 7, 1928.

REMARKS.—Records good, except those for estimated periods which are fair. Most of flow is diverted above station during irrigation season. Flow regulated by operation of reservoirs and numerous irrigation diversions above. Station maintained and records compiled in cooperation with Sevier River water commissioner.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	141	237	179		234	214	179	173	253	100	130	64
2.....	130	218	186		230	214	186	214	214	82	139	64
3.....	122	200	186		237	234	173	237	189	68	139	78
4.....	125	179	182	• 215	249	253	166	190	144	57	160	80
5.....	125	182	179		278	241	157	163	119	43	186	80
6.....	127	190	179		270	230	179	173	109	35	196	78
7.....	122	193			270	218	176	207	97	31	218	100
8.....	125	200	• 185	230	257	214	169	257	82	32	210	102
9.....	127	226			245	210	153	299	63	32	190	100
10.....	130	218	193		245	207	139	348	61	32	150	102
11.....	127	210	200	• 238	241	200	136	367	70	32	141	105
12.....	127	207	207		237	210	125	308	80	32	125	95
13.....	127	207	222		226	222	115	376	139	32	100	95
14.....	133	207	234	245	230	226	105	380	166	38	95	100
15.....	136	207	225		257	222	100	304	173	45	95	105
16.....	130	204	216		257	204	100	326	186	45	87	107
17.....	130	214	207	• 220	249	200	105	404	204	45	78	117
18.....	133	249			237	200	109	394	207	48	64	117
19.....	133	245			245	204	109	427	230	52	66	117
20.....	133	230	• 200		237	210	117	442	200	50	66	114
21.....	133	210		193	222	214	117	423	160	52	74	117
22.....	136	193			204	226	117	408	196	64	78	117
23.....	139	182	200		190	234	112	427	186	72	76	125
24.....	130	182			176	234	102	437	179	107	70	186
25.....	127	182		• 196	169	214	100	447	186	122	66	160
26.....	133	182	• 200		190	234	97	481	179	141	82	153
27.....	141	182			196	230	95	452	179	153	87	157
28.....	160	182		200	186	230	105	371	173	166	84	150
29.....	207	190		210	182	204	127	335	147	157	84	144
30.....	190	186		220		196	150	295	122	153	87	136
31.....	186		200	250		182		270		141	72	
Month	Maximum		Minimum		Mean		Run-off in acre-feet					
October.....	207		122		138		8,480					
November.....	249		179		203		12,100					
December.....					198		12,200					
January.....					217		13,300					
February.....	278		169		229		13,200					
March.....	253		182		217		13,300					
April.....	186		95		131		7,800					
May.....	481		163		333		20,500					
June.....	253		61		157		9,340					
July.....	166		31		72.9		4,480					
August.....	218		64		113		6,950					
September.....	186		64		112		6,660					
The year.....	481		31		177		128,000					

• Estimated.



## SEVIER BRIDGE RESERVOIR NEAR JUAB, UTAH

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 1, T. 17 S., R. 2 W., at dam of Consolidated Sevier Bridge Reservoir Co., 13 miles southwest of Juab.

RECORDS AVAILABLE.—January, 1914, to September, 1928.

REMARKS.—Gage-height record furnished by Consolidated Sevier Bridge Reservoir Co.

*Daily contents, in acre-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	1,030	-----	19,300	31,700	44,600	57,400	70,100	65,200	37,700	30,900	4,140	0
2-----	1,030	-----	19,800	32,100	45,500	57,900	70,300	63,800	37,200	29,800	4,140	0
3-----	1,030	-----	20,200	32,600	45,900	58,300	70,600	62,200	36,400	28,700	4,010	0
4-----	1,030	5,480	20,600	33,000	46,400	58,700	71,000	60,600	35,500	27,500	2,990	0
5-----	1,030	5,920	21,000	33,500	46,800	59,200	71,300	58,700	34,200	25,800	2,080	0
6-----	1,030	6,130	21,400	34,000	47,400	59,700	71,600	56,800	33,000	24,400	0	0
7-----	1,030	7,000	21,700	34,500	47,900	60,100	71,800	54,900	31,400	22,800	0	0
8-----	1,030	7,890	22,000	34,900	48,400	60,400	72,100	52,800	30,900	21,200	0	0
9-----	1,030	8,140	22,400	35,300	48,800	60,800	72,400	50,700	30,700	19,600	0	0
10-----	1,030	8,650	22,800	35,800	49,300	61,200	72,700	49,300	30,500	17,800	0	0
11-----	1,030	9,120	23,400	36,200	49,800	61,600	73,000	47,700	30,500	16,000	0	0
12-----	1,030	9,850	23,900	36,700	50,000	62,100	73,300	46,400	30,800	14,100	0	0
13-----	1,030	10,300	24,300	37,100	50,500	62,500	73,500	44,700	31,100	12,300	0	0
14-----	1,030	10,900	24,700	37,500	51,000	63,000	73,700	43,100	31,400	10,300	0	0
15-----	1,030	11,300	25,100	38,000	51,600	63,500	73,800	42,200	31,700	8,750	0	0
16-----	1,030	11,800	25,600	38,500	52,100	63,900	74,000	41,000	32,100	7,270	0	0
17-----	1,030	12,300	26,100	38,900	52,500	64,300	74,000	39,800	32,600	5,970	0	0
18-----	1,030	12,900	26,400	39,300	52,900	64,700	74,000	39,500	33,000	4,640	0	0
19-----	1,030	13,500	26,600	39,700	53,300	65,100	73,800	39,100	33,400	3,180	0	0
20-----	1,030	14,100	26,900	40,100	53,800	65,400	73,500	38,700	33,700	1,030	0	1,030
21-----	1,030	14,600	27,100	40,500	54,200	65,800	73,300	38,800	33,700	0	0	1,990
22-----	1,030	15,400	27,400	41,000	54,600	66,200	73,300	38,600	33,800	0	0	2,870
23-----	1,030	15,800	27,700	41,400	55,000	66,700	73,300	38,700	33,900	0	0	3,180
24-----	1,030	16,200	28,100	41,800	55,200	67,100	73,000	38,800	33,900	0	0	3,360
25-----	1,030	16,600	28,500	42,200	55,700	67,500	72,700	38,900	33,900	0	0	3,610
26-----	1,030	17,100	29,000	42,500	55,900	68,000	72,100	39,000	33,600	30	0	4,010
27-----	1,030	17,600	29,400	43,000	56,300	68,400	71,200	39,100	33,300	1,840	0	4,360
28-----	1,030	18,000	30,000	43,300	56,700	68,800	69,800	39,200	33,000	2,870	0	4,860
29-----	1,030	18,400	30,500	43,700	57,200	69,100	68,300	39,100	32,400	3,480	0	5,240
30-----	1,030	18,800	31,000	44,400	-----	69,500	66,800	38,500	31,800	3,740	0	5,630
31-----	1,030	-----	31,400	44,600	-----	69,800	-----	38,100	-----	4,280	0	-----

## SEVIER RIVER NEAR JUAB, UTAH

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 2, T. 17 S., R. 2 W., 1,600 feet downstream from Sevier Bridge Dam and 13 miles southwest of Juab.

DRAINAGE AREA.—5,120 square miles.

RECORDS AVAILABLE.—September, 1911, to September, 1928.

EXTREMES.—1911–1928: Maximum discharge, 2,140 second-feet June 2, 1922 (gage height, 8.50 feet); no flow March 7, 1918.

REMARKS.—Records good except those for estimated periods which are fair. No diversions between this station and that near Gunnison. Flow regulated by gates in Sevier Bridge Dam. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	155		910	510	594	119	85
2	155		969	577	640	183	82
3	149		1,020	633	682	306	80
4	143		1,090	720	759	430	85
5	155		1,150	798	773	379	87
6	155		1,200	829	784	267	87
7	155		1,260	662	822	231	82
8	146	"3	1,240	247	850	234	95
9	143		1,210	238	850	222	108
10	152		1,190	75	860	190	103
11	146		1,160	7	874	158	106
12	143		1,180	8	868	131	114
13	143		1,200	8	829	111	106
14	143		1,020	8	818	106	106
15	143		920	7	759	103	106
16	143	3	955	7	703	111	108
17	143	67	773	7	630	97	108
18	146	146	636	8	453	85	106
19	143	196	560	75	395	75	75
20	143	231	476	152	251	78	24
21	143	172	462	199	103	75	36
22	143	114	422	206	100	80	38
23	149	156	385	206	106	82	38
24	152	232	385	206	111	80	40
25	149	310	385	260	134	75	42
26	149	487	385	303	80	70	44
27	155	689	385	339	26	87	46
28	174	784	453	379	31	87	46
29	196	846	518	432	31	92	46
30	218	885	518	507	33	95	48
31	210		510		73	92	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	218	143	154	9,470
November			" 3	179
December			" 3	184
January			" 3	184
February			" 3	173
March			" 3	184
April	885	3	179	10,700
May	1,260	385	804	49,400
June	829	7	287	17,100
July	874	26	485	29,800
August	430	70	146	8,980
September	114	24	75.9	4,520
The year	1,260	3	180	131,000

\* Reservoir gates closed; discharge estimated.

## EAST FORK OF SEVIER RIVER NEAR KINGSTON, UTAH

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  sec. 13, T. 30 S., R. 3 W., 1 mile below highway bridge and 2 miles east of Kingston.

DRAINAGE AREA.—1,260 square miles.

RECORDS AVAILABLE.—April, 1914, to September, 1928. Records obtained  $1\frac{1}{2}$  miles above Rockyford Bridge March, 1913, to April, 1914; also three-fourths mile north of Kingston May to September, 1912.

EXTREMES.—1913-1928: Maximum discharge, 1,740 second-feet May 8, 1922 (gage height, 6.10 feet); minimum, 8 second-feet September 19-21, 1913 (gage height, 1.00 foot).

REMARKS.—Records fair. Station is above all diversions in vicinity of Kingston. Flow regulated at Otter Creek Reservoir, 8 miles above. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	24				16	24	194	228	206	225	51
2	21	23				17	21	172	225	213	222	48
3	21	22				20	20	120	225	213	225	48
4	21	21				24	19	80	228	213	232	47
5	21	20				23	18	51	232	213	232	46
6	21	21				21	19	100	232	213	232	46
7	21	22				22	18	249	225	213	242	46
8	21	20				23	17	239	225	213	245	43
9	21	20				21	17	235	225	222	232	42
10	21	20				20	17	235	222	232	216	42
11	21	20				20	17	239	215	232	210	40
12	21	21				22	20	245	215	232	197	36
13	21	22				23	24	245	222	235	183	36
14	21	22				24	20	235	215	235		36
15	21	22				20	20	228	215	235		36
16	21	21				18	21	228	215	235		36
17	20	21				17	61	232	215	235		36
18	22	21				17	67	232	215	225		35
19	22	21				17	54	232	213	222	145	33
20	23	21				17	34	235	215	222	140	32
21	23	21				20	24	232	215	225	133	34
22	24	21				25	24	232	215	222	115	35
23	24	20				28	37	228	215	219	104	36
24	24					28	67	225	215	219	94	36
25	24					33	54	222	215	222	87	36
26	24					51	72	228	215	222	82	40
27	24					14	109	140	235	215	225	78
28	28					15	70	161	235	205	219	70
29	28					15	52	191	232	205	222	64
30	24						30	183	232	205	232	58
31	24						24		225	232	54	48

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	28	20	22.4	1,380
November	24		20.4	1,210
December			15	922
January			15	922
February			14.0	805
March	109	16	28.1	1,730
April	191	17	49.4	2,940
May	249	51	211	13,000
June	232	206	218	13,000
July	235	206	223	13,700
August	245	54	159	9,780
September	51	32	40.6	2,420
The year	249		85.2	61,800

• Estimated.

## ROCKYFORD CANAL NEAR VERMILION, UTAH

LOCATION.—Water-stage recorder in sec. 19, 22 S., R. 1 W., 300 feet below head of canal and 2 miles northeast of Vermilion.

RECORDS AVAILABLE.—July, 1914, to September, 1928.

REMARKS.—Records good except those for estimated periods, which are fair. Gage is a short distance below wasteway that returns surplus water to Sevier River. Flow regulated by head gates and wasteway. This canal diverts from Rockyford Reservoir on Sevier River at Vermilion. Flow is dependent on water stored in reservoir and seepage and return waters below Richfield. Water is used for irrigation north of Vermilion. Station maintained and records compiled in cooperation with Sevier River water commissioner.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	51	25	41	15	a 15	30	29	73	66	89	72	59
2.....	53	32	41	14		30	29	72	81	85	71	50
3.....	52	44	41	14		30	29	72	78	81	71	59
4.....	53	44	41	a 14	15	30	30	72	76	74	71	64
5.....	53	44	41			30	29	72	76	59	68	56
6.....	53	44	41			30	29	72	76	60	67	a 40
7.....	53	44	a 15	15	a 15	30	29	71	77	57	66	
8.....	53	44				30	32	71	80	67	65	
9.....	52	44				29	33	71	77	81	65	a 40
10.....	52	44	a 34	a 15	29	33	71	87	64			
11.....	51	41			29	31	71	71	91	55	40	
12.....	51	41			a 15	15	29	30	65	66		93
13.....	51	41	27	29			37	46	64	94		47
14.....	53	41	a 17	19			29	54	39	65	90	47
15.....	54	41			29	55	29	66	89	47	a 40	
16.....	53	41			15	a 17	29	55	0	66		90
17.....	53	41	29	56			64	92		47		
18.....	51	41	27	29			56	57		87	47	
19.....	51	41	a 27	19	29	54	56	83	47	42		
20.....	51	41			29	54	0	57	78	48	41	
21.....	52	41			a 14	a 28		29	59	57	78	48
22.....	52	41	a 22	a 28				29	59	59	81	48
23.....	52	41					29	59	68	79	48	22
24.....	51	41			a 16	14	29	65	18	73	74	48
25.....	51	41	29	75			32	78	73	49	23	
26.....	52	41	17	14			29	75	39	84	71	47
27.....	53	41			30	29	75	48	89	72	45	23
28.....	53	41			30	29	75	48	87	72	57	23
29.....	54	41	a 16	14	30	29	75	48	89	72	71	23
30.....	44	41			29	76	49	90	72	71	37	
31.....	25				29		49		72	73		
Month						Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	•					54	25	51.1	3,140			
November.....						44	25	41.0	2,440			
December.....						41		28.0	1,720			
January.....								14.3	879			
February.....								20.6	1,180			
March.....						30	29	29.3	1,800			
April.....						76	29	49.2	2,930			
May.....						73	0	41.9	2,580			
June.....						90	56	72.1	4,290			
July.....						94	57	78.8	4,850			
August.....						73	45	56.8	3,490			
September.....						64	22	38.8	2,310			
The year.....						94	0	43.5	31,600			

• Estimated.

## BEAVER RIVER BASIN

## BEAVER RIVER NEAR BEAVER, UTAH

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 18, T. 29 S., R. 6 W., a quarter of a mile above city diversion dam at mouth of canyon and  $4\frac{1}{2}$  miles east of Beaver.

DRAINAGE AREA.—82 square miles.

RECORDS AVAILABLE.—June to September, 1906; March, 1914, to September, 1928.

EXTREMES.—Maximum discharge during year, 432 second-feet May 8 (gage height, 5.40 feet); minimum not recorded.

1914-1928: Maximum discharge, 785 second-feet May 25, 1922 (gage height, 6.31 feet); minimum, 7 second-feet September 27, 1924.

REMARKS.—Records fair. No irrigation diversions above station. Water is diverted by Beaver River Power Co. but returned to river several miles upstream. Flow slightly regulated by operation of power plant and storage in Kents Lake.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	29	31	29	27	25	34	42	210	202	80	37	31
2-----	29	36	29	27	24	34	40	226	185	81	34	32
3-----	30	36	29	28	25	32	39	226	173	81	34	31
4-----	30	36	24	27	26	28	38	202	153	76	34	31
5-----	31	36		27	26	28	37	205	146	73	36	31
6-----	31	39		27	24	27	37	245	140	74	37	31
7-----	30	40		28	24	28	36	290	131	73	37	31
7-----	31	38		29	24	27	35	333	122	67	37	31
9-----	30	38		29	25	26	34	324	116	59	35	31
10-----	31	37		28	26	27	40	276	108	53	35	29
11-----	32	31		27	25	28	41	234	103	48	34	29
12-----	30	36		27	25	28	45	232	105	42	32	27
13-----	30	35		27	26	28	42	200	97	51	32	27
14-----	29	34		29	26	27	43	180	90	53	36	26
15-----	27	32		27	27	26	42	168	85	50	46	26
16-----	29	34		28	27	26	51	166	85	51	35	26
17-----	27	34		27	28	28	64	142	83	48	30	27
18-----	30	31	a 26	27	26	29	64	136	82	46	31	26
19-----	29	32		28	29	32	62	136	87	43	36	26
20-----	29	31		27	26	34	57	144	93	43	43	26
21-----	28	33		26	26	40	51	155	90	44	41	25
22-----	29	31		27	26	44	50	173	89	42	39	24
23-----	29	31		26	26	43	60	168	87	45	38	24
24-----	31	31		25	27	39	67	170	86	42	36	25
25-----	33	31		25	27	53	67	195	90	44	36	26
26-----	31	31		27	29	64	74	200	90	43	36	26
27-----	32	31		25	34	67	97	213	85	42	36	32
28-----	38	30		25	34	50	117	232	81	40	34	32
29-----	34	31		25	32	45	142	245	81	39	34	28
30-----	32	30		27		39	173	234	81	39	33	26
31-----	36			25		40		223		39	33	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October-----	38	27	30.5	1,880
November-----	40	30	33.6	2,000
December-----			26.2	1,610
January-----	29	25	26.9	1,650
February-----	34	24	26.7	1,540
March-----	67	26	35.5	2,180
April-----	173	34	59.6	3,550
May-----	333	136	209	12,900
June-----	202	81	108	6,430
July-----	81	39	53.3	3,280
August-----	46	30	35.7	2,200
September-----	32	24	28.1	1,670
The year-----	333		56.3	40,900

\* Estimated.

## BEAVER RIVER AT ADAMSVILLE, UTAH

LOCATION.—Water-stage recorder in S.  $\frac{1}{2}$  sec. 30, T. 29 S., R. 8 W., 100 yards below highway bridge on road from Milford to Beaver, one-fourth mile above mouth of Indian Creek, and three-fourths mile south of Adamsville.

DRAINAGE AREA.—272 square miles.

RECORDS AVAILABLE.—December, 1913, to September, 1928.

EXTREMES.—Maximum discharge during year, 109 second-feet May 18 (gage height, 2.45 feet); minimum, less than 1 second-foot for several days during April.

1913-1928: Maximum discharge, 796 second-feet May 23, 1920 (gage height, 4.85 feet); practically no flow for parts of several years.

REMARKS.—Records fair. No diversions between station and storage reservoir of Beaver County Irrigation Co. Several ditches above station supply Adamsville and Beaver districts. Flow is practically all diverted during irrigation season.

## Daily and monthly discharge, in second-feet, 1927-28

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

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	67	14	22.0	1,350
November	74	43	53.5	3,180
December	56		51.0	3,140
January			53.0	3,260
February		31	40.0	2,300
March	56	24	34.8	2,140
April	28	1	14.1	839
May	68	1	28.6	1,760
June	28	1	6.3	375
July	3	1	1.4	86
August	2	1	1.2	74
September	3	1	1.3	77
The year	74	1	25.6	18,600

\* Estimated.

## SURFACE WATER SUPPLY, 1928, PART X

## BEAVER RIVER AT ROCKYFORD DAM, NEAR MINERSVILLE, UTAH

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 11, T. 30 S., R. 9 W., half a mile below Rockyford Dam and 4 miles east of Minersville.

DRAINAGE AREA.—512 square miles.

RECORDS AVAILABLE.—December, 1913, to September, 1928.

EXTREMES.—1913–1928: Maximum discharge, 727 second-feet June 10, 1921 (gage height, 3.53 feet); minimum (estimated), 0.3 second-foot March 19 and 20, 1914.

REMARKS.—Records fair. No diversions between dam and gage. Flow regulated by operation of gates at Rockyford Dam. Gage-height record furnished by Beaver County Irrigation Co.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	7	6	7	7	7	8	15	96	105	52	52	39
2.....	7	6	7	7	7	9	15	110	105	56	52	8
3.....	7	6	7	7	7	9	15	117	91	64	52	8
4.....	7	6	7	7	7	9	15	121	79	64	52	8
5.....	7	6	7	7	7	9	15	121	77	64	52	8
6.....	7	7	7	7	7	9	15	119	88	82	34	8
7.....	7	7	7	7	7	10	15	107	105	105	18	8
8.....	7	7	7	7	7	10	15	102	105	105	38	8
9.....	7	7	7	7	7	10	15	117	102	105	38	8
10.....	7	7	7	7	7	10	15	114	96	105	38	8
11.....	7	7	7	7	7	10	15	108	91	107	41	8
12.....	6	7	7	7	7	11	15	105	82	108	42	11
13.....	6	7	7	7	7	11	15	98	80	108	42	14
14.....	6	7	7	7	7	12	15	95	79	108	42	14
15.....	6	7	7	7	7	13	15	77	77	108	42	14
16.....	6	7	7	7	7	14	15	76	76	108	42	14
17.....	6	7	7	7	7	15	15	66	72	108	42	14
18.....	6	7	7	7	7	15	15	59	62	108	42	14
19.....	6	7	7	7	7	15	15	55	62	108	42	14
20.....	6	7	7	7	7	15	15	55	62	105	42	14
21.....	6	7	7	7	7	15	15	54	62	88	43	14
22.....	6	7	7	7	7	15	15	54	62	79	43	14
23.....	6	7	7	7	7	15	33	54	58	58	44	14
24.....	6	7	7	7	7	15	42	54	52	40	44	14
25.....	8	7	7	7	7	15	41	54	52	40	44	14
26.....	10	7	7	7	7	15	40	54	52	40	44	14
27.....	10	7	7	7	7	15	55	55	52	41	43	14
28.....	8	7	7	7	7	15	83	61	52	48	43	14
29.....	6	7	7	7	7	15	87	80	52	52	43	14
30.....	6	7	7	7	7	15	91	85	52	52	43	14
31.....	6	7	7	7	7	15	90	90	52	52	43	14

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	10	6	6.7	412
November.....	7	6	6.8	405
December.....	7	7	7	430
January.....	7	7	7	430
February.....	7	7	7	403
March.....	15	8	12.5	769
April.....	91	15	26.7	1,590
May.....	121	54	84.3	5,180
June.....	105	52	74.7	4,440
July.....	108	40	79.6	4,890
August.....	52	18	42.6	2,620
September.....	39	8	12.7	758
The year.....	121	6	30.8	22,300

## SALTON SINK BASIN

SNOW CREEK NEAR WHITEWATER, CALIF.

LOCATION.—Water-stage recorder in NW.  $\frac{1}{4}$  NW.  $\frac{1}{4}$  sec. 33, T. 3 S. R. 3 E., 580 feet above intake of Southern Pacific Co.'s ditch, below junction of forks, and  $3\frac{1}{2}$  miles southwest of Whitewater.

RECORDS AVAILABLE.—July, 1921, to September, 1928.

REMARKS.—Station at former location 100 feet below intake of Southern Pacific Co.'s ditch destroyed February 15, 1927. No record February 15 to December 15, 1927. Station rebuilt at present location December 16, 1927. Record of daily discharge furnished by Southern Sierras Power Co. Record at this station is comparable with previous combined flow of creek and Southern Pacific Co.'s ditch.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		7.2	7.5	8.0	9.2	9.5	7.2	4.6	4.2	3.9
2		7.2	7.4	8.4	9.0	9.5	6.9	4.6	4.2	3.9
3		7.2	9.4	8.9	9.0	9.0	6.8	4.6	4.2	3.9
4		7.2	9.4	8.9	8.9	8.6	6.7	4.5	4.3	3.9
5		7.2	8.6	8.8	8.8	8.6	6.7	4.5	4.3	3.9
6		7.2	6.3	11.9	8.6	8.6	6.6	4.5	4.3	3.9
7		7.2	5.4	10.6	8.6	8.6	6.3	4.5	4.2	3.8
8		7.2	4.8	9.9	8.6	8.9	6.4	4.5	4.2	3.8
9		7.2	4.3	9.6	8.6	9.0	6.3	4.5	4.1	3.9
10		7.2	3.9	9.6	8.5	8.9	6.0	4.5	4.2	3.9
11		7.2	9.0	9.6	8.7	8.6	5.8	4.5	4.3	3.9
12		7.2	8.9	10.1	9.2	8.6	6.0	4.5	4.2	4.1
13		7.2	8.7	10.5	9.4	8.7	5.8	4.9	4.3	3.9
14		7.2	8.6	11.0	9.0	8.8	5.7	6.1	4.2	3.9
15		7.2	8.6	10.4	8.9	8.5	5.7	5.1	4.2	3.9
16	7.2	7.2	8.2	10.0	8.9	8.2	5.5	4.9	4.2	4.1
17	7.2	7.2	8.1	9.6	8.8	8.1	5.5	4.6	4.2	4.1
18	7.2	7.2	8.1	9.4	8.6	7.9	5.8	4.5	4.1	4.1
19	7.2	7.2	8.0	9.3	8.6	8.1	5.8	4.4	4.1	3.9
20	7.2	7.4	8.0	9.2	8.5	8.0	5.7	4.4	4.1	3.9
21	7.2	7.4	7.9	9.2	8.4	7.9	5.5	4.4	4.1	3.9
22	7.2	7.3	7.8	9.0	8.1	7.8	5.4	4.4	4.2	3.9
23	7.2	7.2	7.8	9.2	8.1	7.6	5.4	4.3	4.2	3.9
24	7.2	7.2	7.8	11.3	8.1	7.8	5.2	4.3	4.2	3.9
25	7.2	7.2	7.8	11.0	8.0	7.6	5.2	4.3	4.1	3.9
26	7.2	7.2	7.9	11.3	8.0	7.8	5.1	4.3	4.1	3.9
27	7.2	7.2	7.8	10.8	8.4	7.8	5.0	4.3	4.1	3.9
28	7.2	7.2	7.8	10.5	8.4	7.6	5.0	4.3	4.1	3.9
29	7.2	7.4	7.9	9.8	8.7	7.5	5.0	4.2	4.1	3.9
30	7.2	7.9		9.4	8.9	7.5	4.9	4.3	4.1	4.1
31	7.2	7.6		9.2		7.4		4.3	3.9	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
December 16-31	7.2	7.2	7.20	228
January	7.9	7.2	7.26	446
February	9.4	5.9	7.64	439
March	11.9	8.0	9.82	604
April	9.4	8.0	8.65	515
May	9.5	7.4	8.29	510
June	7.2	4.9	5.83	347
July	6.1	4.2	4.54	279
August	4.3	3.9	4.17	256
September	4.1	3.8	3.93	234
The period				3,860



## FALLS CREEK NEAR WHITEWATER, CALIF.

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  NE.  $\frac{1}{4}$  sec. 33, T. 3 S., R. 3 E.,  $3\frac{1}{4}$  miles southwest of Whitewater.

RECORDS AVAILABLE.—September, 1922, to September, 1928.

REMARKS.—Station destroyed by high water of February, 1927, rebuilt December 16, 1928. No diversions. Record of daily discharge furnished by Southern Sierras Power Co.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		1.8	1.4	1.3	1.3	1.4	1.0	0.8	0.5	0.5
2.....		1.6	1.4	1.3	1.3	1.5	.9	.8	.5	.5
3.....		1.6	1.6	1.4	1.2	1.3	1.0	.7	.5	.5
4.....		1.6	1.9	1.5	1.2	1.2	.9	.7	.5	.5
5.....		1.6	2.3	1.5	1.2	1.2	.9	.7	.5	.5
6.....		1.6	2.2	1.6	1.2	1.2	.8	.6	.5	.5
7.....		1.6	2.0	1.5	1.2	1.2	.8	.6	.5	.5
8.....		1.5	1.9	1.5	1.2	1.2	.8	.7	.5	.5
9.....		1.5	1.7	1.5	1.2	1.2	.8	.7	.5	.5
10.....		1.5	1.6	1.4	1.2	1.2	.8	.6	.5	.5
11.....		1.5	1.6	1.5	1.2	1.2	.8	.6	.5	.5
12.....		1.5	1.6	1.5	1.2	1.2	.8	.6	.5	.5
13.....		1.5	1.6	1.5	1.2	1.2	.8	.7	.5	.5
14.....		1.5	1.6	1.5	1.2	1.2	.8	.8	.5	.5
15.....		1.5	1.5	1.5	1.3	1.2	.8	.7	.5	.5
16.....	1.4	1.5	1.5	1.5	1.3	1.2	.8	.6	.5	.5
17.....	1.4	1.5	1.5	1.5	1.3	1.1	.8	.6	.5	.5
18.....	1.4	1.5	1.5	1.5	1.3	1.1	.8	.5	.5	.5
19.....	1.4	1.5	1.5	1.4	1.2	1.2	.8	.5	.5	.5
20.....	1.4	1.5	1.5	1.4	1.2	1.2	.8	.5	.5	.5
21.....	1.5	1.5	1.5	1.3	1.2	1.2	.8	.6	.5	.5
22.....	1.5	1.5	1.3	1.3	1.2	1.1	.8	.6	.5	.6
23.....	1.5	1.3	1.3	1.3	1.2	1.1	.8	.6	.5	.6
24.....	1.5	1.3	1.3	1.5	1.2	1.1	.7	.5	.5	.6
25.....	1.5	1.3	1.3	1.8	1.2	1.1	.7	.5	.5	.6
26.....	4.3	1.3	1.3	1.6	1.2	1.1	.6	.5	.5	.6
27.....	2.6	1.3	1.3	1.6	1.2	1.1	.6	.5	.5	.6
28.....	2.0	1.3	1.3	1.5	1.2	1.1	.6	.5	.5	.6
29.....	1.9	1.3	1.3	1.5	1.2	1.1	.6	.5	.5	.6
30.....	1.9	1.5		1.4	1.3	1.1	.7	.5	.5	.6
31.....	1.8	1.5		1.3		1.0		.5	.5	
Month					Maximum	Minimum	Mean	Run-off in acre-feet		
December 16-31.....					4.3	1.4	1.81	57.4		
January.....					1.8	1.3	1.48	91.0		
February.....					2.3	1.3	1.56	89.7		
March.....					1.8	1.3	1.46	89.8		
April.....					1.3	1.2	1.22	72.6		
May.....					1.5	1.0	1.18	72.6		
June.....					1.0	.6	.79	47.0		
July.....					.8	.5	.61	37.5		
August.....					.5	.5	.50	30.7		
September.....					.6	.5	.53	31.5		
The period.....								620		

## OWENS LAKE BASIN

## OWENS RIVER NEAR ROUND VALLEY, CALIF.

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 10, T. 6 S., R. 31 E., below Sheep Bridge, 700 feet above mouth of Rock Creek, and 2 miles north of Round Valley.

DRAINAGE AREA.—About 450 square miles.

RECORDS AVAILABLE.—August, 1903, to September, 1923; April, 1927, to September, 1928.

EXTREMES.—1903–1923, 1927–28: Maximum discharge, 1,190 second-feet June 30, 1907 (gage height, 4.0 feet); minimum, 5.4 second-feet February 13, 1923.

REMARKS.—No diversions. Record of daily discharge and results of discharge measurements furnished by city of Los Angeles.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	163	208	181	164	168	164	150	126	305	161	109	99
2.....	172	196	184	166	164	173	152	128	305	159	107	99
3.....	168	193	178	166	173	184	161	128	312	157	107	99
4.....	167	184	171	168	175	180	168	128	312	145	99	99
5.....	165	193	171	166	170	173	180	139	322	130	102	99
6.....	166	205	173	164	168	173	180	141	322	143	102	102
7.....	168	193	166	164	166	170	161	143	315	137	99	104
8.....	173	187	162	166	166	173	154	143	302	139	99	104
9.....	175	187	164	166	164	173	150	148	291	137	95	102
10.....	175	275	151	166	159	166	150	154	288	141	95	99
11.....	175	208	155	166	159	168	148	154	288	139	90	97
12.....	175	196	157	166	161	168	143	170	262	137	90	99
13.....	175	223	162	164	164	166	161	166	226	137	90	99
14.....	175	212	164	164	166	161	137	168	209	134	93	99
15.....	175	208	164	160	157	157	137	275	198	130	93	120
16.....	175	219	164	151	148	152	134	268	193	127	95	124
17.....	175	219	162	155	157	152	134	250	189	123	95	122
18.....	175	223	153	184	164	150	132	235	186	120	102	120
19.....	175	223	155	173	166	150	130	220	189	117	95	120
20.....	175	215	153	157	166	150	130	220	189	117	104	120
21.....	175	199	153	141	166	150	128	220	184	122	99	120
22.....	175	196	155	141	161	150	128	220	184	109	99	120
23.....	175	190	149	148	164	150	130	244	184	109	97	120
24.....	175	184	151	152	157	161	126	238	184	109	99	120
25.....	178	187	153	148	164	159	126	244	184	104	97	120
26.....	237	193	155	152	164	157	126	266	180	107	93	116
27.....	196	199	155	150	164	193	128	276	177	109	97	117
28.....	193	196	157	157	164	173	125	282	166	122	102	115
29.....	187	193	162	164	161	145	125	322	161	122	97	118
30.....	184	187	157	170	-----	161	125	337	161	124	104	125
31.....	212	-----	164	168	-----	154	-----	305	-----	117	104	-----
Month	Maximum					Minimum			Mean		Run-off in acre-feet	
October.....	237					163			178		10,900	
November.....	275					184			208		12,100	
December.....	184					149			161		9,900	
January.....	184					141			161		9,900	
February.....	175					148			164		9,430	
March.....	193					145			163		10,000	
April.....	180					125			141		8,390	
May.....	337					126			209		12,900	
June.....	322					161			232		13,800	
July.....	161					104			128		7,870	
August.....	109					90			98.4		6,050	
September.....	125					97			111		6,600	
The year.....	337					90			162		118,000	

## OWENS RIVER AT PLEASANT VALLEY, NEAR BISHOP, CALIF.

LOCATION.—Water-stage recorder in NW.  $\frac{1}{4}$  sec. 24, T. 6 S., R. 31 E., 1,000 feet above Owens River Canal intake and 8 miles northwest of Bishop. Rock Creek enters 2 miles above.

RECORDS AVAILABLE.—March, 1918, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 613 second-feet May 29; minimum, 105 second-feet August 26.

1918-1928: Maximum mean daily discharge, 1,210 second-feet June 21, 1918; minimum, 98 second-feet December 26, 1921.

REMARKS.—Diversions from tributaries above station. Owens River Canal diverts water 1,000 feet below gage. Daily discharge record furnished by city of Los Angeles.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun?	July	Aug.	Sept.
1.....	241	281	240	216	224	216	204	173	514	209	175	120
2.....	241	264	239	221	221	220	192	183	512	243	173	120
3.....	236	259	234	217	231	224	206	185	527	221	175	126
4.....	230	253	226	219	241	220	230	180	512	185	169	124
5.....	225	249	222	219	229	216	239	193	503	190	167	124
6.....	222	249	222	220	224	211	242	206	509	180	153	128
7.....	225	259	216	219	224	210	206	206	484	188	143	138
8.....	221	253	213	223	219	210	196	208	442	193	137	137
9.....	226	252	213	224	218	213	189	220	419	188	128	135
10.....	226	316	206	224	211	210	184	229	417	199	121	138
11.....	225	266	213	222	213	211	182	225	407	185	119	129
12.....	224	264	213	224	216	205	181	241	363	171	116	137
13.....	224	288	216	226	219	200	179	236	328	164	114	133
14.....	224	281	219	219	221	195	179	257	293	173	124	147
15.....	221	271	219	213	208	187	179	410	284	177	128	147
16.....	221	277	221	200	200	187	176	415	274	188	137	164
17.....	222	280	215	175	214	192	170	356	271	178	141	164
18.....	222	277	206	187	221	192	168	351	272	182	123	160
19.....	222	275	209	198	224	187	166	331	272	183	110	164
20.....	224	274	209	205	226	180	168	337	272	172	133	165
21.....	224	258	207	206	226	180	165	353	270	177	137	171
22.....	224	254	211	205	219	180	166	349	265	165	109	174
23.....	226	247	207	206	222	178	168	413	261	162	109	174
24.....	221	246	205	208	214	197	160	439	268	152	117	174
25.....	232	251	205	211	218	192	154	478	276	171	107	175
26.....	281	258	207	210	221	182	148	526	265	165	105	162
27.....	253	261	212	208	224	243	150	565	257	196	115	162
28.....	246	252	213	208	216	225	153	583	233	206	119	161
29.....	244	252	216	214	218	222	148	613	215	208	111	163
30.....	245	242	211	224	-----	219	158	571	187	213	119	152
31.....	279	-----	213	224	-----	210	-----	535	-----	198	119	-----
Month						Maximum		Minimum		Mean		Run-off in acre-feet
October.....						281		221		232		14,300
November.....						316		242		264		15,700
December.....						240		205		215		13,200
January.....						226		175		213		13,100
February.....						241		200		220		12,700
March.....						243		178		204		12,500
April.....						242		148		180		10,700
May.....						613		173		341		21,000
June.....						520		187		345		20,500
July.....						243		152		187		11,500
August.....						175		105		131		8,060
September.....						175		120		149		8,870
The year.....						613		105		223		162,000

## OWENS RIVER NEAR BIG PINE, CALIF.

LOCATION.—Water-stage recorder in sec. 2, T. 11 S., R. 34 E., at Charlie's Butte, 11 miles southeast of Big Pine.

RECORDS AVAILABLE.—September, 1906, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 516 second-feet November 12; minimum, 50 second-feet August 11 and September 6.

1906-1928: Maximum discharge, about 3,220 second-feet January 26, 1914 (gage height, 11.2 feet); minimum, 36 second-feet June 13-16, 1908.

REMARKS.—Considerable diversion above station from Owens River and tributaries. Daily discharge record furnished by city of Los Angeles.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	264	383	385	398	426	385	299	117	423	158	70	51
2.....	268	425	381	400	412	379	291	116	391	147	70	51
3.....	275	410	383	409	421	387	280	112	385	140	68	52
4.....	282	406	387	405	421	414	264	115	367	132	65	55
5.....	282	396	381	410	437	401	275	124	388	120	65	51
6.....	287	386	379	412	429	383	233	116	423	110	65	50
7.....	295	389	379	407	405	367	171	116	454	101	63	51
8.....	307	400	378	405	391	351	198	119	452	93	62	52
9.....	317	398	380	403	384	347	246	124	412	89	60	54
10.....	323	406	378	400	367	343	224	134	383	86	54	57
11.....	328	449	382	401	363	195	209	141	354	85	50	57
12.....	336	516	378	410	366	161	189	145	325	84	52	57
13.....	338	449	374	410	366	157	178	145	298	83	56	55
14.....	338	455	388	412	364	153	178	149	267	81	58	55
15.....	340	476	402	409	363	149	179	162	239	80	58	58
16.....	342	445	412	391	354	144	175	207	225	81	60	58
17.....	348	440	414	373	351	140	168	313	224	82	63	61
18.....	338	431	394	353	355	134	161	308	218	79	62	69
19.....	338	425	369	355	372	131	160	298	210	78	60	76
20.....	334	425	374	355	379	128	157	296	207	74	60	83
21.....	331	423	373	364	384	126	156	290	206	77	59	92
22.....	334	396	373	373	392	123	154	300	210	76	58	115
23.....	336	381	371	373	399	129	154	318	208	76	58	123
24.....	339	360	369	376	405	133	152	322	201	77	58	129
25.....	342	364	373	380	394	173	146	346	199	79	58	138
26.....	345	372	378	380	387	256	133	358	206	80	55	139
27.....	348	383	392	383	387	282	130	382	215	83	57	138
28.....	350	391	394	401	385	275	123	412	210	71	57	138
29.....	353	391	398	408	385	316	116	434	197	70	53	145
30.....	355	391	400	410	-----	299	116	454	171	71	51	149
31.....	358	-----	403	416	-----	305	-----	450	-----	70	51	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	358	264	325	20,000
November.....	516	360	412	24,500
December.....	414	369	385	23,700
January.....	416	353	393	24,200
February.....	437	351	388	22,300
March.....	414	123	247	15,200
April.....	299	116	187	11,100
May.....	454	112	239	14,700
June.....	454	171	289	17,200
July.....	158	70	90.7	5,580
August.....	70	50	59.2	3,640
September.....	149	50	82.0	4,880
The year.....	516	50	258	187,000

## SURFACE WATER SUPPLY, 1928, PART 7

## ROCK CREEK AT SHERWIN HILL, NEAR BISHOP, CALIF.

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  SW.  $\frac{1}{4}$  sec. 29, T. 5 S., R. 31 E., at Sherwin Hill, 5 miles northwest of Round Valley and 14 miles northwest of Bishop. Pine Creek enters 3 miles below station.

RECORDS AVAILABLE.—August, 1922, to September, 1928. A station was maintained 3 miles below, just above mouth of Pine Creek, from August, 1903, to November, 1923.

EXTREMES.—Maximum mean daily discharge during year, 108 second-feet May 28 and 29; minimum, 11 second-feet September 30.

1922-1928: Maximum mean daily discharge, 162 second-feet June 17, 1927; minimum, 2.4 second-feet December 10, 1923.

REMARKS.—No diversions. Daily discharge record furnished by city of Los Angeles.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	17	18	16	18	18	15	19	27	96	32	19	15
2-----	17	19	16	18	17	15	18	29	92	30	22	15
3-----	17	20	17	18	16	15	17	30	95	29	21	14
4-----	16	19	16	18	15	15	22	31	94	27	21	14
5-----	16	20	16	18	16	16	23	32	94	27	21	14
6-----	16	20	17	17	16	16	23	36	95	27	20	14
7-----	15	19	20	17	15	16	18	38	92	28	20	14
8-----	15	17	30	16	14	16	18	41	87	29	18	14
9-----	15	18	27	16	14	16	18	42	86	31	18	14
10-----	15	21	16	15	17	16	18	41	73	30	17	14
11-----	15	18	18	15	16	16	18	39	64	30	17	14
12-----	15	17	23	15	16	16	19	40	56	29	17	14
13-----	15	20	24	15	14	15	18	48	56	30	17	14
14-----	15	17	20	14	14	15	18	40	43	30	17	13
15-----	15	17	23	24	24	16	18	62	39	30	17	13
16-----	15	15	14	22	36	15	18	63	40	31	17	13
17-----	15	14	32	20	20	15	18	59	40	30	18	13
18-----	16	14	27	24	17	15	18	58	41	30	18	13
19-----	16	14	30	27	15	15	17	59	42	28	19	13
20-----	17	15	23	32	14	15	14	63	42	27	19	12
21-----	17	20	21	25	16	15	14	66	40	26	19	12
22-----	17	16	25	26	17	15	15	64	39	26	18	12
23-----	16	21	25	28	18	15	16	68	40	24	17	12
24-----	16	21	34	34	19	16	17	69	42	22	17	12
25-----	16	19	28	23	20	18	16	75	44	22	17	12
26-----	20	19	21	28	21	18	18	94	43	21	16	12
27-----	17	18	16	18	20	20	20	106	43	21	16	12
28-----	16	18	17	18	16	13	23	108	41	21	16	12
29-----	16	17	18	19	16	14	25	108	38	21	16	12
30-----	16	16	26	18	-----	19	27	107	34	21	16	11
31-----	18	-----	17	18	-----	20	-----	105	-----	20	15	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October-----	20	15	16.1	990
November-----	21	14	17.9	1,070
December-----	34	14	21.7	1,330
January-----	34	14	20.5	1,260
February-----	36	14	17.5	1,010
March-----	20	13	15.9	978
April-----	27	14	18.7	1,110
May-----	108	27	59.6	3,660
June-----	96	34	58.5	3,480
July-----	32	20	26.8	1,650
August-----	22	15	17.9	1,100
September-----	15	11	13.1	780
The year-----	108	11	25.4	18,400

## PINE CREEK AT DIVISION BOX NEAR BISHOP, CALIF.

**LOCATION.**—Water-stage recorder in NW.  $\frac{1}{4}$  sec. 19, T. 6 S., R. 31 E., a quarter of a mile above division box and forks of creek, 4 miles west of Round Valley, and 13 miles northwest of Bishop.

**RECORDS AVAILABLE.**—October, 1921, to September, 1928. A station was maintained at the mouth, 3 miles northwest, near Round Valley, from August, 1903, to November, 1923.

**EXTREMES.**—Maximum mean daily discharge during year, 170 second-feet May 26; minimum, 16 second-feet January 14–21.

1921–1928: Maximum mean daily discharge, 286 second-feet June 20, 1922; minimum, 13 second-feet part of September, October, and December, 1924, and January, 1926.

**REMARKS.**—No diversions. Daily discharge record furnished by city of Los Angeles.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	28	26	24	18	24	17	20	59	149	69	40	27
2.....	28	26	23	18	25	17	20	52	161	70	38	26
3.....	28	26	22	18	25	18	20	46	164	64	37	26
4.....	27	26	22	17	25	18	21	48	154	62	35	24
5.....	26	26	22	17	24	18	21	59	158	62	35	24
6.....	26	24	22	17	23	17	21	69	152	61	34	25
7.....	26	23	22	17	21	17	21	73	147	62	32	24
8.....	26	21	22	17	20	17	21	72	134	62	32	28
9.....	26	24	21	17	19	17	22	61	123	62	31	27
10.....	26	25	22	17	19	17	22	50	118	62	31	26
11.....	27	24	25	17	18	17	23	65	102	59	32	25
12.....	26	24	23	17	18	17	23	84	90	58	32	24
13.....	26	25	22	17	18	17	22	95	71	56	31	22
14.....	25	25	22	16	18	17	22	96	70	56	28	22
15.....	23	24	22	16	18	17	22	113	71	57	28	30
16.....	22	24	19	16	18	17	21	86	82	57	28	20
17.....	22	23	19	16	18	17	21	83	87	56	28	19
18.....	22	22	20	16	18	18	20	94	90	55	27	19
19.....	22	22	22	16	18	18	20	96	83	53	28	18
20.....	22	22	20	16	18	18	20	105	81	49	28	18
21.....	22	23	20	16	17	20	21	106	86	46	28	17
22.....	22	22	19	17	17	20	21	109	90	44	29	17
23.....	23	23	18	17	17	20	23	132	92	42	29	17
24.....	24	25	18	17	17	20	25	146	98	41	28	17
25.....	27	25	18	17	17	22	25	152	100	40	28	17
26.....	27	26	18	21	17	22	25	170	98	41	28	17
27.....	25	26	18	24	17	21	28	164	87	41	28	17
28.....	24	26	19	24	17	21	32	164	75	44	28	17
29.....	24	24	19	24	17	20	38	168	72	44	28	17
30.....	23	24	18	24	-----	20	49	161	70	43	28	17
31.....	27	-----	18	24	-----	20	-----	154	-----	41	27	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	28	22	24.9	1,530
November.....	26	21	24.2	1,440
December.....	25	18	20.6	1,270
January.....	24	16	18.1	1,110
February.....	25	17	19.2	1,100
March.....	22	17	18.5	1,140
April.....	49	20	23.7	1,410
May.....	170	46	101	6,210
June.....	164	70	105	6,250
July.....	70	40	53.5	3,290
August.....	40	27	30.5	1,880
September.....	29	17	21.3	1,270
The year.....	170	16	38.4	27,900

## ANTELOPE VALLEY BASIN

## ROCK CREEK NEAR VALYERMO, CALIF.

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 20, T. 4 N., P. 9 W.,  $1\frac{1}{4}$  miles southeast of Valyermo.

RECORDS AVAILABLE.—January, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 86 second-feet February 4 (gage height, 2.00 feet); minimum, 1.7 second-feet July 28.

1923-1928: Maximum discharge, 510 second-feet February 16, 1927. (gage height, 3.70 feet); minimum, 1.2 second-feet August 22, 1925.

REMARKS.—Records good. No diversions.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1.....	7.5	6	8	8	7.5	10	14	12	7	4.2	2.5	3.5
2.....	7	5.5	8	8	7.5	10	14	12	6.5	4.2	2.5	3.5
3.....	6.5	5.5	8	8	14	10	14	12	6.5	4.0	2.8	3.5
4.....	6	5	8	8	46	11	12	12	6	3.8	2.8	3.2
5.....	6	5.5	8	7.5	24	12	12	12	6	3.5	3.0	3.2
6.....	6	6	8.5	8	20	14	11	12	6	3.5	3.0	3.0
7.....	6	6	8.5	8	18	14	11	12	5.5	3.5	3.0	3.0
8.....	5.5	6	8	8	16	15	11	12	5.5	4.5	3.0	3.0
9.....	5	6	8	8	14	13	11	12	5.5	4.8	3.0	3.0
10.....	5	6	8	7.5	14	14	11	12	5.5	4.8	3.2	3.0
11.....	4.8	6	8	7.5	13	14	11	11	6	5	3.5	3.0
12.....	4.8	6	7.5	7.5	12	14	12	10	5.5	5	3.8	3.0
13.....	4.8	6	7.5	7.5	12	15	12	9.5	5.5	4.8	3.8	2.8
14.....	4.5	6	7.5	7.5	12	16	12	9	5	5	3.8	2.8
15.....	4.5	6	7.5	7.5	12	16	12	9	5	4.8	3.8	2.5
16.....	4.5	6	7.5	7.5	12	15	12	8.5	5	4.8	3.8	2.8
17.....	4.5	6	7.5	7.5	11	14	12	8	5	4.5	3.5	2.8
18.....	4.8	6.5	7.5	7.5	11	14	12	8	5	4.2	3.2	2.8
19.....	4.8	6.5	7.5	7.5	10	14	11	7.5	5.5	4.0	3.2	2.8
20.....	4.8	7	7.5	7.5	10	14	10	7.5	5.5	3.8	3.2	2.8
21.....	4.8	7.5	7.5	7.5	10	14	10	7.5	5.5	3.2	3.2	3.0
22.....	5	7.5	7	7.5	10	14	10	7	5	3.0	3.0	3.0
23.....	5	7.5	7	7.5	10	14	9.5	7	5	2.8	3.2	3.0
24.....	5	7.5	7	7.5	10	15	9.5	7	5	2.5	3.2	3.2
25.....	5.5	7.5	7.5	7.5	10	18	9.5	7	5	2.5	3.2	3.2
26.....	6	7.5	9.5	7.5	9.5	18	9.5	7	4.8	2.5	3.2	3.2
27.....	6	7.5	9	7.5	9.5	18	9.5	7	4.8	2.5	3.5	3.0
28.....	5.5	7.5	8.5	7.5	9.5	18	9.5	7	4.8	2.2	3.5	3.0
29.....	5	7.5	8	7.5	10	16	11	7	4.8	2.2	3.5	3.0
30.....	5	8	8	7.5	-----	14	12	7.5	4.2	2.2	3.5	3.2
31.....	6	-----	8	7.5	-----	14	-----	7	-----	2.5	3.5	-----
Month	Maximum					Minimum		Mean		Run-off in acre-feet		
October.....	7.5					4.5		5.36		330		
November.....	8					5		6.50		387		
December.....	9.5					7		7.85		483		
January.....	8					7.5		7.63		469		
February.....	46					7.5		13.3		765		
March.....	18					10		14.2		873		
April.....	14					9.5		11.2		666		
May.....	12					7		9.23		568		
June.....	7					4.2		5.40		321		
July.....	5					2.2		3.70		228		
August.....	3.8					2.5		3.25		200		
September.....	3.5					2.5		3.03		180		
The year.....	46					2.2		7.53		5,470		

## MONO LAKE BASIN

## MONO LAKE NEAR MONO LAKE, CALIF.

LOCATION.—Staff gage in lot 6, SE.  $\frac{1}{4}$  NE.  $\frac{1}{4}$  sec. 31, T. 2 N., R. 26 E., 2 miles south of Mono Lake post office.

RECORDS AVAILABLE.—June, 1912, to September, 1928 (fragmentary).

EXTREMES.—1912-1928: Maximum stage, 13.55 feet July 18, 1919; minimum, 7.93 feet December 11, 1913, and September 16, 1928.

REMARKS.—Gage-height record furnished by United States Forest Service.

*Gage height, in feet, of Mono Lake near Mono Lake, Calif., 1928*

Apr. 15-----	9.03	Aug. 18-----	8.35
May 28-----	9.13	Aug. 23-----	8.31
June 30-----	8.79	Sept. 16-----	7.93

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## WALKER LAKE BASIN

## EAST WALKER RIVER NEAR BRIDGEPORT, CALIF.

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  NE.  $\frac{1}{4}$  sec. 34, T. 6 N., R. 25 E., 1,500 feet downstream from Bridgeport Reservoir and 5 miles north of Bridgeport. Sweetwater Creek enters from left 10 miles downstream.

DRAINAGE AREA.—362 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1928; also miscellaneous measurements in 1920 and 1921. July, 1911, to September, 1914, at a site  $1\frac{1}{2}$  miles upstream.

REMARKS.—Records fair. Considerable areas of meadow and pasture are irrigated near Bridgeport. Flow is regulated by Bridgeport Reservoir of Walker River irrigation district; capacity, 42,000 acre-feet.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	30				5	63	185	240	300	239	227
2	88					5	47	185	240	300	239	227
3	88					28	53	185	240	300	239	227
4	88					53	51	206	240	300	239	218
5	88					53	51	206	240	300	239	182
6	88					69	51	206	240	300	276	182
7	88					69	51	206	240	300	313	182
8	88					142	47	221	240	300	313	182
9	88					130	47	237	240	300	313	182
10	88					145	47	237	240	300	313	182
11	88					145	47	237	240	326	313	182
12	88					65	47	237	240	326	313	182
13	88					65	47	237	240	326	313	150
14	88					61	47	237	240	326	313	118
15	88				a 5	61	47	237	240	316	313	118
16	88	a 3	a 4	a 4		61	47	237	165	285	313	75
17	88					76	67	237	165	285	313	37
18	88					76	67	237	165	285	313	37
19	88					76	106	237	147	285	313	37
20	88					59	114	237	147	285	313	37
21	88					59	114	237	130	285	313	37
22	88					59	138	210	130	285	313	37
23	88					59	138	210	130	285	313	37
24	88					65	138	210	130	285	300	37
25	88					76	144	210	130	285	263	37
26	72					88	151	210	130	273	263	37
27	56					147	181	210	251	240	263	37
28	56					185	185	210	251	240	263	37
29	56					135	185	210	251	240	239	37
30	56					81	185	210	251	240	227	37
31	56					63		240		240	227	
Month						Maximum	Minimum	Mean	Run-off in acre-feet			
October						88	56	82.3	5,066			
November						30		3.9	232			
December								a 4	246			
January								a 4	246			
February								a 5	288			
March						185	5	79.4	4,880			
April						185	47	90.1	5,360			
May						240	185	220	13,500			
June						251	130	206	12,300			
July						326	240	289	17,800			
August						313	227	285	17,500			
September						227	37	111	6,600			
The year						326		116	84,000			

a Reservoir gates closed; discharge estimated.

## WALKER LAKE BASIN

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## WALKER RIVER NEAR WABUSKA, NEV.

**LOCATION.**—Staff gage in NE.  $\frac{1}{4}$  sec. 20, T. 15 N., R. 26 E., at bridge at A. E. Parker ranch, half a mile above boundary line of Walker River Indian Reservation and 5 miles east of Wabuska.

**RECORDS AVAILABLE.**—January, 1920, to September, 1928. Comparable records were obtained July, 1902, to July, 1908, at railroad bridge 3 miles upstream.

**EXTREMES.**—1920–1928: Maximum discharge, 2,220 second-feet June 8, 1922 (gage height, 7.08 feet); no flow in August and September, 1924, and numerous periods from March to September, 1925.

**REMARKS.**—Records fair. Station is below all diversions, except for Walker River Indian Reservation. Flow regulated by Twin Lakes, Bridgeport, Poor Lake, and Topaz Lake Reservoirs; also by diversions.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	170	72	72	72	65	70	50	* 135	25	22	8
2	65	182	72	72	72	65	68	50		25	23	9
3	65	177	72	72	72	68	62	56		25	44	10
4	65	136	65	77	70	70	56	62		27	46	10
5	65	97	65	80	65	52	62	50		29	46	10
6	65	97	65	80	65	52	62	38	* 65	29	46	10
7	65	97	70	77	65	52	62	33		27	46	10
8	65	97	72	74	65	58	66	28		23	47	10
9	65	97	73	72	68	65	70	28		20	47	10
10	65	97	74	74	70	68	65	30		19	53	10
11	65	97	80	77	72	72	62	33	56	17	53	10
12	65	97	80	77	80	80	56	38		19	53	10
13	65	97	88	80	80	88	50	38		48	47	10
14	65	94	88	80	77	88	50	51		39	44	10
15	65	94	88	83	77	114	47	62		39	41	10
16	65	94	88	80	72	122	44	74	* 45	52	39	10
17	65	92		80	72	110	34	77		40	37	10
18	65	92		80	72	110	56	77		33	41	10
19	65	92		80	72	94	62	77		26	35	10
20	65	90		80	70	94	77	77		21	33	10
21	65	88	* 80	80	70	70	99	70	25	21	37	10
22	65	87		80	65	66	94	56		30	39	12
23	65	80		83	65	50	94	65		38	38	10
24	65	80		83	65	50	77	74		40	37	10
25	65	80		80	65	50	74	74		35	37	10
26	65	80		80	65	50	68	87	25	31	39	10
27	65	80		77	65	62	62	192		36	22	10
28	65	80		72	65	66	56	408		31	20	10
29	80	80		72	72	85	50	400		35	13	10
30	88	80		72		94	50	386		29	12	10
31	97		72	72		74		317		20	11	
Month	Maximum					Minimum			Mean		Run-off in acre-feet	
October	97					65			67.8		4,140	
November	182					80			100		5,950	
December						65			77.5		4,770	
January	83					72			77.4		4,760	
February	80					65			69.8		4,010	
March	122					50			74.8		4,570	
April	90					34			63.5		3,780	
May	408					28			102		6,270	
June									65.7		3,910	
July	52					17			30.6		1,840	
August	53					11			37.6		2,280	
September	12					8			10.6		595	
The year	408					8			64.5		46,900	

\* Estimated.

## SURFACE WATER SUPPLY, 1928, PART X

## WALKER RIVER AT SCHURZ, NEV.

LOCATION.—Staff gage in sec. 36, T. 13 N., R. 28 E., 50 feet below Southern Pacific Railroad bridge at Schurz, 3 miles above Walker Lake, and 6 miles below diversion dam of Walker River Indian Reservation.

DRAINAGE AREA.—2,850 square miles.

RECORDS AVAILABLE.—July, 1913, to September, 1928.

EXTREMES.—Maximum discharge during year, 350 second-feet June 1 (gage height, 2.82 feet); minimum (estimated), 1 second-foot June 9 and July 29 to September 30.

1913-1928: Maximum discharge, 2,530 second-feet June 8 and 9, 1914 (gage height, 11.0 feet); no flow during periods in 1913, 1920-1922, and 1924-1926.

REMARKS.—Records fair. Station is below all diversions. Flow regulated by Twin Lakes, Bridgeport, Poor Lake, and Topaz Lake Reservoirs; also by irrigation diversion.

## Daily and monthly discharge, in second-feet, 1928

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	80	55	75	91	51	103	9	350	5		
2	23	130	58	69	76	50	99	8	305	4		
3	22	162	55	72	74	50	98	6	179	5		
4	24	146	53	75	78	65	75	6	115	4		
5	26	115	54	78	75	68	53	6	56	4		
6	25	91	56	78	72	55	25	6	48	4		
7	26	72	45	75	72	50	18	6	37	4		
8	27	63	37	78	72	48	16	6	21	3		
9	31	56	36	78	72	45	14	5	1	3		
10	34	59	37	75	74	48	13	6	3	3		
11	33	59	48	72	72	50	11	5	4	3		
12	34	65	48	70	74	55	11	5	4	3		
13	31	66	54	75	74	55	10	5	5	3		
14	31	66	55	72	72	53	9	5	6	2		
15	31	66	49	59	72	58	7	5	7	3		
16	31	68	54	55	72	55	6	6	6	3	0.1	0.1
17	31	61	47	49	72	61	7	7	6	2		
18	27	69	44	49	72	101	8	8	6	2		
19	28	69	50	47	70	101	9	8	5	2		
20	30	68	45	45	69	91	12	7	5	2		
21	32	63	48	45	68	87	16	8	5	2		
22	33	63	47	45	68	72	50	9	5	2		
23	33	62	53	51	70	75	54	10	5	2		
24	33	61	55	49	72	78	55	8	5	2		
25	34	62	65	50	72	81	53	7	5	2		
26	35	66	61	50	70	84	43	8	5	2		
27	32	69	63	55	66	65	34	54	5	2		
28	35	68	81	84	65	50	31	69	5	2		
29	37	63	80	101	55	55	23	318	4	1		
30	41	62	81	101	-----	84	12	332	4	1		
31	63	-----	87	98	-----	96	-----	338	-----	1		

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	63	21	31.4	1,930
November	162	56	75.7	4,500
December	87	36	54.9	3,380
January	101	45	66.9	4,110
February	91	55	71.8	4,130
March	101	45	65.7	4,040
April	108	6	32.1	1,910
May	338	5	41.5	2,550
June	350	1	40.6	2,420
July	5	1	2.7	166
August	-----	-----	1	61
September	-----	-----	1	60
The year	350	-----	40.3	29,300

• Estimated.

## WALKER LAKE BASIN

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## WEST WALKER RIVER NEAR COLEVILLE, CALIF.

**LOCATION.**—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 28, T. 8 N., R. 23 E., immediately below Rock Creek (Ross Canyon), at head of Antelope Valley, and 5 miles southeast of Coleville. East Fork enters from right 10 miles upstream.

**DRAINAGE AREA.**—245 square miles.

**RECORDS AVAILABLE.**—June, 1915, to September, 1928. October, 1902 to July, 1908, at a site half a mile upstream.

**EXTREMES.**—Maximum discharge during year, 1,480 second-feet May 26 (gage height, 4.74 feet); minimum, 23 second-feet October 11 (gage height, 1.48 feet).

1915-1928: Maximum discharge, 2,710 second-feet June 12, 1921 (gage height, 5.74 feet); minimum, 5 second-feet December 3, 1924 (gage height, 1.21 feet).

**REMARKS.**—Records good except those for estimated periods, which are fair. Station is above all diversions, except one small canal  $1\frac{1}{2}$  miles upstream which diverts a maximum of 3 second-feet. Very slight regulation from storage in Poor Lake Reservoir, 17 miles upstream; capacity unknown.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	33	66	76	62	65	52	190	818	870	232	62	34
2.....	34	84	84	62	68	55	155	635	928	220	59	33
3.....	34	93	79	62	65	58	135	500	980	218	55	32
4.....	33	89	64	60	60	51	188	522	915	218	51	32
5.....	33	95	74	56	59	51	178	647	964	223	46	32
6.....	33	105	77	56	55	52	186	737	964	218	43	32
7.....	32	104	58	54	54	50	201	804	876	209	39	31
8.....	31	95	71	55	54	58	188	863	773	198	37	31
9.....	31	96	60	56	54		193	713	635	198	34	31
10.....	31	119	54	56	49	74	196	761	559	188	33	31
11.....	31	102	68	55	51		206	856	457	180	31	31
12.....	31	100	60	58	56		218	896	399	176	30	31
13.....	31	95	70	58	56		218	934	366	164	45	31
14.....	31	89	65	51	56		212	928	382	155	62	31
15.....	31	104	64	46	46		215	908	382	155	66	31
16.....	31	96	70	45	43	104	215	773	382	152	65	31
17.....	31	96	55		56		218	755	403	142	62	31
18.....	31	96	58		52		198	755	434	129	55	30
19.....	31	96	62		55		190	731	370	119	47	30
20.....	31	93	56		52		178	876	378	105	35	29
21.....	31	86	55	46	56	115	171	1,000	370	98	29	29
22.....	30	86	50		51	125	190	889	362	91	28	29
23.....	30	66	46		51	123	226	928	370	86	29	28
24.....	31	86	46		47	144	247	1,040	395	81	30	28
25.....	31	93	47		50	447	235	1,280	407	79	33	27
26.....	46	93	45	50	45	395	263	1,260	343	76	35	27
27.....	82	89	49		50	282	296	1,270	306	79	36	27
28.....	79	88	50		52	235	403	1,120	276	79	37	27
29.....	77	86	50		52	215	476	1,160	263	72	37	27
30.....	76	84	45		55	201	725	974	238	70	35	28
31.....	84	-----	64		-----	201	-----	837	-----	65	34	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	84	30	39.7	2,440
November.....	119	66	92.3	5,490
December.....	84	45	60.4	3,710
January.....	62	-----	52.2	3,210
February.....	68	43	53.8	3,090
March.....	447	50	123	7,560
April.....	725	135	237	14,100
May.....	1,280	500	876	53,900
June.....	980	238	524	31,200
July.....	232	65	144	8,850
August.....	66	28	42.6	2,620
September.....	34	27	30.1	1,790
The year.....	1,280	27	190	138,000

• Estimated.

## WEST WALKER RIVER AT HOYE BRIDGE, NEAR WELLINGTON, NEV.

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  sec. 17, T. 10 N., R. 23 E., at Hoyer Bridge, 2 miles above head of Saroni Canal and 4 miles southwest of Wellington.

DRAINAGE AREA.—504 square miles.

RECORDS AVAILABLE.—April to August, 1910; March, 1924, to September, 1928 (fragmentary). Record obtained  $3\frac{3}{4}$  miles downstream December, 1917, to May, 1924.

EXTREMES.—Maximum discharge during year, 1,100 second-feet May 27 (gage height, 8.48 feet); minimum not recorded.

1924-1928: Maximum mean daily discharge, 1,520 second-feet June 18, 1927 (gage height, 10.05 feet); minimum, 6 second-feet December 19, 1925 (gage height, 2.49 feet).

REMARKS.—Records good except those for estimated periods, which are fair. Station is below all diversions in Antelope Valley and above all diversions in Smith Valley. Flow is regulated by storage in Poor Lake and Topaz Lake Reservoirs. Gage-height record furnished by Walker River Irrigation District.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	77	126	23				120	537	597		335	180
2.....	80	55	23				126	489	491		356	183
3.....	80	42	23				128	358	524		345	178
4.....	79	38					134	333	595		315	171
5.....	77	35					144	350	710		315	161
6.....	77	33				• 40	173	385	659	• 400	313	103
7.....		32					160	421	533		313	126
8.....		31					136	524	501		267	123
9.....		29					136	595	465		231	124
10.....		28					134	583	505		238	124
11.....		28					120	636	494		238	121
12.....		28					96	687	540	480	231	118
13.....		28					99	714	673	474	231	113
14.....		30					107	717	421	467	244	111
15.....		29				• 24	48	170	731	447	232	106
16.....	• 73	28		• 22			39	194	673	349	443	100
17.....		28	• 22				39	301	579	352	438	100
18.....		27					64	291	563	364	419	45
19.....		26					64	291	530	360	385	43
20.....		24					64	285	583	329	419	41
21.....		25					63	281	648	325	417	41
22.....		25					62	285	604	333	400	40
23.....		26					59	287	576	333	383	39
24.....		25					51	265	551	358	368	39
25.....	69	25					57	232	536	352	359	38
26.....		25					132	232	826	339	366	39
27.....	68	25					117	251	1,045	325	327	40
28.....	79	25					113	311	997	323	275	41
29.....	109	24					117	379	938	323	263	41
30.....	111	24					113	436	850	336	265	42
31.....	106	24					118				311	
31.....	120											
Month	Maximum		Minimum		Mean		Run-off in acre-feet					
October.....	120				78.9		4,850					
November.....	126		24		32.4		1,930					
December.....					22.1		1,360					
January.....					• 22		1,350					
February.....					• 24		1,380					
March.....					62.9		3,870					
April.....	436				210		12,500					
May.....	1,045		333		623		38,300					
June.....	673		323		439		26,100					
July.....	480		263		391		24,000					
August.....	356		149		231		14,200					
September.....	183		38		92.4		5,500					
The year.....	1,045				187		135,000					

• Estimated.

## HUMBOLDT-CARSON SINK BASIN

## CARSON RIVER BASIN

## EAST FORK OF CARSON RIVER NEAR MARKLEEVILLE, CALIF.

LOCATION.—Staff gage in NE.  $\frac{1}{4}$  sec. 27, T. 10 N., R. 20 E., at Hangmans Bridge, 2 miles east of Markleeville. Indian Creek enters 100 feet above gage and Markleeville Creek  $1\frac{1}{4}$  miles below.

RECORDS AVAILABLE.—November, 1910, to September, 1928 (fragmentary).

EXTREMES.—Maximum discharge during year, 1,090 second-feet May 25 (gage height, 5.8 feet); minimum, 42 second-feet September 12, 19, and 27.

1910-1928: Maximum stage, 7.7 feet June 7, 1911 (discharge not determined); minimum discharge, 6 second-feet September 20, 1913.

REMARKS.—Records fair. No diversions. Low-water flow is augmented by storage developed on Silver Creek above station. Gage-height record furnished by United States Forest Service.

*Daily discharge, in second-feet, 1928*

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1					90		16		755	266	107		
2							17			266			
3							18			295	90	63	
4							19						42
5		660		166			20			266		90	
6							21				75		
7				145			22			253		75	
8							23		755	266			
9					90		24		915			52	
10					69		25	325	1,090	214	75	63	
11	325		385				26			240			
12						42	27		915			52	42
13						47	28						
14					63	47	29						
15			310				30					63	
							31					52	

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

## EAST FORK OF CARSON RIVER NEAR GARDNERVILLE, N.Y.

LOCATION.—Staff gage until May, water-stage recorder thereafter, in sec. 25, T.12 N., R. 20 E., 300 feet below dam and plant of Douglas Power Co., 1,000 feet above 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, 1928.

EXTREMES.—Maximum discharge during year, 2,570 second-feet March 26 (gage height, 3.47 feet); minimum, 37 second-feet September 24 (gage height, 0.30 foot).

1890-1893, 1900-1906, 1908-1910, 1917, 1924-1928: Maximum discharge (estimated), 5,540 second-feet December 25, 1892; minimum, 8 second-feet December 4-10 and 19-23, 1904.

REMARKS.—Records fair. Station is above all diversions in Carson Valley except Rodenbah pump ditch. Flow affected to some extent by operation of Douglas Power Co.'s plant. Gage-height record furnished by Douglas Power Co.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	77	96	130	102	110	99	455	1,340	728	168	82	55
2.....	79	96	144	102	113	110	397	1,100	728	164	84	49
3.....	79	92	130	96	113	107	383	907	772	164	84	49
4.....	77	99	118	99	99	94	364	862	702	161	82	47
5.....	84	96	102	92	92	96	426	988	668	158	86	51
6.....	77	96	94	92	84	96	412	1,100	676	154	86	53
7.....	75	96	110	99	84	102	433	1,150	650	158	84	53
8.....	77	94	99	94	82	110	463	1,300	583	154	82	47
9.....	79	133	64	104	79	113	448	1,160	525	147	84	47
10.....	77	225	86	110	66	118	455	1,240	510	140	77	45
11.....	84	158	86	104	79	116	494	1,250	478	133	61	41
12.....	77	150	75	104	89	124	525	1,170	448	130	55	41
13.....	77	127	68	107	82	124	494	1,170	383	116	53	45
14.....	77	124	70	107	89	116	486	1,120	370	96	53	43
15.....	82	130	79	94	70	121	494	1,130	350	113	53	43
16.....	84	144	113	79	70	116	533	1,020	324	121	53	41
17.....	82	144	116	79	77	147	510	997	318	116	51	41
18.....	82	130	99	84	77	161	463	988	324	110	53	41
19.....	79	140	92	84	96	164	448	970	301	94	59	39
20.....	79	136	113	86	89	185	426	1,070	289	89	70	39
21.....	84	127	133	94	99	181	397	1,060	283	99	70	41
22.....	79	140	121	96	86	220	426	988	272	99	70	41
23.....	82	130	116	92	89	235	510	970	255	92	70	41
24.....	82	118	70	92	82	235	550	1,060	225	86	64	37
25.....	77	133	68	94	94	1,060	471	1,260	220	82	68	39
26.....	116	140	68	89	107	2,570	525	1,110	197	77	68	41
27.....	136	130	68	86	104	1,390	659	1,130	193	86	66	43
28.....	144	144	75	116	107	835	790	1,040	185	89	66	41
29.....	130	144	75	147	99	625	871	997	181	79	66	43
30.....	110	133	64	121	-----	525	1,100	916	168	79	64	43
31.....	96	-----	64	102	-----	478	-----	799	-----	82	55	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	144	75	87.7	5,390
November.....	225	92	128	7,620
December.....	144	64	93.9	5,770
January.....	147	79	98.3	6,040
February.....	113	66	89.9	5,170
March.....	2,570	94	348	21,400
April.....	1,100	364	514	30,600
May.....	1,340	799	1,080	66,400
June.....	772	168	410	24,400
July.....	168	77	117	7,190
August.....	86	51	68.4	4,210
September.....	55	37	44.0	2,620
The year.....	2,570	37	257	187,000

## CARSON RIVER BASIN

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## CARSON RIVER NEAR FORT CHURCHILL, NEV.

LOCATION.—Water-stage recorder in sec. 5, T. 16 N., R. 23 E., 1 mile west of Clifton station on Mound House-Churchill branch of Southern Pacific Railroad, 9 miles west of Fort Churchill, and 10 miles east of Dayton.

DRAINAGE AREA.—1,200 square miles.

RECORDS AVAILABLE.—April, 1911, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 2,710 second-feet March 28 (gage height, 7.50 feet); no flow during August and September. 1911–1928: Maximum discharge, 6,150 second-feet January 26, 1914 (gage height, 11.5 feet); no flow during periods in 1923, 1924, 1926, and 1928.

REMARKS.—Carson and Dayton Valleys are irrigated above station. Records of daily discharge furnished by United States Bureau of Reclamation.

## Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	16	160	180		187	124	881	784	558	47		
2.....	16	194	175		180	126	808	1,110	496	45		
3.....	23	175	171		178	132	713	1,010	445	43		
4.....	27	109	167		175	150	645	760	437	41		
5.....	31	164	156		169	160	722	672	379	41		
6.....	33	154	144		162	148	690	695	342	41		
7.....	36	152	130		152	146	713	784	322	41		
8.....	37	154	124		142	148	722	871	319	40		
9.....	47	154	117		136	148	690	1,010	304	40		
10.....	57	160	118		130	146	676	955	280	39		
11.....	60	187	118		128	136	645	1,030	275	38		
12.....	59	230	120		124	132	667	1,060	247	36		
13.....	57	215	128		126	140	713	1,090	208	36		
14.....	59	264	140		128	146	722	1,110	187	36		
15.....	60	301	140	* 122	126	136	704	1,030	158	36	0	0
16.....	57	247	140		122	117	607	1,010	144	36		
17.....	57	225	140		112	109	645	955	104	35		
18.....	59	213	140		110	102	640	866	101	34		
19.....	56	210	120		118	109	579	832	88	34		
20.....	56	205	120		117	110	521	822	70	35		
21.....	56	191	130		114	110	464	885	76	35		
22.....	56	196	130		115	114	389	827	69	35		
23.....	59	215	140		117	115	368	722	63	33		
24.....	60	200	150		118	130	365	751	60	33		
25.....	63	182	150		118	171	426	784	55	32		
26.....	68	191	150		115	1,110	429	818	52	31		
27.....	84	198	150		114	2,330	429	822	52	32		
28.....	114	196	150		110	2,710	484	871	51	32		
29.....	156	189	160		112	1,580	566	784	50	32		
30.....	154	182	160			1,170	622	695	50	31		
31.....	146		160			981		649		29		

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	156	16	61.9	3,810
November.....	301	152	196	11,700
December.....	180	117	143	8,790
January.....				* 7,500
February.....	187	110	133	7,650
March.....	2,710	102	425	26,100
April.....	881	365	608	36,200
May.....	1,110	649	873	53,700
June.....	558	50	201	12,000
July.....	47	29	36.4	2,240
August.....	0	0	0	0
September.....	0	0	0	0
The year.....	2,710	0	234	170,000

\* Estimated.



MARKLEEVILLE CREEK<sup>1</sup> ABOVE MARKLEEVILLE, CALIF.

LOCATION.—Staff gage in sec. 29, T. 10 N., R. 20 E., at highway bridge above mouth of Pleasant Valley Creek, three-fourths mile above Markleeville.

RECORDS AVAILABLE.—November, 1911, to September, 1928 (fragmentary).

EXTREMES.—Maximum discharge during year, 305 second-feet April 30 (gage height, 2.80 feet); minimum, 0.5 second-foot October 5.

1911–1928: Maximum discharge, 690 second-feet June 12, 1927 (gage height, 3.80 feet); 0.05 second-foot September 5, 1921.

REMARKS.—Records fair. Town ditch, heading above gage, furnishes water for irrigation and domestic supply at Markleeville. A small ditch also diverts water for irrigation on Hot Springs ranch. Gage-height record furnished by United States Forest Service.

*Daily discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1		8				8		
2		4.8		138	43	7		
3		5.5				6.5		
4		4.1			32			
5	1.0	5			32			
6	1.8							
7						5		
8		38		176				
9		8.5			23			
10				193			1.3	
11					20	6		
12			63					
13			59			4.0	1.6	
14			59	120	20	3.0		
15				142	16			
16						2.0		
17	1.4		52			2.8		
18	1.3		50		14			
19	1.3		46	91				
20	1.3		43		11			
21	1.3		41	100				
22				82		2.0		
23			55	82	10	2.5		
24			63		10			
25				100	14	2.2		1.3
26			79	100				
27			82	74		2.0	1.6	
28	2.5		100	66		2.0		
29				63				1.6
30			305		7	2.5		
31				43		2.5		

<sup>1</sup> Known locally as Hot Springs Creek.

## MARKLEEVILLE CREEK AT MARKLEEVILLE, CALIF.

**LOCATION.**—Staff gage in SE.  $\frac{1}{4}$  sec. 21, T. 10 N., R. 20 E., at highway bridge at Markleeville, three-fourths mile below junction with Pleasant Valley Creek.

**RECORDS AVAILABLE.**—November, 1910, to September, 1928 (fragmentary).

**EXTREMES.**—Maximum discharge during year, 700 second-feet April 30 (gage height, 4.20 feet); minimum, 3.5 second-feet September 1.

1910-1928: Maximum discharge, 915 second-feet June 15, 1912 (gage height, 5.3 feet); minimum, 2.0 second-feet September 6, 1920.

The flood of March, 1907, reached a stage of about 9 feet.

**REMARKS.**—Records fair. Diversions from main river and Pleasant Valley Creek above station for irrigation and domestic use. Some regulation caused by storage on Pleasant Valley Creek. Gage-height record furnished by United States Forest Service.

*Daily discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1		29			110	28	12	3.5
2		15		336	110			
3		19						
4		19			97	17		
5		18		320	104	15		
6	15				86			
7	10						6	
8		36		424			6.5	
9		32		352	64		6.5	
10				464			6.5	
11			141		49		5	
12			176		57			
13			158			31	6	
14			158	265			5	
15					51			
16				241	47	45		
17	6.5		150			41		
18	6.5		133		41	26		
19	7		125	197			4.2	
20	7		125		29		4.2	
21	6.5		110			19		
22				176	33			
23			158	176	24			
24	6		176	197		19	4.2	
25			150	176	23		5	
26			208	197	23			
27			241				5	
28	13		292	167				
29				158			5	
30			700		28	5	6	
31				110			5	

## SURFACE WATER SUPPLY, 1928, PART X

## HUMBOLDT RIVER BASIN

## HUMBOLDT RIVER AT PALISADE NEV.

**LOCATION.**—Chain gage in sec. 36, T. 32 N., R. 51 E., at highway bridge at Palisade, 100 feet below Southern Pacific Railroad bridge and 1 mile above mouth of Pine Creek.

**DRAINAGE AREA.**—5,010 square miles.

**RECORDS AVAILABLE.**—November, 1902, to October, 1906; July, 1911, to September, 1928.

**EXTREMES.**—Maximum discharge during year, 986 second-feet May 27 (gage height, 4.61 feet); minimum, 11 second-feet August 31, September 2 and 3.

1902-1906, 1911-1928: Maximum discharge, 4,300 second-feet March 3, 1921 (gage height, 8.6 feet); minimum, 6 second-feet August 3 and 5, 1926 (gage height, 1.02 feet).

**REMARKS.**—Records fair. Some water is diverted for irrigation in valleys above station.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	26	54	124	70	97	206	710	252	882	141	25	12
2.....	27	56	121	73	103	236	700	280	860	137	24	11
3.....	28	54	117	75	122	257	650	286	772	141	24	11
4.....	28	56	114	80	144	286	641	280	700	137	23	12
5.....	31	58	107	86	177	304	576	269	641	126	23	13
6.....	30	59	101	88	182	335	524	263	516	119	22	14
7.....	28	61	95	94	186	348	476	280	484	109	23	14
8.....	30	65	87	97	177	368	469	292	453	106	22	15
9.....	30	61	79	106	173	396	453	316	402	100	21	15
10.....	31	59	74	109	169	438	431	341	361	97	20	16
11.....	30	58		112	177	417	417	375	341	88	19	17
12.....	28	63		119	186	382	417	388	424	83	18	18
13.....	28	74		122	182	374	396	431	516	80	16	16
14.....	27	79		122	173	348	388	492	508	68	16	18
15.....	28	82		126	164	332	361	586	424	66	15	20
16.....	28	84		133	160	361	341	622	374	60	15	18
17.....	30	79		141	152	402	322	680	388	58	14	18
18.....	28	79			148	388	304	690	417	57	16	17
19.....	30	77			160	368	280	690	402	53	15	16
20.....	31	74			164	341	274	695	417	50	14	16
21.....	28	77	* 70		173	335	269	700	374	48	15	15
22.....	27	82			173	348	263	715	316	47	14	15
23.....	27	82		* 90	177	341	257	700	286	44	13	16
24.....	28	84			182	354	241	720	274	41	14	17
25.....	30	90			186	745	246	750	236	37	13	16
26.....	45	90			186	745	236	816	220	34	12	15
27.....	43	93			177	680	226	986	210	33	12	15
28.....	40	98			182	690	216	962	186	30	12	16
29.....	38	111			83	186	700	231	950	160	30	12
30.....	42	135			88		710	241	926	144	27	17
31.....	51				91		720		838		26	11

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	51	26	31.5	1,940
November.....	135	54	75.8	4,510
December.....	124		80.3	4,940
January.....			96.9	5,980
February.....	186	97	166	9,550
March.....	745	206	428	26,300
April.....	710	216	385	22,900
May.....	986	252	567	34,900
June.....	882	144	423	25,200
July.....	141	26	73.3	4,510
August.....	25	11	16.9	1,040
September.....	20	11	15.5	922
The year.....	986	11	196	143,000

\* Estimated.

# HUMBOLDT RIVER BASIN

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## HUMBOLDT RIVER NEAR OREANA, NEV.

LOCATION.—Water-stage recorder in sec. 2, T. 28 N., R. 32 E., 2 miles above highway bridge near J. J. McCarthy ranch and 2 miles southwest of Oreana.

DRAINAGE AREA.—13,800 square miles.

RECORDS AVAILABLE.—January, 1896, to December, 1909; September, 1910, to September, 1922; September, 1924, to September, 1928 (fragmentary).

EXTREMES.—Maximum discharge during year, 498 second-feet April 12-14 (gage height, 3.32 feet); minimum, less than 1 second-foot during later part of September.

1896-1922, 1924-1928: Maximum discharge, 3,050 second-feet May 12, 1897 (gage height, 12.0 feet); no flow during periods in 1905, 1915, and 1918-1920.

REMARKS.—Records fair. Station is above all diversions for Lovelock district, but considerable water is diverted above station for irrigation and storage. Flow affected by operation of reservoirs of Humboldt-Lovelock Irrigation, Light & Power Co., near Humboldt.

### Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		15	12	22	10	348	93	49	83	12	3
2		14	12	22		354	125	30	93	9	3
3		12	13	22		382	122	28	69	6	3
4		12	12	23		410	120	31	62	5	3
5		12	12	24		448	120	32	67	4	2
6		12	12	26		471	118	35	74	3	2
7		11	12	32		483	117	48	81	2	2
8		10	12	35		480	117	48	75	2	2
9		10	14	38		480	138	36	69	2	2
10		11	16	38		486	140	19	64	2	2
11		11	13	38	483	142	15	63	2	1	
12		11	13	38	489	146	14	68	2	1	
13		11	19	38	495	148	12	69	2	1	
14		11	21		495	151	11	63	2	1	
15		12	21		60	492	131	10	63	2	1
16		12	21		190	477	115	9	66	2	1
17		11	22		209	450	115	13	75	2	1
18		11	22		237	433	110	15	68	2	1
19		11	22		254	398	103	18	62	2	1
20		11	22		269	390	112	22	54	2	1
21		12	22		279	382	118	38	42	2	1
22		12	22		287	382	120	48	35	3	1
23		12	22		298	376	120	52	33	3	1
24		12	22		311	362	108	40	32	3	1
25		13	22		321	295	87	40	31	3	1
26		13	22		329	232	74	52	30	3	1
27		13	22		337	167	67	68	29	3	1
28		12	22		334	120	60	75	22	3	1
29	19	12	22		343	76	58	66	18	3	1
30	17	12	22		359	64	59	68	17	3	1
31	16		22		359		58		16	3	
Month						Maximum	Minimum	Mean	Run-off in acre-feet		
November						15	10	11.8	702		
December						22	12	18.2	1,120		
March						359		159	9,780		
April						495	64	380	22,600		
May						151	58	110	6,760		
June						75	9	34.7	2,060		
July						93	16	54.6	3,360		
August						12	2	3.2	197		
September						3	1	1.5	89		

NOTE.—No record Oct. 1-28 and Jan. 14 to Feb. 29. Discharge estimated Mar. 1-14.

## MARYS RIVER NEAR DEETH, NEV.

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 31, T. 40 N., R. 60 E., at bridge 300 feet east of Mala Vista ranch house and 19 miles north of Deeth.

DRAINAGE AREA.—355 square miles.

RECORDS AVAILABLE.—November, 1902, to July, 1903; January, 1912, to June, 1928.

EXTREMES.—Maximum discharge during year, 350 second-feet May 13 (gage height, 6.10 feet); minimum, 2 second-feet October 1-6.

1912-1928: Maximum discharge, 616 second-feet May 8, 1922 (gage height, 7.70 feet); practically no flow part of August and September, 1924.

REMARKS.—Records fair. Station is below all diversions, except one small ditch on Mala Vista ranch and diversions on Cross ranch, 12 miles below.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2	9	12			12	82	190	82
2	2	9	12			12	78	227	72
3	2	9	12			14	68	246	60
4	2	9	12			18	67	214	50
5	2	9	12			22	67	178	36
6	2	9	12			24	64	190	39
7	3	9	12			26	60	202	36
8	3	9	12			27	56	260	30
9	3	9	14			28	54	260	26
10	3	9	14			28	51	279	21
11	4	9	15		*14	28	51	307	41
12	5	9				27	52	322	30
13	5	9				26	51	350	30
14	5	9				25	50	332	28
15	5	9			*12	25	44	379	27
16	5	9				25	45	234	27
17	5	9				24	46	204	27
18	6	10				20	47	202	26
19	6	10				29	44	202	26
20	6	10				35	43	202	25
21	7	10	*10		14	41	41	188	25
22	7	10			14	48	40	178	25
23	7	10			14	60	41	190	25
24	7	11			13	61	47	202	23
25	7	11			12	78	56	186	21
26	8	11			12	125	68	186	17
27	8	11			12	119	88	184	16
28	8	12			12	113	132	160	15
29	8	12			12	103	166	154	14
30	8	12				94	184	132	14
31	8					86		116	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	8	2	5.1	314
November	12	9	9.8	583
December			10.9	670
January			*12	738
February			13.6	782
March	125	12	45.5	2,800
April	184	40	66.1	3,930
May	350	116	218	13,400
June	82	14	31.1	1,850
The period				25,100

\* Estimated.

## OUTH FORK OF HUMBOLDT RIVER NEAR ELKO, NEV.

**LOCATION.**—Staff gage, installed March 3, 1927, in sec. 30, T. 33 N., R. 55 E., at ranch half a mile below highway bridge, half a mile above head of canyon, and 10 miles southwest of Elko. Prior to February, 1927, a water-stage recorder 1 mile downstream was used.

**DRAINAGE AREA.**—1,150 square miles.

**RECORDS AVAILABLE.**—August, 1896, to September, 1922; October, 1923, to September, 1928.

**EXTREMES.**—Maximum discharge during year, 1,370 second-feet May 27 (gage height, 9.90 feet); stream dry from August 3 to September 30.

1896–1922, 1923–1928: Maximum discharge, 2,400 second-feet January 26, 1914; river dry at times in 1915, 1916, 1918, 1919, 1921, 1924–1926, and 1928.

**REMARKS.**—Records fair except those for estimated periods, which are poor. Station is below all diversions, except those of Hunter & Banks ranch, 3 miles upstream.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1.....	7	12	35			125	110		606		2
2.....	7	12	35			139	86		378		1
3.....	7	12	33			67	67		428		0
4.....	8	12	31			67	67		378		0
5.....	8	12	32			70	66		367		0
6.....	8	13	33			76	67	a 75	318		0
7.....	8	14	32			79	67		262		0
8.....	8	14	31			74	67		193	9	0
9.....	8	14	31			64	67		172	9	0
10.....	8	15	30			64	61		161	8	0
11.....	9	16	29			67	60		178	8	0
12.....	9	17	29			67	56		226	8	0
13.....	9	18	27			67	54		657	8	0
14.....	9	19				73	54		351	7	0
15.....	9	19				72	54	a 100	209	7	0
16.....	9	20		a 25	a 40	72	52		209	7	0
17.....	9	21				73	49		203	7	0
18.....	9	22				72	45		196	6	0
19.....	9	24				70	44		187	6	0
20.....	10	25				70	54	125	178	6	0
21.....	10	27				64		150	172	6	0
22.....	10	28	a 25			56	60	184	166	5	0
23.....	10	34				56		229	147	5	0
24.....	10	36				150		291	130	5	0
25.....	11	41				255		378	125	5	0
26.....	11	45				236	50	746	121	4	0
27.....	11	46				219		1,370	118	3	0
28.....	11	46				187		1,210	114	3	0
29.....	11	40				144		1,140	110	3	0
30.....	11	39				123		1,120	108	2	0
31.....	12					121		1,090		2	0
Month						Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						12	7	9.2	566		
November.....						46	12	23.8	1,420		
December.....						35		27.7	1,700		
January.....								a 25	1,540		
February.....								a 40	2,300		
March.....						255	56	101	6,210		
April.....						110		58.6	3,490		
May.....						1,370		312	19,200		
June.....						657	108	239	14,200		
July.....								10.1	621		
August.....						2	0	0.1	6		
The year.....						1,370	0	70.6	51,300		

\* Estimated.

NOTE.—No flow during September.

## ROCK CREEK NEAR BATTLE MOUNTAIN, NEV.

LOCATION.—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 17, T. 34 N., R. 48 E., at mouth of canyon, half a mile above highway bridge on old Overland Trail and 25 miles northeast of Battle Mountain.

RECORDS AVAILABLE.—March, 1918, to September, 1925; March, 1927, to September, 1928 (fragmentary).

EXTREMES.—1918–1925, 1927–28: Maximum discharge, 2,240 second-feet February 11, 1921 (gage height, 5.54 feet); no flow during parts of October, July, August, and September nearly every year.

REMARKS.—Records fair. There are diversions in valleys upstream. Station is above all diversions in Boulder Flat and is below all tributaries. Flow slightly affected by small reservoir in Squaw Valley, 30 miles upstream.

*Daily and monthly discharge, in second-feet, 1928*

Day	Mar.	Apr.	May	June	Day	Mar.	Apr.	May	June
1		67	8	1	16		21	6	
2		55	8	0	17		22	4	
3		48	10		18		15	2	
4		41	10		19		12	1	
5		38	8		20		13	1	
6		36	4		21		13	1	
7		34	2		22		12	1	
8		32	2		23		12	2	
9		30	3		24		12	1	
10		29	5		25		12	1	
11		28	16		26	369	10	1	
12		28	9		27	184	8	1	
13		26	8		28	149	8	1	
14		23	7		29	116	8	1	
15		21	8		30	92	8	1	
					31	79		1	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
April	67	8	24.1	1,430
May	16	1	4.3	264

## LITTLE HUMBOLDT RIVER NEAR PARADISE VALLEY, NEV.

LOCATION—Water-stage recorder in NE.  $\frac{1}{4}$  sec. 19, T. 41 N., R. 41 E., 300 feet south of Humboldt Hot Springs, 11 miles southeast of Paradise Valley, and 40 miles northeast of Winnemucca.

RECORDS AVAILABLE.—October, 1921, to April, 1928 (fragmentary).

EXTREMES.—1921-1928: Maximum discharge, about 500 second-feet February 23, 1927 (gage height, 12.1 feet); minimum, 5 second-feet December 28, 1924.

REMARKS.—Records fair. Station is above all diversions in Paradise Valley.

Bull Head ranch diverts water for irrigation in valley above station.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1.....	13	13	18	11	12	-----	67
2.....	13	13	20	10	12	-----	62
3.....	13	14	19	10	12	-----	55
4.....	13	13	18	11	13	-----	53
5.....	13	13	17	11	14	-----	46
6.....	13	13	16	12	14	-----	39
7.....	13	13	14	12	22	-----	35
8.....	13	13	13	12	23	-----	32
9.....	13	14	14	12	20	-----	31
10.....	13	15	14	12	-----	-----	30
11.....	13	15	14	12	-----	-----	27
12.....	13	15	14	12	-----	-----	29
13.....	13	16	13	12	-----	-----	32
14.....	13	16	14	12	-----	-----	28
15.....	13	16	13	12	-----	-----	25
16.....	13	16	11	12	-----	-----	24
17.....	13	16	12	12	-----	-----	23
18.....	13	17	12	12	-----	-----	23
19.....	13	17	12	11	-----	-----	22
20.....	13	17	11	11	-----	-----	22
21.....	13	17	11	11	-----	-----	23
22.....	13	16	11	11	-----	-----	24
23.....	13	16	11	11	-----	-----	23
24.....	13	15	12	11	-----	-----	-----
25.....	13	14	11	11	-----	-----	-----
26.....	13	15	11	11	-----	-----	-----
27.....	14	16	11	11	-----	-----	-----
28.....	15	17	11	11	-----	-----	-----
29.....	14	17	11	11	-----	60	-----
30.....	14	17	11	11	-----	70	-----
31.....	14	-----	11	12	-----	68	-----
Month	Maximum		Minimum		Mean		Run-off in acre-feet
October.....	15		13		13.2		812
November.....	17		13		15.2		904
December.....	20		11		13.3		818
January.....	12		10		11.4		701



## MARTIN CREEK NEAR PARADISE VALLEY, NEV.

LOCATION.—Water-stage recorder in SE.  $\frac{1}{4}$  NE.  $\frac{1}{4}$  sec. 11, T. 42 N., R. 40 E.,  $1\frac{1}{2}$  miles above Silver State flour mill and 8 miles northeast of Paradise Valley.

RECORDS AVAILABLE.—October, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year not recorded; minimum, 2 second-feet September 1-9.

1921-1928: Maximum discharge, about 1,000 second-feet February 21 or 22, 1927 (gage height, about 12 feet); minimum, 2 second-feet September 1-9, 1928.

REMARKS.—Records good except those for estimated periods, which are fair. No diversions above gage.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	7	10	26	13			70	159	40	12	4	2
2.....	7	9	25			a 25	65	140	3 <sup>7</sup>	13	4	2
3.....	7	9	25				61	115	3 <sup>7</sup>	12	4	2
4.....	7	9	19	a 13			59	104	3 <sup>8</sup>	9	4	2
5.....	7	9	19			44	53	103	3 <sup>4</sup>	8	5	2
6.....	8	9	15		a 12	43	50	125	3 <sup>2</sup>	8	5	2
7.....	8	13	8			38	49	133	3 <sup>0</sup>	8	5	2
8.....	8	15	12	13		39	48	147	2 <sup>2</sup>	7	5	2
9.....	8	16	19			42	48	156	2 <sup>3</sup>	6	4	2
10.....	9	23	15			46	47	165	2 <sup>5</sup>	6	3	3
11.....	8	19	13			44	47	163	2 <sup>1</sup>	6	3	3
12.....	8	17			10	44	46	157	2 <sup>7</sup>	5	3	4
13.....	8	16					46	147	2 <sup>4</sup>	5	5	5
14.....	8	15		a 13			45	129	2 <sup>2</sup>	5	5	5
15.....	8	16				a 42	45	115	2 <sup>1</sup>	5	5	5
16.....	8	20			a 12		46	105	2 <sup>0</sup>	5	5	6
17.....	8	21					48	99	1 <sup>9</sup>	5	5	6
18.....	8	19	a 13			40	50	93	1 <sup>9</sup>	5	5	6
19.....	8	19			13		49	93	1 <sup>8</sup>	5	5	6
20.....	8	17					49	91	1 <sup>7</sup>	5	5	6
21.....	8	20		13		a 75	47	87	1 <sup>6</sup>	4	5	6
22.....	8	15			a 14		46	82	1 <sup>5</sup>	4	5	6
23.....	8	11					48	77	1 <sup>4</sup>	4	5	6
24.....	8	15				270	59	72	1 <sup>2</sup>	4	4	6
25.....	9	16	13	a 13	15		61	67	1 <sup>1</sup>	4	4	5
26.....	9	16				a 200	62	65	1 <sup>0</sup>	4	4	5
27.....	12	18					75	63	9	4	4	5
28.....	12	22			a 15	131	92	58	8	4	4	5
29.....	11	40	a 13	13		108	111	52	8	4	3	5
30.....	11	30				90	123	46	8	4	3	5
31.....	12			a 13		81		42		4	3	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	12	7	8.5	523
November.....	40	9	16.8	1,000
December.....	26	8	14.7	904
January.....			13.0	799
February.....			12.8	736
March.....			75.6	4,650
April.....	123	45	58.2	3,460
May.....	165	42	105	6,460
June.....	40	8	21.7	1,290
July.....	13	4	5.9	363
August.....	5	3	4.3	264
September.....	6	2	4.2	250
The year.....		2	28.5	20,700

\* Estimated.

## COTTONWOOD CREEK NEAR PARADISE VALLEY, NEV.

LOCATION.—Staff gage in SW.  $\frac{1}{4}$  sec. 3, T. 42 N., R. 39 E., at Case ranch, 5 miles northwest of Paradise Valley. Gage was moved 75 feet upstream April 7, 1927, and set at independent datum.

RECORDS AVAILABLE.—May, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 120 second-feet March 25; stream dry from July 18 to September 30.

1925-1928: Maximum discharge, that of March 25, 1928; practically no flow for several months each year.

REMARKS.—Records fair. Two small diversions above station.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	2	2	8	5	6	8	17	34	15	4
2	1	3	8	5	8	8	21	34	14	3
3	1	2	6	5	8	8	20	25	13	3
4	2	2	5	8	10	15	18	27	13	2
5	2	2	6	6	8	11	17	31	11	3
6	2	2	6	6	5	10	17	32	10	2
7	2	4	6	7	6	9	16	34	10	2
8	1	4	6	7	6	8	15	34	9	3
9	2	3	6	8	7	10	16	38	9	2
10	1	4	6	7	6	9	15	40	8	2
11	2	3	6	6	6	18	15	40	9	2
12	2	3	6	7	7	10	15	45	8	2
13	2	3	6	7	8	9	14	40	8	2
14	2	3	6	7	7	8	15	37	7	2
15	2	5	6	7	7	8	16	35	7	2
16	2	3	6	8	6	8	16	34	7	2
17	2	3	6	8	6	9	16	27	7	4
18	2	3	6	7	6	10	16	26	7	0
19	2	3	6	7	5	10	14	27	6	0
20	2	4	5	8	6	12	14	26	5	0
21	2	4	5	7	5	14	18	29	5	0
22	2	4	5	5	6	16	13	27	5	0
23	2	3	5	6	5	16	15	25	5	0
24	2	3	5	5	5	32	15	24	4	0
25	2	3	4	6	6	91	15	22	4	0
26	2	4	5	5	6	50	19	21	4	0
27	3	3	4	5	6	66	21	19	4	0
28	2	34	5	6	6	51	19	17	3	0
29	2	11	5	6	9	40	29	20	3	0
30	4	8	6	7	-----	32	36	17	4	0
31	3	-----	5	6	-----	34	-----	16	-----	0
Month	Maximum		Minimum		Mean		Run-off in acre-feet			
October	4		1		2.00		123			
November	34		2		4.60		274			
December	8		4		5.68		349			
January	8		5		6.45		397			
February	10		5		6.45		371			
March	91		8		20.6		1,270			
April	36		13		17.4		1,040			
May	45		16		29.1		1,790			
June	15		3		7.47		444			
July	4		0		1.35		83			
The year	91		0		8.46		6,140			

NOTE.—No flow during August and September.

## HUMBOLDT-LOVELOCK IRRIGATION, LIGHT &amp; POWER CO.'S FEEDER CANAL NEAR MILL CITY, NEV.

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  sec. 29, T. 33 N., R. 35 E., a quarter of a mile below head of canal and 2 miles north of Mill City.

RECORDS AVAILABLE.—February, 1914, to September, 1928 (fragmentary).

REMARKS.—Records fair. Flow regulated by head gates. This canal diverts from Humboldt River in NW.  $\frac{1}{4}$  sec. 29, T. 33 N., R. 35 E., for storage in Taylor-Pitt Reservoirs, near Humboldt. Water is returned to river during irrigation season about 3 miles west of Humboldt, through Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal, and carried in natural channel to head gates of canals serving Lovelock district.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	0	25			• 50	200
2	0	24				208
3	0	23				206
4	0	23				195
5	0	22				193
6	0	22			• 50	179
7	0	21				151
8	0	21				151
9	0	21				218
10	0	21				233
11	0	21				226
12	0	21				202
13	5	22				218
14		22				150
15		18				
16	• 12	16	• 10	• 10	153	
17					177	
18	15				161	
19					164	
20					173	
21	• 16					177
22						178
23	18	• 13				207
24	20					224
25	32					205
26	30				166	
27	32				162	
28	28				181	
29	26				192	
30	25					
31	26					
Month	Maximum	Minimum	Mean	Run-off in acre-feet		
October	32	0	11.9	732		
November	25		17.5	1,040		
December			• 10	615		
January			• 10	615		
February	224		120	6,900		
March	233		88.6	5,450		
The year	233	0	21.2	15,400		

• Estimated.

NOTE.—No flow April to September.

**HUMBOLDT-LOVELOCK IRRIGATION, LIGHT & POWER CO.'S OUTLET CANAL NEAR  
HUMBOLDT, NEV.**

**LOCATION.**—Staff gage and weir in SE.  $\frac{1}{4}$  sec. 30, T. 32 N., R. 33 E., at outlet of lower Taylor-Pitt Reservoir,  $2\frac{1}{2}$  miles west of Humboldt.

**RECORDS AVAILABLE.**—February, 1914, to September, 1920; October, 1921, to September, 1923.

**REMARKS.**—Records fair. Flow regulated by reservoir outlet gates a few hundred feet upstream. This canal conducts stored water released from Taylor-Pitt Reservoirs to Humboldt River in SW.  $\frac{1}{4}$  sec. 31, T. 32 N., R. 33 E., for irrigation in Lovelock Valley, several miles downstream.

*Daily and monthly discharge, in second-feet, 1928*

Day	Apr.	May	June	July	Day	Apr.	May	June	July
1.....	0	102	7	90	16.....	0	107	11	90
2.....	0	103	17	69	17.....	0	98	19	83
3.....	0	105	22	66	18.....	0	85	19	74
4.....	0	105	22	83	19.....	0	94	31	62
5.....	0	105	33	96	20.....	0	102	52	41
6.....	0	102	45	102	21.....	0	102	66	33
7.....	0	105	33	94	22.....	0	102	59	33
8.....	0	131	11	85	23.....	0	87	45	33
9.....	0	131	0	80	24.....	0	67	59	33
10.....	0	131	0	83	25.....	0	54	69	33
11.....	0	131	0	90	26.....	0	42	90	23
12.....	0	137	0	90	27.....	0	47	90	16
13.....	0	143	0	83	28.....	0	56	126	16
14.....	0	129	0	74	29.....	0	56	137	16
15.....	0	107	6	83	30.....	51	56	102	12
					31.....		32		0

Month	Maximum	Minimum	Mean	Run-off in acre-feet
April.....	51	0	1.7	101
May.....	143	32	95.3	5,860
June.....	137	0	39.0	2,320
July.....	102	0	60.2	3,700
The year.....	143	0	16.5	12,000

**NOTE.**—Reservoir gates closed Oct. 1 to Apr. 29 and July 31 to Sept. 30; canal dry or only seepage water passing gage.

## PYRAMID AND WINNEMUCCA LAKES BASIN

## LAKE TAHOE AT TAHOE, CALIF.

LOCATION.—Staff gage in SE.  $\frac{1}{4}$  sec. 6, T. 15 N., R. 17 E., near outlet of lake at Tahoe. Zero of gage is 6,220 feet above sea level. Mean low-water elevation of lake is 6,226.0 feet.

DRAINAGE AREA.—519 square miles (including water surface of lake, 193 square miles).

RECORDS AVAILABLE.—1900 to September, 1928.

EXTREMES.—Maximum stage during year, 6.86 feet June 6-7; minimum, 4.81 feet March 1.

1900-1928: Maximum stage, 11.26 feet July 14, 15, 17, and 18, 1907; minimum, 2.84 feet October 26, 1924.

REMARKS.—Records furnished by United States Bureau of Reclamation.

*Daily gage height, in feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.53	5.27	5.30	5.12	4.98	4.81	5.84	6.19	6.88	6.62	6.23	5.63
2	5.52	5.26	5.29	5.12	4.98	4.82	5.88	6.21	6.88	6.61	6.21	5.61
3	5.51	5.26	5.28	5.10	4.98	4.85	5.95	6.23	6.84	6.60	6.19	5.60
4	5.49	5.25	5.26	5.10	4.99	4.86	5.96	6.25	6.84	6.58	6.16	5.59
5	5.47	5.24	5.25	5.10	4.98	4.86	5.98	6.27	6.85	6.57	6.13	5.57
6	5.44	5.25	5.24	5.10	4.98	4.87	5.98	6.29	6.86	6.56	6.12	5.54
7	5.42	5.24	5.24	5.10	4.97	4.87	5.99	6.31	6.86	6.55	6.10	5.51
8	5.39	5.24	5.23	5.10	4.97	4.94	6.00	6.33	6.85	6.54	6.09	5.48
9	5.37	5.27	5.24	5.09	4.96	4.95	6.01	6.36	6.85	6.53	6.07	5.44
10	5.36	5.29	5.24	5.09	4.94	4.93	6.01	6.42	6.88	6.53	6.06	5.41
11	5.34	5.28	5.22	5.09	4.93	4.93	6.02	6.46	6.85	6.52	6.05	5.38
12	5.33	5.31	5.19	4.99	4.92	4.93	6.03	6.49	6.83	6.50	6.02	5.33
13	5.32	5.32	5.16	4.89	4.91	4.93	6.04	6.52	6.82	6.49	6.00	5.24
14	5.31	5.32	5.18	4.89	4.91	4.94	6.06	6.54	6.81	6.48	5.98	5.22
15	5.30	5.31	5.18	4.99	4.90	4.93	6.06	6.56	6.80	6.47	5.96	5.20
16	5.29	5.31	5.18	4.99	4.88	4.93	6.07	6.59	6.79	6.46	5.94	5.20
17	5.27	5.30	5.16	4.84	4.87	4.93	6.09	6.61	6.78	6.45	5.92	5.19
18	5.25	5.30	5.13	4.86	4.87	4.93	6.10	6.63	6.77	6.44	5.91	5.17
19	5.24	5.29	5.13	4.85	4.87	4.94	6.10	6.65	6.76	6.42	5.89	5.15
20	5.24	5.23	5.12	4.88	4.86	4.94	6.11	6.67	6.76	6.41	5.87	5.13
21	5.23	5.38	5.12	4.86	4.86	4.95	6.11	6.70	6.76	6.39	5.86	5.11
22	5.22	5.35	5.11	4.99	4.85	4.95	6.11	6.72	6.75	6.38	5.83	5.10
23	5.21	5.32	5.10	5.02	4.85	4.98	6.12	6.74	6.74	6.36	5.81	5.08
24	5.20	5.32	5.10	5.01	4.84	5.07	6.12	6.76	6.74	6.35	5.80	5.07
25	5.18	5.33	5.08	5.00	4.86	5.38	6.13	6.78	6.73	6.34	5.78	5.06
26	5.20	5.34	5.05	5.00	4.85	5.44	6.14	6.79	6.72	6.33	5.76	5.04
27	5.31	5.32	5.04	4.98	4.85	5.70	6.15	6.80	6.70	6.32	5.73	5.02
28	5.29	5.32	5.04	4.98	4.84	5.71	6.16	6.81	6.67	6.31	5.70	5.00
29	5.28	5.32	5.18	5.00	4.83	5.75	6.18	6.83	6.65	6.29	5.68	4.98
30	5.20	5.31	5.14	4.99	-----	5.79	6.19	6.83	6.64	6.27	5.66	4.96
31	5.31	-----	5.14	4.99	-----	5.82	-----	6.84	-----	6.26	5.64	-----

## TRUCKEE RIVER AT TAHOE, CALIF.

LOCATION.—Staff gage in NW.  $\frac{1}{4}$  sec. 7, T. 15 N., R. 17 E., at Tahoe, a short distance below dam at outlet of Lake Tahoe.

DRAINAGE AREA.—519 square miles.

RECORDS AVAILABLE.—July, 1895, to February, 1896; June, 1900, to September, 1928.

EXTREMES.—1895-1896, 1900-1928: Maximum mean daily discharge, 1,340 second-feet July 13-20, 1907 (gage height, 4.3 feet); no flow during parts of 1900, 1901, 1914, and 1918-1928.

REMARKS.—Flow regulated by operation of gates in dam at Lake Tahoe. Daily discharge record furnished by United States Bureau of Reclamation.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	June	July	Aug.	Sept.
1	340	250	145	255	138	184	0	372	473	467
2	340	315	145	255	138	184	0	372	490	467
3	340	315	111	255	164	184	0	396	490	467
4	348	315	111	230	215	84	0	396	490	467
5	348	315	111	230	215	84	0	396	490	467
6	348	315	128	230	215	84	0	396	490	467
7	348	315	143	230	191	168	0	396	490	467
8	348	230	171	230	191	168	70	448	490	467
9	348	115	196	230	191	168	70	448	490	467
10	348	115	196	230	191	168	149	448	490	467
11	348	115	196	230	191	0	149	448	490	460
12	348	115	196	230	191	0	250	448	490	442
13	348	115	196	230	191	0	250	448	490	423
14	348	115	196	230	191	0	250	420	490	420
15	348	115	196	230	191	0	250	441	490	417
16	348	160	196	230	215	0	210	441	490	411
17	348	160	196	351	215	0	184	490	470	408
18	340	160	196	351	215	0	184	490	470	405
19	326	121	196	351	215	0	235	490	470	399
20	326	121	196	351	215	0	285	490	470	390
21	326	121	196	351	215	0	285	490	470	390
22	315	121	196	351	215	0	285	490	494	387
23	315	121	196	288	215	0	320	490	464	384
24	315	121	196	288	215	0	320	490	477	378
25	306	121	196	262	215	0	320	490	497	369
26	306	121	196	262	215	0	320	490	497	360
27	306	121	196	262	215	0	360	490	467	348
28	190	121	196	187	184	0	360	454	467	343
29	267	145	196	237	184	0	396	464	467	334
30	304	145	230	212	-----	0	396	464	467	326
31	304	-----	255	181	-----	0	-----	473	497	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	348	190	327	20,100
November	315	115	172	10,200
December	255	111	183	11,300
January	351	181	259	15,900
February	215	138	198	11,400
March	184	0	47.6	2,930
June	396	0	197	11,700
July	490	372	450	27,700
August	490	464	476	29,300
September	467	326	415	24,700
The year	490	0	228	165,000

NOTE.—No flow during April and May.

## TRUCKEE RIVER AT ICELAND, CALIF.

LOCATION.—Water-stage recorder in sec. 36, T. 18 N., R. 17 E., above dam of National Ice Co., 400 feet northeast of Southern Pacific Railroad station at Iceland.

DRAINAGE AREA.—937 square miles.

RECORDS AVAILABLE.—August, 1912, to September, 1928. September, 1899, to August, 1912, at Nevada-California State line, 3 miles downstream.

EXTREMES.—1899-1928: Maximum mean daily discharge, 15,300 second-feet March 18, 1907; minimum, 40 second-feet January 19 and 20, 1925.

REMARKS.—Flow regulated by operation of gates in dam at Lake Tahoe. Daily discharge record furnished by United States Bureau of Reclamation.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	420	399	387	425	359	409	1,670	1,910	644	493	505	500
2.....	415	437	387	431	383	409	1,310	1,540	651	482	521	500
3.....	415	420	404	431	387	398	1,140	1,220	664	504	516	500
4.....	420	420	364	409	404	359	1,010	1,340	613	510	521	500
5.....	420	420	350	394	409	409	996	1,430	589	504	527	495
6.....	415	437	364	404	394	415	1,020	1,540	466	499	527	495
7.....	409	517	341	394	404	472	1,140	1,620	537	499	527	495
8.....	409	641	373	399	394	484	1,110	1,750	460	532	527	489
9.....	409	497	415	415	387	497	1,210	1,720	445	532	521	500
10.....	420	903	415	415	383	558	1,220	1,830	529	526	510	500
11.....	420	425	415	415	387	484	1,280	1,770	537	521	510	495
12.....	425	387	415	409	387	472	1,440	1,800	589	526	505	494
13.....	443	425	409	409	383	460	1,440	1,620	521	516	521	473
14.....	455	394	387	420	387	437	1,360	1,500	517	493	521	463
15.....	455	409	409	431	383	443	1,340	1,430	521	504	527	456
16.....	455	466	409	373	383	455	1,310	1,360	488	504	527	458
17.....	449	437	394	394	373	466	1,220	1,290	492	548	516	453
18.....	455	437	394	484	383	517	1,060	1,250	471	543	516	448
19.....	443	364	383	550	378	588	980	1,240	498	537	521	439
20.....	443	409	404	633	383	641	965	1,240	499	537	521	434
21.....	449	404	383	649	383	633	905	1,250	499	537	510	424
22.....	437	387	383	649	373	704	950	1,260	493	537	505	424
23.....	443	359	383	603	378	790	1,060	1,230	517	532	500	424
24.....	443	387	387	530	373	1,500	1,140	1,220	574	537	510	419
25.....	449	399	394	472	383	12,000	1,020	1,220	499	537	505	410
26.....	484	409	387	437	350	11,000	1,140	1,180	469	532	505	401
27.....	588	404	387	420	368	6,600	1,340	1,150	515	504	500	391
28.....	399	404	394	355	378	3,400	1,450	1,090	515	490	500	387
29.....	350	472	404	455	394	2,390	1,530	950	577	490	505	382
30.....	455	437	387	431	-----	1,940	1,730	860	577	490	505	373
31.....	455	-----	431	373	-----	1,770	-----	732	-----	493	505	-----
Month	Maximum						Minimum		Mean		Run-off in acre-feet	
October.....	588						350		437		26,900	
November.....	903						359		444		26,400	
December.....	431						341		392		24,100	
January.....	649						355		452		27,800	
February.....	409						350		383		22,000	
March.....	12,000						359		1,680		103,000	
April.....	1,730						905		1,220		72,600	
May.....	1,910						732		1,370		84,200	
June.....	664						445		526		31,300	
July.....	548						482		517		31,800	
August.....	527						500		514		31,600	
September.....	520						373		454		27,000	
The year.....	12,000						341		701		509,000	

## ABERT LAKE BASIN

CHEWAUCAN RIVER ABOVE CONN DITCH, NEAR PAISLEY, OREG.

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  sec. 27, T. 33 S., R. 18 E., 200 feet below power plant of R. R. Severin, 500 feet above diversion dam of Conn ditch, a quarter of a mile below mouth of Mill Creek, and  $2\frac{1}{2}$  miles above Paisley.

DRAINAGE AREA.—266 square miles.

RECORDS AVAILABLE.—April to September, 1912; May, 1924, to September, 1928. Records at stations giving practically same yearly run-off are available January, 1905, to December, 1907; January, 1909, to April, 1912.

EXTREMES.—Maximum discharge during year, 1,080 second-feet March 2<sup>7</sup> (gage height, 3.09 feet); no flow December 7.

1924-1928: Maximum discharge, 1,450 second-feet May 17, 1927 (gage height, 3.69 feet); no flow December 7, 1927.

REMARKS.—Records good, except those for periods of ice effect (December 5-30, January 16 and 18) and other estimated periods, which are fair. About 160 acres is irrigated above station. Records furnished by State engineer of Oregon.

*Daily and monthly discharge, in second-feet, 1927-28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	43	40	117	60	* 98	120	325	575	193	68	19	22
2.....	44	45	103	68		99	282	508	178	65	24	20
3.....	45	44	87	78		95	261	482	159	57	25	19
4.....	45	43	63	69		105	226	490	149	53	30	18
5.....	45	43		69		105	279	522	152	48	28	17
6.....	44	43		63	68	108	261	640	146	42	28	17
7.....	43	66		61		107	247	665	133	40	28	18
8.....	43	63		54		109	233	745	124	37	27	17
9.....	43	113		54		124	250	745	122	32	26	19
10.....	43	176		54	* 63	124	254	745	127	31	25	21
11.....	43	84		55		306	250	772	143	27	24	20
12.....	43	78		61		223	250	772	127	26	24	24
13.....	43	68		85	68	176	250	690	110	25	22	26
14.....	41	64		84	72	151	250	665	97	25	22	25
15.....	41	66		85	76	137	272	605	90	24	22	22
16.....	40	89	* 24	* 53	58	142	389	595	85	25	19	22
17.....	41	101		* 52	58	153	373	580	83	25	19	24
18.....	41	84		* 52	60	166	345	526	80	25	18	25
19.....	41	69			69	184	325	495	* 82	25	18	24
20.....	41	109			60	203	325	492	85	24	18	22
21.....	40	93				206	298	466	80	24	17	22
22.....	40	55				268	290	448	74	22	17	22
23.....	41	61				275	337	417	65	21	20	21
24.....	45	87		* 86	* 56	261	369	399	57	20	20	21
25.....	48	93				254	341	388	54	21	20	20
26.....	49	126				640	381	353	49	22	21	20
27.....	50	95			52	754	423	326	53	24	24	22
28.....	46	174			* 88	472	482	284	72	22	21	22
29.....	46	226			124	385	504	255	70	20	22	24
30.....	49	146		126		345	540	227	68	18	22	26
31.....	46		52	* 124		325		205		17	21	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	50	40	43.6	2,680
November.....	226	40	88.1	5,240
December.....	117		33.7	2,070
January.....	126		75.9	4,670
February.....	124		70.9	4,080
March.....	754	95	230	14,100
April.....	540	226	320	19,000
May.....	772	205	519	31,900
June.....	193	49	104	6,190
July.....	68	17	30.8	1,890
August.....	30	17	22.3	1,370
September.....	26	17	21.4	1,270
The year.....	772		131	94,500

\* Estimated.



## SILVER LAKE BASIN

## SILVER CREEK NEAR SILVER LAKE, OREG.

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  sec. 28, T. 28 S., R. 14 E.,  $1\frac{1}{2}$  miles below diversion dam of Silver Lake irrigation district,  $1\frac{1}{2}$  miles southwest of Silver Lake post office, and 3 miles above mouth of Bridge Creek.

DRAINAGE AREA.—221 square miles.

RECORDS AVAILABLE.—December, 1904, to March, 1907; January, 1909, to September, 1927; March to September, 1928.

EXTREMES.—Maximum discharge during year, 48 second-feet May 13-14 (gage height, 1.20 feet); minimum, 0.6 second-foot September 17.

1904-1907, 1909-1928: Maximum discharge, 910 second-feet November 23, 1909 (gage height, 6.40 feet); minimum, 0.3 second-foot several days in August and September, 1918 and 1926.

REMARKS.—Records good. Silver Lake Irrigation District Canal diverts water above gage during irrigation season. Diversion dam  $1\frac{1}{2}$  miles above gage impounds about 800 acre-feet. Water is also stored in Thompson Valley Reservoir. Records furnished by State engineer of Oregon.

## Daily and monthly discharge, in second-feet, 1928

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			21	43	24	18	2.4	2.7
2			20	44	23	18	2.4	2.7
3			34	44	24	18	2.5	2.7
4			31	41	24	18	2.5	2.8
5			26	40	22	17	2.7	2.4
6			24	41	26	17	2.5	2.2
7			22	42	28	15	2.6	2.2
8			22	44	29	15	2.4	2.8
9			22	44	30	15	2.2	3.4
10			21	45	31	14	2.9	2.8
11			24	45	30	14	3.1	2.1
12			31	45	29	13	3.4	1.7
13			28	47	28	13	3.3	1.4
14			27	47	28	12	2.8	1.2
15			27	47	27	11	2.6	.9
16			27	46	27	8.9	2.0	.8
17		6.7	28	44	27	10	1.9	.7
18		7.5	28	44	29	9.8	1.9	1.5
19		7.8	30	42	31	8.9	1.8	2.4
20	1.4	7.8	30	36	30	5.5	1.8	2.8
21		7.8	30	27	28	3.6	2.0	3.3
22		8.1	30	24	28	2.9	2.1	4.2
23		8.1	29	22	28	2.8	2.1	5.3
24		8.4	28	22	28	2.9	1.9	6.3
25		8.7	30	21	25	2.9	2.6	6.5
26		9.5	33	19	21	3.1	2.4	6.5
27		15	37	22	19	2.9	2.4	6.1
28		27	39	24	20	2.8	2.4	4.2
29		26	39	24	20	2.9	2.1	4.0
30		21	39	24	20	2.9	2.0	3.8
31		21		24		2.9	2.4	
Month	Maximum		Minimum		Mean		Run-off in acre-feet	
March 17-31	27		6.7		12.7		378	
April	39		20		28.6		1,700	
May	47		19		36.3		2,236	
June	31		19		26.1		1,550	
July	18		2.8		9.8		603	
August	3.4		1.8		2.39		147	
September	6.5		.7		3.08		183	
The period							6,790	

*Observed stage and contents of Thompson Valley Reservoir, 1927-28*

Date	Gage height	Contents	Change in contents	Date	Gage height	Contents	Change in contents
	<i>Feet</i>	<i>Acre-feet</i>	<i>Acre-feet</i>		<i>Feet</i>	<i>Acre-feet</i>	<i>Acre-feet</i>
Sept. 30.....	5,078.0	7,910		July 31.....		<sup>a</sup> 6,600	-2,520
Mar. 31.....		<sup>a</sup> 11,420	+3,510	Aug. 31.....		<sup>a</sup> 4,350	-2,250
Apr. 30.....		<sup>a</sup> 13,970	+2,550	Sept. 30.....		<sup>a</sup> 3,600	-750
May 10.....	82.5	<sup>b</sup> 14,610					
May 31.....		<sup>a</sup> 12,620	-1,350	The year.....			-4,310
June 30.....		<sup>a</sup> 9,120	-3,500				

<sup>a</sup> Interpolated.<sup>b</sup> Maximum.

## WEST FORK OF SILVER CREEK NEAR SILVER LAKE, OREG.

LOCATION.—Water-stage recorder and staff gage in NW.  $\frac{1}{4}$  sec. 8, T. 29 S., R. 14 E., 1 mile above mouth of West Fork and  $4\frac{1}{2}$  miles southwest of Silver Lake post office.

RECORDS AVAILABLE.—March, 1919, to August, 1923; March, 1925, to September, 1928 (incomplete).

EXTREMES.—Maximum discharge during year, 21 second-feet May 1 (gage height, 0.80 foot); minimum, 1 second-foot February 20.

1919-1923, 1925-1928. Maximum discharge, 138 second-feet April 11, 1921 (gage height on old gage, 2.24 feet); stream bed nearly dry at times of extremely cold weather.

REMARKS.—Records fair except those for estimated periods, which are poor. No diversions. Records furnished by State engineer of Oregon.

## Daily and monthly discharge, in second-feet, 1927-28

Day	Oct.	Nov.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		5		3	13	21	8	5		2
2		6		2	13		8	5		
3		5		2	13		7	5		
4		5		4			7	5	* 2	
5		5		4				4		* 2
6		5		3				4		
7		5		3				3	2	
8		6		3				3		2
9		10		5				3		
10		10		4		* 17		3		
11		7		6			* 6	3	* 2	
12		7		5				3		
13		7		5						
14	* 3.5	7		4						
15		7		5	* 14					
16		7		5				* 2		
17		7							2	
18		7					5			2
19		7					5	2		
20		8	1			13	5	2	* 2	* 2
21		8	4			13	5	2		
22		8	5			12	5	2		
23		8	2		* 9	12	5	2		
24		8	2			11		2	2	2
25			2			11		2		
26			4			10	* 5	2		
27	4		2		16	10		2		* 2
28	4		2		17	10			* 2	
29	4		2		18	9	5			
30	4				20	9	5	* 2		2
31	4					9				
Month	Maximum		Minimum		Mean		Run-off in acre-feet			
October		4				3.6			221	
November 1-24		10				6.9			328	
February 20-29		4				2.6			52	
March						6.4			394	
April						14.4			857	
May						14.6			898	
June						5.8			345	
July						2.7			166	
August						2.0			123	
September						2.0			119	

\* Estimated.

## SILVER LAKE IRRIGATION DISTRICT CANAL NEAR SILVER LAKE, OREG.

LOCATION.—Staff gage in NE. ¼ 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.—March, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 32 second-feet May 24 and 27 (gage height, 1.80 feet); canal dry most of year.

1923-1928: Maximum discharge, 60 second-feet June 26-29, 1923; canal dry most of each year.

REMARKS.—Records fair. This canal diverts water from Silver Creek for irrigation of about 6,500 acres east of Silver Lake post office. Records furnished by State engineer of Oregon.

*Daily and monthly discharge, in second-feet, 1928*

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1.-----	0	7.6	30	10	18	2.3	16.-----	0	29	28	23	18	0
2.-----	0	9.4	30	7.7	18	0	17.-----	0	29	29	23	18	0
3.-----	0	10	30	8.1	18	0	18.-----	0	29	29	23	19	0
4.-----	0	10	30	8.6	18	0	19.-----	0	29	28	23	20	0
5.-----	0	14	29	8.6	15	0	20.-----	0	29	29	28	20	0
6.-----	0	15	30	8.6	14	0	21.-----	0	29	29	28	20	0
7.-----	0	16	29	8.6	15	0	22.-----	0	29	26	27	13	0
8.-----	0	16	28	8.6	17	0	23.-----	0	29	26	26	9.1	0
9.-----	0	16	28	9.8	14	0	24.-----	0	30	26	24	7.4	0
10.-----	0	19	28	11	14	0	25.-----	0	30	28	22	8.1	0
11.-----	0	20	29	16	14	0	26.-----	0	29	29	19	7.4	0
12.-----	0	22	30	19	14	0	27.-----	3.6	30	29	18	6.9	0
13.-----	0	23	29	22	17	0	28.-----	6.9	30	24	17	6.9	0
14.-----	0	28	29	23	18	0	29.-----	6.9	30	14	17	6.9	0
15.-----	0	29	29	23	18	0	30.-----	6.9	29	10	18	6.9	0
							31.-----		30		16	6.9	
Month						Maximum	Minimum	Mean	Run-off in acre-feet				
April.-----						6.9	0	0.81	48				
May.-----						30	7.6	23.4	1,440				
June.-----						30	10	27.4	1,630				
July.-----						28	7.9	17.6	1,080				
August.-----						20	6.9	14.1	867				
September.-----						2.3	0	.08	5				
The year.-----									5,070				

NOTE.—No flow October to March.

## MALHEUR AND HARNEY LAKES BASIN

## SILVIES RIVER NEAR BURNS, OREG.

LOCATION.—Water-stage recorder in or near SE.  $\frac{1}{4}$  sec. 25, T. 21 S., R. 29 E., 1 mile below dam site for proposed lower Silvies Reservoir and 15 miles northwest of Burns. Staff gage in sec. 7, T. 22 S., R. 10 E., at Parker ranch, used during winter.

DRAINAGE AREA.—940 square miles.

RECORDS AVAILABLE.—May, 1903, to July, 1906; December, 1908, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,310 second-feet March 12 and 27 (gage height, 11.7 feet); minimum, 5.6 second-feet September 5 (gage height, 0.98 foot).

1903–1906, 1908–1928: Maximum discharge, 4,730 second-feet April 15 1904 (gage height, 17.12 feet, original datum); minimum, 0.6 second-foot September 2, 1924.

REMARKS.—Records poor. A large area on headwaters of Silvies River is irrigated with flood water. Flow at staff gage occasionally affected by operation of Sylvester Dam, half a mile upstream. Records furnished by State engineer of Oregon.

*Daily and monthly discharge, in second-feet, 1927–28*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	13	14	51	58	70	62	790	776	143	29	13	6.0
2.....	13	14	53	62	70	62	806	762	130	29	12	6.0
3.....	13	13	52	64	88	62	790	720	116	30	12	6.0
4.....	14	13	52	66	87	66	720	678	112	30	12	5.8
5.....	15	14	51	67	84	70	650	626	104	29	12	5.6
6.....	15	14	48	69	82	96	626	590	96	28	12	5.8
7.....	16	14	46	70	78	128	614	542	90	26	11	6.0
8.....	16	14	42	88	74	191	602	519	84	25	10	6.2
9.....	17	15	41	105	70	265	578	486	77	23	10	6.6
10.....	18	16	42	105	70	398	578	475	75	24	8.9	7.0
11.....	18	18	42	105	70	706	590	453	70	24	8.3	7.2
12.....	18	41	102	66	66	1,220	602	431	66	22	8.3	7.6
13.....	19	42	99	62	62	1,000	614	409	62	21	7.8	7.8
14.....	19	42	96	58	734	626	376	61	21	7.4	12	
15.....	19	43	92	54	638	638	355	58	21	7.4	12	
16.....	19	24	45	87	50	618	650	335	55	19	7.2	10
17.....	18	46	87	52	598	720	315	53	18	7.0	10	
18.....	18	46	87	54	578	776	305	51	18	6.8	9.8	
19.....	18	46	87	54	720	806	275		17	6.6	9.8	
20.....	18	31	46	87	54	776	806	255	16	6.4	9.8	
21.....	18	32	46	87	54	822	790	240	16	6.4	9.8	
22.....	17	32	49	82	54	888	748	225	36	16	6.4	9.5
23.....	17	32	51	78	54	1,020	720	215	15	6.2	9.2	
24.....	17	30	54	75	52	1,120	720	220	15	6.4	9.2	
25.....	16	30	54	73	50	1,160	748	206	16	6.4	9.2	
26.....	16	31	54	70	52	1,180	734	188	21	16	6.4	9.5
27.....	16	31	54	70	54	1,250	762	179	22	15	6.4	9.8
28.....	16	33	54	70	57	1,200	790	170	24	14	6.6	10
29.....	16	39	54	70	59	1,040	790	166	25	14	6.6	11
30.....	16	51	54	70	-----	942	776	156	28	13	6.4	11
31.....	16	-----	54	70	-----	822	-----	152	-----	13	6.2	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	19	13	16.6	1,020
November.....	51	13	24.1	1,430
December.....	54	41	48.2	2,960
January.....	105	58	80.6	4,960
February.....	88	50	68.2	3,640
March.....	1,250	62	659	40,500
April.....	806	578	705	42,000
May.....	776	152	381	23,400
June.....	143	-----	62.5	3,720
July.....	30	13	20.4	1,250
August.....	13	6.2	8.27	508
September.....	12	5.6	8.51	506
The year.....	1,250	5.6	173	126,000

NOTE.—Discharge Mar. 16–17 and mean discharge for periods included in brackets interpolated. Staff gage at Parker Bridge read three times a week Dec. 14 to Mar. 5; for days gage was not read, daily discharge interpolated.

## ALVORD LAKE BASIN

## TROUT CREEK NEAR DENIO, OREG.

LOCATION.—Water-stage recorder in SW.  $\frac{1}{4}$  sec. 26, T. 39 S., R. 36 E., 800 feet above bridge at mouth of canyon, 5 miles east of Trout Creek ranch, and 14 miles northeast of Denio.

RECORDS AVAILABLE.—March, 1911, to March, 1912; April, 1922, to November, 1923; April, 1925, to September, 1928 (fragmentary).

EXTREMES.—Maximum discharge during year, 138 second-feet May 9 (gauge height, 3.08 feet); minimum, 1.0 second-foot August 12.

1911–12, 1922–23, 1925–1928: Maximum discharge, 235 second-feet May 18, 1927 (gauge height, 3.55 feet); minimum, 0.3 second-foot July 18, 1922.

REMARKS.—Records poor. A little water is diverted for irrigating small ranch fields above station. Large area irrigated below mouth of canyon. Records furnished by State engineer of Oregon.

*Daily and monthly discharge, in second-feet, 1928*

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1.....		67	18	16	2	3	16.....	20	54	13	5	2	2
2.....		67	15	15	3	2	17.....	21	50	13	<sup>a</sup> 5	2	2
3.....		54	15	13	3	2	18.....	<sup>a</sup> 22	51	12	<sup>a</sup> 4	2	2
4.....		53	14	12	4	2	19.....	23	48	13	4	2	2
5.....	<sup>a</sup> 20	57	11	11	4	2	20.....	23	46	11	4	2	3
6.....		78	10	11	4	2	21.....	22	44	11	4	2	3
7.....		83	9	10	3	2	22.....	22	44	10	4	2	2
8.....		87	7	10	2	2	23.....	22	43	10	4	2	3
9.....		118	7	9	2	2	24.....	24	40	10	4	2	2
10.....	17		7	8	2	2	25.....	24	37	11	3	2	2
11.....			8	7	2	2	26.....	25	36	14	2	2	
12.....	17	<sup>a</sup> 75	8	7	2	2	27.....	31	34	14	2	3	
13.....	16		8	6	2	3	28.....	36	32	14	2	3	<sup>a</sup> 2
14.....	18		10	6	2	3	29.....	43	28	16	2	3	
15.....	20		11	5	2	2	30.....	48	25	16	2	3	
							31.....		22		2	3	
Month						Maximum	Minimum	Mean		Run-off in acre-feet			
April.....						48	-----	23.0		1,370			
May.....						-----	22	56.4		3,470			
June.....						18	7	11.5		684			
July.....						16	2	6.4		394			
August.....						4	2	2.5		154			
September.....						3	2	2.2		131			
The period.....						-----	•	-----		6,200			

<sup>a</sup> Estimated.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Discharge measurements of streams in the Great Basin at points other than regular gaging stations, made during the year ending September 30, 1928, are listed in the following table:

*Miscellaneous discharge measurements in the Great Basin during the year ending September 30, 1928*

## Bear River Basin

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Dis-charge
				<i>Feet</i>	<i>Sec.-ft.</i>
Aug. 22	Bear River.....	Great Salt Lake.....	Sec. 28, T. 13 S., R. 44 E., half a mile below Stewart Dam and 4 miles south of Montpelier, Idaho.		49.4
23	do.....	do.....	Sec. 6, T. 12 S., R. 44 E., at Utah Power & Light Co.'s gaging station at Pascadero siding, 6 miles northwest of Montpelier, Idaho.	8.27	1,060
24	do.....	do.....	do.....	8.28	1,080
23	do.....	do.....	NE. $\frac{1}{4}$ sec. 30, T. 9 S., R. 42 E., at Utah Power & Light Co.'s gaging station, 3 miles south of Soda Springs, Idaho.	2.15	1,080
22	Dingle inlet canal.....	Bear Lake.....	NE. $\frac{1}{4}$ sec. 14, T. 14 S., R. 44 E., below country road and half a mile south of Dingle, Idaho.		12.6
22	Rainbow inlet canal.....	do.....	Sec. 10, T. 14 S., R. 44 E., at Utah Power & Light Co.'s gaging station, 2 miles west of Dingle, Idaho.		30.3
22	Bear Lake outlet canal.	do.....	Sec. 8, T. 14 S., R. 44 E., at Utah Power & Light Co.'s gaging station, 1,000 feet downstream from dike and 3 miles southeast of Paris, Idaho.	17.08	976

## Weber River Basin

Mar. 19	South Fork of Ogden River.	Ogden River.....	NW. $\frac{1}{4}$ sec. 14, T. 6 N., R. 1 E., at former gaging station, one-third mile southeast of Artesian Park and 2 miles west of Huntsville, Utah.	1.56	139
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## Jordan River Basin

June 5	Red Butte Creek.....	Jordan River.....	SE. $\frac{1}{4}$ sec. 34, T. 1 N., R. 1 E., 50 feet above Fort Douglas diversion dam, 1 mile northeast of Fort Douglas, and 4 miles east of Salt Lake City, Utah.		5.1
July 3	do.....	do.....	do.....		3.1
10	Utah Power & Light Co.'s tailrace.	Santaquin Creek.....	NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 13, T. 10 S., R. 1 E., at Utah Power & Light Co.'s gaging station at power plant 2 miles south of Santaquin, Utah.	0.97	11.7

## Minor basins in Nevada

June 18	Currant Creek.....	Railroad Valley.....	Sec. 25, T. 11 N., R. 58 E., at former gaging station at bridge at Cazier's ranch, 2 miles above Curran, Nev.	0.09	4.0
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*Miscellaneous discharge measurements in the Great Basin during the year ending September 30, 1928—Continued*

## Humboldt-Carson Sink Basin

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
Mar. 27	Humboldt River.....	Humboldt Sink.....	NW. $\frac{1}{4}$ sec. 14, T. 36 N., R. 41 E., at former gaging station at Comus, Nev.	Feet 3 62	Sec.-ft. 360

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