DEPARTMENT OF THE INTERIOR
Hubert Work, Secretary

U. S. GEOLOGICAL SURVEY
George Otis Smith, Director

WATER-SUPPLY PAPER 590

SURFACE WATER SUPPLY OF THE UNITED STATES

1924

PART X. THE GREAT BASIN

NATHAN C. GROVER, Chief Hydraulic Engineer
A. B. PURTON, H. D. McGLASHAN, F. F. HENSHAW
C. G. PAULSEN, and ROBERT FOLLANSBEE
District Engineers

Prepared in cooperation with the States of
UTAH, NEVADA, CALIFORNIA, OREGON, IDAHO, and WYOMING

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SURFACE WATER SUPPLY OF THE GREAT BASIN, 1924

AUTHORIZATION AND SCOPE OF WORK

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

The data presented in these reports were collected by the United States Geological Survey under 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 structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies relating to irrigation in the arid West. 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 years ending June 30, 1895–1925

1895	$12,500.00	1908–1910	$100,000.00
1896	[1] 24,500.00	1911–1917	150,000.00
1897–1899	50,000.00	1918	175,000.00
1900	[2] 70,000.00	1919	148,244.10
1901–1902	100,000.00	1920	175,000.00
1903–1906	200,000.00	1921–1923	180,000.00
1907	150,000.00	1924–1925	170,000.00

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

Measurements of stream flow have been made at about 5,800 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1924, 1,670 gaging stations were being maintained by the Survey and the cooperating organizations. Many miscellaneous discharge measurements are made at other points. In

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

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

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 the water-supply papers from time to time.

DEFINITION OF TERMS

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

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

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

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

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

The following terms not in common use are here defined:

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

"Control," a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage. It should be noted that the control may not be the same section or sections at all stages.

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

EXPLANATION OF DATA

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

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

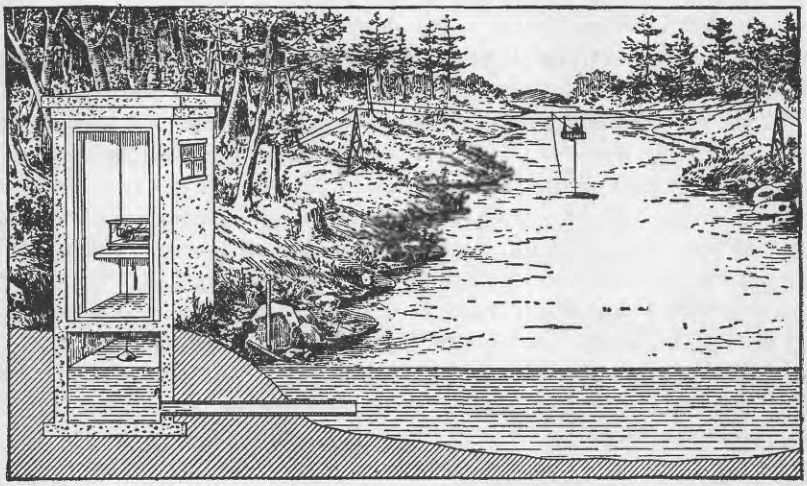

FIGURE 1.—Typical gaging station

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 height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is determined.

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

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

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

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and 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 quantities of discharge for regular intervals during the day, or by means of a discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

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

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

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

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

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

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

PUBLICATIONS

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

PART VI. Missouri River Basin.
VII. Lower Mississippi River Basin.
VIII. Western Gulf of Mexico Basins.
IX. Colorado River Basin.
X. Great Basin.
XI. Pacific slope basins in California.
North Pacific slope basins; in three volumes:
A. Pacific slope basins, in Washington and upper Columbia River Basin.
B. Snake River Basin.
C. Lower Columbia River Basin and Pacific slope basins in Oregon.

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

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

2. 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:

Boston, Mass., 2500 Customhouse.
Albany, N. Y., 904 Home Savings Bank Building.
Trenton, N. J., Statehouse.
Charlottesville, Va., care of University of Virginia.
Asheville, N. C., 608 City Hall.
Chattanooga, Tenn., 830 Power Building.
Columbus, Ohio, Engineering Experimental Station, Ohio State University.
Chicago, Ill., 1510 Consumers Building.
Madison, Wis., care of Railroad Commission of Wisconsin.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Helena, Mont., 45–46 Federal Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Fall, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Tacoma, Wash., 404 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 600 Federal Building.
Tucson, Ariz., 106 College of Law Building, University of Arizona.
Austin, Tex., State Capitol.
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,800 points in the United States, and the data obtained have been published in the reports tabulated below:

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

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

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to September, 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.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
W 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
W 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
W 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907–8.
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 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919–20.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.

NOTE.—No data regarding stream flow are given in the 15th and 17th annual reports.

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

The following table gives, by years and drainage basin, the numbers of papers on surface-water supply published from 1899 to 1924. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data for 1902 to 1921 for any station in the area covered by Part III are published in Water-Supply Papers 83, 98, 128, 169, 205, 243, 263, 283, 303, 323, 353, 383, 403, 433, 453, 473, 503, and 523, which contain records for the Ohio River Basin for those years. Results of miscellaneous measurements are published by drainage basins.

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

[For basins included see p. 5]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
												A	B	C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [i] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125 [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 131	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 169, 173	174	175, [s] 177	176, [r] 177	177	178	178	[t] 177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 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	332A	332B	332C
1913	351	352	353	354	355	356	357	358	359	360	361	362A	362B	362C
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

[a] 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.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Grand River above junction with Gunnison.
[e] Mohave River only.
[f] Kings and Kern Rivers and south Pacific slope basins.
[g] Rating tables and index to Water-Supply Papers 47–52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[k] Tributaries of Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence River.
[m] Hudson Bay only.
[n] New England rivers only.
[o] Hudson River to Delaware River, inclusive.
[p] Susquehanna River to Yadkin River, inclusive.
[q] Platte and Kansas Rivers.
[r] Great Basin in California except Truckee and Carson River Basins.
[s] Below junction with Gila.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

The work in Utah, Nevada, California, Oregon, Wyoming, and Idaho was carried on under cooperative agreements between the United States Geological Survey and the States, and special acknowledgments are due to the cooperating State officials, R. E. Caldwell and Lloyd Garrison, State engineers of Utah; Robert A. Allen, State engineer of Nevada; W. F. McClure, State engineer of California; the division of water rights, Department of Public Works of the State of California; Rhea Luper, State engineer of Oregon; Frank C. Emerson, State engineer of Wyoming; and W. G. Swendsen, commissioner of reclamation of Idaho, for the efficient manner in which they have represented their States in the cooperative investigations.

Acknowledgments are also due for financial assistance rendered by United States Office of Indian Affairs, Utah Power & Light Co., Empire Irrigation District, Walker River Irrigation District, and Sevier River water users.

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 W. E. Dickinson, J. W. Mangan, M. T. Wilson, D. M. Corbett, and Miss Lysle Christensen.

For stations in California, the data were collected and prepared for publication under the direction of H. D. McGlashan, district engineer, assisted by William Kessler, F. C. Ebert, R. C. Briggs, Charles Leidl, K. M. Kelley, Jesse Arnold, and J. E. Jones.

For stations in Oregon, the data were collected and prepared for publication under the direction of F. F. Henshaw, district engineer, assisted by G. H. Canfield, Wendell Dawson, E. O. Hokanson, and R. J. McKinney.

Data for stations on Soda Creek in Idaho were collected and prepared for publication under the direction of C. G. Paulsen, district engineer, assisted by Berkeley Johnson, F. M. Veatch, C. L. Batchelder, and Miss E. H. Haugse.

Data for the station in Wyoming were collected and prepared for publication under the direction of Robert Follansbee, assisted by P. V. Hodges and J. W. Mangan.

The records were reviewed and manuscript assembled by B. J. Peterson and J. H. Morgan.

GAGING-STATION RECORDS

GREAT SALT LAKE BASIN

GAGES ON GREAT SALT LAKE

LOCATION.—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.

RECORDS AVAILABLE.—September 14, 1875, to December 15, 1899; March to July, 1904; October 1, 1912, to September 30, 1924.

GAGES.—Midlake gage read August 15, 1902, to September 30, 1924, by Southern Pacific Co. Saltair gage read July 1, 1903, to September 30, 1924, by United States Weather Bureau. Other gages used at various times are described in earlier water-supply papers. Datum of Midland gage is 4,198.0 feet above mean sea level as determined by comparative readings with other gages in 1916. Datum of Saltair gage is 4,196.8 feet above mean sea level as determined by levels by topographic branch in 1922.

EXTREMES OF STAGE.—Maximum stage recorded during the year, 4,205.0 feet above mean sea level May 1 at Saltair gage. Minimum stage, 4,203.2 feet September 15 at Saltair gage.

1850–1924: Maximum stage recorded, 4,211.3 feet above mean sea level July 12, 1877. Estimated maximum stage, 4,212.5 feet occurred in 1868 (data furnished by Marcus E. Jones, Salt Lake City). Minimum stage, 4,195.7 feet in 1902.

ACCURACY.—Saltair gage is read to tenths of feet. Midlake gage is read in inches and reductions have been made to feet and decimals. Apparent inconsistencies in readings are probably largely due to the effect of wind as the two gages are about 40 miles apart.

COOPERATION.—Readings on Midlake gage are furnished by Southern Pacific Co.; readings on Saltair gage by United States Weather Bureau.

Gage height, in feet, of Great Salt Lake, Utah, for the year ending September 30, 1924

Day	Gage height		Day	Gage height	
	Saltair gage	Midlake gage		Saltair gage	Midlake gage
Oct. 1	6.8	5.67	Apr. 1	8.0	6.83
Oct. 15	7.0	5.92	Apr. 15	8.1	6.83
Nov. 1	7.1	6.00	May 1	8.2	6.92
Nov. 15	7.2	6.00	May 15	8.0	6.92
Dec. 1	7.2	6.08	June 1	7.8	6.83
Dec. 15	7.2	6.08	June 15	7.8	6.67
Jan. 1	7.3	6.17	July 1	7.6	6.42
Jan. 15	7.4	6.17	July 15	7.4	6.33
Feb. 1	7.5	6.33	Aug. 1	7.1	6.00
Feb. 15	7.6	6.50	Aug. 16	6.9	5.67
Mar. 1	7.8	6.58	Sept. 1	6.5	5.50
Mar. 15	7.9	6.75	Sept. 15	6.4	5.33

BEAR RIVER BASIN

BEAR RIVER NEAR EVANSTON, WYO.

LOCATION.—In sec. 1, T. 15 N., R. 121 W., 300 feet above highway bridge and 3½ miles northwest of Evanston, Uinta County. Nearest tributary, a small stream entering from southwest half a mile above.

DRAINAGE AREA.—645 square miles (measured on base map of Wyoming, scale 1:500,000).

RECORDS AVAILABLE.—October 26, 1913, to September 30, 1924.

GAGE.—Chain on left bank, 300 feet above bridge; read by Mrs. Alex. Morrow.

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

CHANNEL AND CONTROL.—Bed composed of coarse gravel. Control at riffle a short distance below gage; slightly shifting at long intervals. Banks subject to overflow at stage of about 5 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.75 feet at 9 a. m. April 14 (discharge, 2,800 second-feet); no flow August 9–24 and August 27 to September 30.

1914–1924: Maximum stage recorded, 6.35 feet at 6.30 p. m. June 14, 1921 (discharge, 3,690 second-feet); minimum discharge in 1924.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Adjudicated diversions for irrigation of 30,300 acres from Bear River above station.

REGULATION.—Diurnal fluctuation during spring caused by alternate melting and freezing of mountain snow. No artificial regulation.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

October 19, 1923: Gage height, 1.79 feet; discharge, 152 second-feet.

May 22, 1924: Gage height, 4.14 feet; discharge, 1,180 second-feet.

August 18, 1924: Gage height, 0.48 foot; discharge, 0 second-foot.

Daily discharge, in second-feet, of Bear River near Evanston, Wyo., for the year ending September 30, 1924

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.
1	160	121	-------	98	372	1,200	20	4
2	160	117	-------	119	390	1,080	17	3
3	167	112	-------	248	425	960	17	3
4	170	119	-------	304	630	840	17	3
5	175	135	-------	288	730	780	16	3
6	177	119	-------	780	730	730	16	2
7	167	108	-------	780	730	680	18	1
8	197	104	-------	1,610	780	630	28	1
9	288	104	-------	1,750	840	535	50	0
10	250	104	-------	1,750	1,020	478	37	0
11	230	106	-------	1,330	1,140	408	24	0
12	219	112	-------	1,400	1,200	390	20	0
13	213	126	-------	1,820	1,200	355	16	0
14	202	135	-------	1,900	1,260	338	13	0
15	202	139	-------	1,820	1,330	320	12	0
16	187	-------	-------	780	1,330	273	10	0
17	165	-------	-------	478	1,470	258	11	0
18	148	-------	-------	408	1,470	216	12	0
19	128	-------	-------	515	1,470	190	10	0
20	117	-------	-------	540	1,470	177	9	0
21	123	-------	-------	460	1,470	151	9	0
22	137	-------	-------	460	1,200	126	9	0
23	148	-------	106	535	1,080	108	9	0
24	135	-------	110	442	900	96	8	0
25	123	-------	115	408	840	54	7	1
26	112	-------	110	408	840	31	6	1
27	108	-------	90	408	730	29	6	0
28	115	-------	94	372	730	23	6	0
29	130	-------	94	338	900	24	5	0
30	130	-------	98	355	960	25	4	0
31	126	-------	90	-------	1,140	-------	4	0

Monthly discharge of Bear River near Evanston, Wyo., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	288	108	165	10,100
November 1–15	139	104	117	3,480
March 23–31	115	90	101	1,800
April	1,900	98	763	45,400
May	1,470	372	993	61,100
June	1,200	23	384	22,800
July	50	4	14.4	885
August	4	0	.71	44
September	0	0	0	0

BEAR RIVER AT HARER, IDAHO

LOCATION.—In NE. ¼ sec. 22, T. 14 S., R. 45 E., three-fourths of a mile north of Harer siding on Oregon Short Line Railroad, 7 miles above Dingle and 14 miles southeast of Montpelier, Bear Lake County.

DRAINAGE AREA.—2,780 square miles (determined by Utah Power & Light Co.).

RECORDS AVAILABLE.—June 21, 1913, to September 30, 1916; January 1, 1919, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; installed August 24, 1914; inspected by Karl Gilgen.

DISCHARGE MEASUREMENTS.—Made by wading or from cable.

CHANNEL AND CONTROL.—Bed clean and firm, hard material; left bank is overflowed at extremely high stages. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 10.18 feet at 6 a. m. April 15 (discharge, 3,790 second-feet; minimum discharge, 122 second-feet December 20 (stage-discharge relation affected by ice).

1913–1916 and 1919–1924: Maximum stage recorded, 10.51 feet June 2, 1920 (discharge, 3,860 second-feet); minimum stage, 2.61 feet at 6.25 a. m September 1, 1919 (discharge, 81 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Numerous diversions for irrigation above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation affected by ice December 1 to April 5. Rating curves well defined. Water-stage recorder operated satisfactorily. Daily discharge determined by applying to rating table mean daily gage height ascertained from recorder graph, except during periods affected by ice as follows: December, discharge estimated from discharge measurements; January 1 to April 5, mean daily gage heights were corrected for ice affect by means of a backwater table before applying to rating table. Records good.

COOPERATION.—Data are collected and records compiled by Utah Power & Light Co. (under supervision of the Geological Survey) in connection with records furnished for project 20, Idaho, of the Federal Power Commission.

Discharge measurements of Bear River at Harer, Idaho, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 2	4.15	597	Jan. 9	[a] 3.77	269	May 16	6.76	1,800
Do	4.15	565	Jan. 19	[a] 3.94	291	May 28	5.75	1,340
Oct. 10	4.57	766	Feb. 1	[a] 4.03	278	June 2	5.17	1,050
Oct. 18	4.34	659	Feb. 11	[a] 4.08	307	June 11	4.76	845
Oct. 26	4.34	657	Feb. 18	[a] 4.15	327	June 19	4.04	516
Nov. 1	4.30	625	Feb. 29	[a] 4.74	497	July 5	3.20	218
Nov. 7	4.18	569	Mar. 6	[a] 4.79	509	July 12	3.20	214
Nov. 14	4.19	591	Mar. 12	[a] 4.52	445	Aug. 6	3.09	172
Nov. 21	4.01	506	Mar. 31	[a] 3.86	389	Aug. 15	3.04	164
Nov. 27	3.97	477	Apr. 7	5.78	1,390	Aug. 23	3.00	148
Dec. 12	[a] 4.10	344	Apr. 14	10.18	3,790	Sept. 4	2.92	144
Do	[a] 4.10	309	Apr. 22	7.02	1,940	Sept. 15	3.02	168
Dec. 19	[a] 3.79	325	Apr. 29	5.98	1,450	Sept. 25	3.12	189
Dec. 26	[a] 3.81	306	May 5	6.62	1,770			

[a] Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Bear River at Harer, Idaho, for the year ending September 30, 1924

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	608	640	460	282	279	434	499	1,480	1,100	266	188	135
2	577	636	380	269	275	418	487	1,530	1,060	240	185	135
3	590	631	300	262	282	438	478	1,560	1,060	228	185	135
4	604	618	350	266	282	454	575	1,640	1,080	216	182	138
5	680	608	330	256	292	470	955	1,740	1,140	210	182	149
6	790	604	360	246	296	491	1,140	1,810	1,120	213	179	150
7	868	595	380	243	299	516	1,380	1,830	1,030	210	177	149
8	810	586	410	246	303	503	2,340	1,860	995	216	172	147
9	760	577	360	266	310	466	3,190	1,790	970	216	177	149
10	780	568	240	275	310	454	3,240	1,690	920	213	182	151
11	840	572	270	286	306	454	3,270	1,700	855	210	179	156
12	835	586	305	289	296	438	3,370	1,720	810	216	177	159
13	820	586	320	286	289	422	3,560	1,770	770	228	172	159
14	775	590	340	286	296	418	3,760	1,760	730	275	164	159
15	740	590	350	282	299	434	3,770	1,830	646	240	164	159
16	715	582	330	289	303	430	3,600	1,820	593	231	159	159
17	690	564	325	289	313	398	3,430	1,800	558	231	156	164
18	662	536	320	289	320	383	3,210	1,730	545	231	154	164
19	654	518	325	289	331	364	2,850	1,710	516	243	154	164
20	640	510	325		360	402	2,680	1,720	499	246	151	166
21	626	514	325		398	402	2,310	1,700	478	243	156	166
22	613	510	325		430	395	1,960	1,710	458	243	156	174
23	608	505	325		454	395	1,920	1,710	430	237	156	179
24	636	510	325		454	402	1,940	1,680	414	234	154	182
25	654	510	315	284	474	414	1,880	1,620	368	228	154	185
26	658	514			507	426	1,780	1,560	346	222	151	185
27	667	505			512	414	1,650	1,460	328	216	151	190
28	667	481	300		487	422	1,540	1,350	299	204	151	199
29	667	465			470	434	1,460	1,310	275	196	149	199
30	662	493			-------	474	1,450	1,250	272	190	147	199
31	649	-------			-------	491	-------	1,200	-------	188	144	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Bear River at Harer, Idaho, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	868	577	695	42,700
November	640	465	557	33,100
December	460	240	328	20,200
January	-------	243	278	17,100
February	512	275	353	20,300
March	516	364	434	26,700
April	3,770	478	2,196	130,000
May	1,860	1,200	1,650	101,000
June	1,140	272	689	41,000
July	275	188	225	13,800
August	188	144	165	10,100
September	199	135	164	9,760
The year	3,770	135	642	466,000

BEAR RIVER AT ALEXANDER, IDAHO

LOCATION.—In NE. ¼ sec. 18, T. 9 S., R. 41 E., half a mile southeast of Alexander, Caribou County, 3 miles above intake of Last Chance Canal, and 6 miles above dam of Utah Power & Light Co. at Grace.

DRAINAGE AREA.—3,840 square miles (measured on Utah Power & Light Co.'s map).

RECORDS AVAILABLE.—March 27, 1911, to September 30, 1916, and April 17, 1919, to September 30, 1924.

GAGE.—Stevens water-stage recorder on right bank installed September 15, 1914; inspected by Karl Gilgen.

DISCHARGE MEASUREMENTS.—Made from cable about 400 feet above gage and from a cable at Steamboat Springs about 3 miles above Alexander during period when river is frozen over.

CHANNEL AND CONTROL.—Bed composed of gravel and sand. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year occurred during winter ice gorges. Maximum stage during open water 8.35 feet at 11 p. m. April 13 (discharge, 2,440 second-feet); minimum stage, 5.01 feet at 11 a. m. November 30 (discharge, 220 second-feet).

1911–1916 and 1919–1924: Maximum stage recorded, 15.95 feet December 11, 1919, during ice-affected period. Maximum discharge, 4,590 second-feet occurred May 9, 1922, at gage height 10.14 feet. Minimum stage, that of November 30, 1923.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Water is diverted above station for irrigation and for storage in Bear Lake.

REGULATION.—Affected by water released at Bear Lake and returned to Bear River about 30 miles above station.

ACCURACY.—Stage-discharge relation changed November 25; affected by ice from December 5 to February 22. Rating curves well defined. Water-stage recorder operated successfully during year except for ice-affected periods and November 18–22. Daily discharge determined by applying to rating table mean daily gage height ascertained by inspection of recorder graph except during ice-affected periods when discharge was estimated from current-meter measurements and comparison with flow at Bern Bridge and Pescadero above station and Grace below. Records good.

COOPERATION.—Data are collected and records compiled by the Utah Power & Light Co. (under the supervision of the Geological Survey) in connection with project 20, Idaho, of the Federal Power Commission.

Discharge measurements of Bear River at Alexander, Idaho, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 5	6.49	1,010	Mar. 8	5.96	673	May 26	7.10	1,450
Do	6.43	975	Mar. 11	6.00	666	June 10	7.08	1,460
Oct. 13	6.19	830	Mar. 15	6.14	760	June 18	6.99	1,370
Oct. 19	6.40	981	Mar. 22	6.39	913	July 1	6.63	1,100
Oct. 29	6.34	892	Mar. 29	6.10	734	July 8	7.04	1,400
Nov. 3	6.64	1,110	Apr. 5	6.24	819	Aug. 12	7.04	1,410
Nov. 9	6.46	988	Apr. 12	7.64	1,920	Aug. 22	6.89	1,280
Nov. 16	6.28	884	Apr. 21	6.44	952	Sept. 3	7.00	1,350
Nov. 23	6.51	1,030	Apr. 26	6.22	799	Sept. 17	7.01	1,360
Nov. 30	6.63	1,130	Apr. 30	6.44	957	Do	6.90	1,320
Dec. 7	6.90	1,360	May 2	6.56	1,060	Sept. 23	6.87	1,280
Feb. 26	6.52	974	May 13	6.64	1,090	Sept. 30	6.56	1,070
Mar. 4	6.06	758	May 19	6.88	1,280			

Daily discharge, in second-feet, of Bear River at Alexander, Idaho, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,070	1,090	1,120			748	718	1,070	1,250	1,050	1,530	1,220
2	1,050	1,080	1,100			736	816	960	1,180	1,060	1,520	1,320
3	1,000	1,100	1,050			781	904	684	1,170	1,080	1,390	1,310
4	1,000	1,020	1,150			672	878	718	1,140	953	1,510	1,240
5	956	846	1,200			730	795	736	1,090	1,130	1,460	1,280
6	939	878	1,260			724	748	795	1,130	1,070	1,520	1,250
7	873	928	1,320			700	860	976	1,160	1,240	1,480	1,140
8	890	1,020				667	1,140	946	1,250	1,280	1,480	1,200
9	917	1,000				689	1,410	897	1,360	1,210	1,470	1,300
10	917	974				689	1,470	809	1,400	1,250	1,420	1,220
11	912	956	1,500			672	1,560	736	1,400	1,220	1,460	1,300
12	856	900			1,160	662	1,950	830	1,340	1,040	1,320	1,230
13	840	890				667	2,190	1,060	1,250	939	1,300	1,150
14	830	884				700	2,080	1,220	1,180	1,250	1,310	1,060
15	815	873	1,480			724	1,560	1,100	1,130	1,180	1,260	1,250
16	790	884		1,500		724	1,200	1,090	1,220	1,170	1,320	1,230
17	795	878				706	1,040	1,260	1,310	1,190	1,170	1,280
18	820		1,580			684	1,000	1,280	1,320	1,240	1,280	1,220
19	939					684	1,000	1,250	1,340	1,240	1,340	1,270
20	986	960				760	925	1,200	1,410	1,170	1,300	1,190
21	956		1,690			854	911	1,190	1,440	1,300	1,160	1,180
22	846					878	918	1,550	1,420	1,320	1,250	1,220
23	810	1,000			1,010	890	904	1,640	1,410	1,270	1,300	1,230
24	840	962			1,010	823	884	1,480	1,380	1,250	1,280	1,160
25	986	934			1,160	754	823	1,400	1,290	1,280	1,280	1,220
26	1,030	944	1,740		1,180	662	774	1,420	1,230	1,280	1,280	1,230
27	974	1,010			953	656	712	1,440	1,250	1,160	1,280	1,130
28	968	1,040			860	689	667	1,460	1,190	1,340	1,290	911
29	928	1,110			802	706	689	1,460	1,170	1,470	1,320	1,100
30	922	1,150			-------	689	890	1,340	1,120	1,360	1,320	1,040
31	1,020	-------			-------	656	-------	1,320	-------	1,520	1,140	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Bear River at Alexander, Idaho, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,070	790	919	56,500
November	1,150	846	972	57,800
December	----------	1,050	1,520	93,500
January	----------	----------	[a] 1,500	92,200
February	----------	802	1,120	64,400
March	890	656	722	44,400
April	2,190	667	1,080	64,300
May	1,640	684	1,140	70,100
June	1,440	1,090	1,260	75,000
July	1,520	939	1,210	74,400
August	1,530	1,140	1,350	83,000
September	1,320	911	1,200	71,400
The year	2,190	656	1,170	847,000

[a] Estimated.

BEAR RIVER NEAR WESTON, IDAHO

LOCATION.—In SE. ¼ sec. 17, T. 16 S., R. 39 E., at Weston-Fairview highway bridge, 3 miles east of Weston, Franklin County.

RECORDS AVAILABLE.—October 21, 1919, to September 30, 1924. Records at this station are comparable with those obtained at gaging station near Preston, Idaho, maintained October 11, 1889, to January 15, 1917.

GAGE.—Stevens continuous water-stage recorder; inspected by Mrs. Mart Rasmussen.

DISCHARGE MEASUREMENTS.—Made from highway bridge immediately below gage.

CHANNEL AND CONTROL.—Bed composed of gravel and earth. Banks fairly high and covered with brush. One channel at all stages. Low-water control is fairly well defined gravel riffle 200 feet below gage; not permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 8.22 feet at 6 p. m. April 15 (discharge, 3,470 second-feet); minimum stage, not determined.

1920–1924: Maximum stage, 12.1 feet May 8 or 9, 1922 (discharge, 6,100 second feet); minimum stage, 1.28 feet at 5 p. m. November 15, 1919 (discharge about 174 second-feet).

ICE.—Stage-discharge relation usually affected by ice.

DIVERSIONS.—Numerous irrigation diversions above. West Cache Canal diverts about 15 miles upstream and carries about 30,000 acre-feet around this station.

REGULATION.—Considerable diurnal fluctuation is caused by operation of Oneida power plant about 25 miles above, and seasonal flow is affected by storage at Bear Lake about 160 miles above.

ACCURACY.—Stage-discharge relation shifted occasionally. Three fairly well defined curves used. Operation of water-stage recorder satisfactory, except December to March when well was frozen, and for other short periods as indicated in footnote to daily-discharge table. Records when recorder was in operation good; estimated records fair.

COOPERATION.—Data are collected and records compiled by the Utah Power & Light Co. (under supervision of the Geological Survey) in connection with records furnished for project 20, Idaho, of the Federal Power Commission.

Discharge measurements of Bear River near Weston, Idaho, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 8	2.82	589	Mar. 19	2.65	567	June 19	2.35	368
Nov. 2	1.93	234	May 5	5.80	2,100	July 16	4.22	1,290
Dec. 5	2.35	341	June 13	3.58	1,000	Aug. 21	3.32	865

Daily discharge, in second-feet, of Bear River near Weston, Idaho, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,230	835	1,580			1,420	1,680	622	955	1,600	1,440	1,030
2	1,610	1,150	1,410			1,030	1,200	622	1,080	1,200	1,300	1,340
3	1,440	872	1,650			1,430	800	1,480	760	790	1,040	1,180
4	1,280	1,080	1,430			1,380	916	1,260	1,050	633	1,080	1,460
5	1,440	1,470	1,230			1,360	1,120	1,330	1,270	643	1,580	1,130
6	1,360	2,030	1,420			1,460	1,040	1,340	1,380	748	1,360	1,290
7	1,320	1,560	1,410			1,540	1,280	1,160	1,260	1,060	1,250	1,160
8	1,310	1,140	1,700			1,480	1,440	1,140	1,010	1,010	1,100	1,320
9	1,180	832	1,600			1,280	1,870	1,320	489	938	1,030	1,260
10	1,410	865	2,100			1,480	1,980	1,780	489	1,080	970	1,340
11	1,390	1,050	1,350			1,320	2,240	1,620	900	1,160	1,250	1,250
12	1,330	1,310	1,190			1,440	2,390	1,960	596	1,640	1,240	1,200
13	1,260	1,500	1,060			1,370	2,770	1,370	955	1,250	1,360	1,140
14	1,120	1,340	1,840			1,310	2,920	400	1,220	1,060	1,140	1,200
15	1,390	1,260	2,210		1,600	1,300	3,210	750	1,220	916	1,240	1,420
16	1,640	1,220	1,600	1,680		740	1,880	880	1,160	1,130	1,220	1,220
17	1,380	1,500	2,080			1,420	1,750	950	1,270	1,320	1,220	1,100
18	1,420	1,800	1,780			1,580	1,680	1,080	1,210	1,130	1,280	1,470
19	1,110	1,400	1,930			1,400	1,560	1,390	1,010	1,140	1,260	1,090
20	690	1,900	1,770			1,340	1,480	1,530	818	1,230	1,150	1,320
21	876	800	1,950			990	1,580	1,760	586	1,220	1,210	980
22	1,320	625	1,910			700	1,600	1,360	448	1,260	1,460	1,360
23	2,390	1,100	1,930			690	1,740	700	1,030	1,100	1,160	1,080
24	1,530	1,400	1,830			1,140	2,200	600	1,240	928	1,140	1,360
25	1,190	1,280	1,890			1,330	1,710	700	1,260	1,110	1,380	1,280
26	995	1,100	2,540			1,520	1,820	1,100	1,150	1,300	1,300	1,080
27	1,360	1,500	1,890			1,510	1,730	818	1,660	1,340	1,320	1,220
28	1,480	1,100	1,680			1,340	1,860	1,020	1,200	1,290	1,080	1,170
29	2,180	1,250	2,070			1,500	2,080	823	889	1,370	1,320	900
30	1,840	1,100	2,210			1,120	1,190	1,200	1,220	1,640	1,150	1,250
31	1,060		2,240			1,840		1,040		1,420	1,160	

NOTE.—No gage-height record Oct. 26 to Nov. 2, Nov. 13–21, 25–30, Mar. 11 to Apr. 3, 24, 25, May 14–16, 23–26, July 26–31, Sept. 1–6, and 17–30; stage-discharge relation affected by ice Dec. 7 to Mar. 5; discharge for these periods estimated by comparison with flow below Oneida power plant.

Monthly discharge of Bear River near Weston, Idaho, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,390	690	1,370	84,200
November	2,030	625	1,250	74,400
December	[a] 2,540	[a] 1,060	1,760	108,000
January	----------	----------	[a] 1,680	103,000
February	----------	----------	[a] 1,600	92,000
March	[a] 1,840	[a] 690	1,310	80,600
April	3,210	[a] 800	1,760	105,000
May	1,960	[a] 400	1,130	69,500
June	1,660	448	1,030	61,300
July	1,640	633	1,150	70,700
August	1,580	970	1,230	75,600
September	[a] 1,470	[a] 900	1,220	72,600
The year	3,210	[a] 400	1,370	997,000

[a] Estimated.

NOTE.—See footnote to daily-discharge table.

BEAR RIVER NEAR COLLINSTON, UTAH

LOCATION.—In W. ½ sec. 34, T. 13 N., R. 2 W., a quarter of a mile below power plant of Utah Power & Light Co., at railroad siding called Wheelon, 4 miles north of Collinston, Box Elder County. Little Malad River enters 20 miles below station.

DRAINAGE AREA.—6,000 square miles (measured on topographic and United States Forest Service maps).

RECORDS AVAILABLE.—July 1, 1889, to September 30, 1924.

GAGE.—Friez eight-day water-stage recorder on left bank; installed November 17, 1919; inspected by H. O. Durfey.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and sand. Left bank high and covered with willows; not subject to overflow. Right bank fairly high and covered with willows; may be overflowed by exceptionally high floods. Control not well defined.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.68 feet at 10 a. m. April 16 (discharge, 4,870 second-feet); minimum stage, 0.87 foot from 1 to 10 a. m. July 7 (discharge, 70 second-feet).

1889–1924: Maximum stage recorded, 7.7 feet June 7–10, 1909 (discharge, 11,600 second-feet); minimum stage, 0.42 foot at midnight August 5, 1920 (discharge practically zero).

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—West Side and Hammond Canals divert water on both sides of Bear River about 2 miles above station. Water can be used from either or both of these canals to supply Wheelon power plant. Water passing Wheelon penstocks is used for irrigation or can be returned to river. Numerous ditches farther upstream divert water for irrigation.

REGULATION.—Flow at station is affected by operation of power plants; also storage and release of water from Bear Lake Reservoir.

ACCURACY.—Stage-discharge relation changed slightly about first week of August; not affected by ice. Rating curves fairly well defined below 3,000 second-feet; extended above. Operation of water-stage recorder satisfactory, except as stated in footnote to daily-discharge table. Daily discharge ascer-

tained by applying to rating table mean daily gage height determined from recorder graph; shifting-control method used April 9 to May 11 and July 29 to August 8. Records good.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Utah Power & Light Co.

Discharge measurements of Bear River near Collinston, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	2.92	1,800	Apr. 14	4.22	4,060	July 15	1.60	454
Oct. 31	3.24	2,380	May 8	3.00	2,100	Aug. 21	1.20	106
Nov. 24	2.88	1,810	May 13	3.32	2,430			
Feb. 18	3.68	3,030	June 2	2.03	842			

Daily discharge, in second-feet, of Bear River near Collinston, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,190	2,000	2,030		2,370	2,250	2,280	2,430	1,060	404	655	468
2	1,750	1,450	2,060			2,090	2,370	1,770	910	700	602	420
3	1,990	1,390	1,960	2,450		1,990	2,180	1,780	860	495	523	452
4	1,850	1,480	2,220			2,120	1,880	2,820	664	134	294	484
5	1,860	1,640	1,920			2,220	1,920	2,690	745	80	312	540
6	1,920	2,030	1,910	2,310	2,440	2,090	1,910	2,680	900	80	619	630
7	1,950	2,400	1,960	2,300		1,930	1,880	2,870	1,080	73	516	621
8	1,930	2,090	2,360	1,780		2,000	1,710	2,340	1,130	147	453	648
9	1,930	1,580	2,370	1,720		2,180	1,950	2,000	790	226	342	740
10	1,820	1,400	2,300	2,060		1,990	2,370	1,980	594	259	209	800
11	2,060	1,590	2,050	2,360	2,520	2,050	3,090	2,260	488	372	183	810
12	2,060	1,950	2,120	2,340	2,550	2,000	3,560	2,060	481	425	358	730
13	2,020	2,050	2,030	2,440	2,130	2,030	3,660	2,370	509	745	404	711
14	1,880	2,030	2,030	2,220	2,320	2,020	4,080	1,960	509	610	436	720
15	1,740	2,030	2,580	2,200	2,630	1,960	4,560	1,160	700	446	396	800
16	1,960	1,980	2,430	2,420	3,080	1,770	4,760	1,100	763	397	380	953
17	2,140	1,880	2,550	2,430	3,240	1,630	3,860	1,290	586	372	380	880
18	1,960	1,890	2,440	2,500	3,010	2,090	3,170		655	439	350	790
19	2,000	1,930	2,480	2,790	2,870	2,090	3,100		718	467	372	870
20	1,710	2,310	2,400	2,480	2,950	2,000	3,050	1,340	594	460	452	986
21	1,440	1,980	2,490	2,500	2,880	1,740	3,000		360	488	358	910
22	1,570	1,430		2,580	2,790	1,490		1,390	264	481	412	870
23	2,090	1,350		2,360	2,550	1,260	3,500	745	232	530	516	1,030
24	2,760	1,850		2,160	2,440	1,820		673	425	488	436	1,030
25	2,240	1,870		2,340	2,300	1,990	4,000	646	474	453	358	1,040
26	1,890	1,890	2,500	2,480	2,300	2,140	3,800	727	530	481	436	953
27	1,680	2,070		2,430	2,370	2,280	3,440	960	570	502	484	900
28	1,780	1,850		2,420	2,320	2,130	3,110	890	727	570	476	931
29	2,030	1,860		2,440	2,310	2,160	2,980	1,070	546	562	358	986
30	2,480	1,820		2,480		2,090	3,220	1,100	372	586	444	890
31	2,420			2,360		1,990		1,230		610	436	

NOTE.—No gage-height record; discharge estimated Nov. 25, Dec. 22–31, Jan. 1–5, Feb. 2–10, Apr. 19–26, and May 18–26. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Bear River near Collinston, Utah, for the year ending September, 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,760	1,440	1,970	121,000
November	2,400	1,350	1,840	109,000
December		1,910	2,310	142,000
January	2,790	1,720	2,360	145,000
February	3,240		2,550	147,000
March	2,280	1,260	1,990	122,000
April	4,760	1,710	3,050	181,000
May	2,870	646	1,620	99,600
June	1,130	232	641	38,100
July	745	73	422	25,900
August	655	183	418	25,700
September	1,040	420	786	46,800
The year	4,760	73	1,660	1,200,000

SODA CREEK AT LAU RANCH, NEAR SODA SPRINGS, IDAHO

LOCATION.—In sec. 12, T. 8 S., R. 41 E., 100 feet east of Lau ranch house and 6 miles north of Soda Springs, Caribou County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 1, 1923, to September 30, 1924.

GAGE.—Vertical staff on left bank; installed October 19, 1923; read by George Schmidt. From April 21 to October 18, 1923, used a staff 4 feet upstream from present site. Prior to April 21, 1923, a temporary staff on right bank directly opposite present gage was used. All gages set approximately to same datum.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock and fine gravel; subject to slight aquatic growth. Control formed by well-defined riffle 20 feet below gage. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year and for period of record, 2.88 feet April 14, 1924 (discharge, about 172 second-feet); minimum discharge estimated, 0.5 second-foot, January 1–31, 1924.

ICE.—Stage-discharge relation seriously affected by ice during winter.

DIVERSIONS.—The Schmidt ditch diverts a small amount of water for irrigation, 150 feet above gage on right bank.

REGULATION.—Flow affected by placement and removal of flashboards in low earth dam at outlet of Five-Mile Meadows about 400 feet above gage, and by diversion above.

ACCURACY.—Stage-discharge relation assumed permanent during year except as affected by ice; probably very slightly affected at times by aquatic growth. Rating curve well defined below 40 second-feet, above which it is extended on basis of comparative high-water rating for station 1½ miles below at Schmidt's ranch. Gage read to nearest two-hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table except as noted in footnote to table of daily discharge. Records fair.

Discharge measurements of Soda Creek at Lau ranch, near Soda Springs, Idaho, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 19	0.99	9.34	June 7	1.12	10.9	July 16	1.04	11.9
Mar. 3	.58	2.02	July 15	.88	7.38	Sept. 20	.63	3.10
May 9	1.26	20.0						

Daily discharge, in second-feet, of Soda Creek at Lau ranch, near Soda Springs, Idaho, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.2	8.6			2.5	2.3	7.6	12	3.8	6.6	3.5
2	9.2	9.2	8.6			2.3	2.3	17	17	3.8	6.3	3.5
3	8.6	9.2	8.6			2.3	2.3	22	15	3.8	5.9	3.5
4	8.6	9.2	9.2		1.0	2.3	2.3	24	13	3.8	5.9	3.5
5	9.7	8.6	9.7			2.3	2.3	23	13	3.8	5.9	3.5
6	9.7	8.6	9.7			2.3	2.5	23	13	4.1	5.5	3.5
7	9.2	8.1	9.7		2.1	2.1	3.3	23	14	4.5	5.5	3.5
8	8.6	8.1			2.1	2.1	3.8	23	14	7.6	5.5	3.5
9	9.7	7.6			2.3	2.1	3.8	20	13	7.6	5.5	3.5
10	12	7.6			2.3	2.1	5.2	20	12	7.6	5.5	3.8
11	12	7.6	5.0		2.5	2.3	7.6	19	11	7.6	5.9	3.8
12	11	7.6			2.5	2.3	46	11	11	7.6	6.3	3.8
13	11	7.6			2.5	2.3		2.3	9.7	7.6	6.3	3.5
14	9.7	7.6	5.5		3.3	2.3		2.3	5.5	7.6	6.3	3.3
15	9.2	7.6	5.5		3.3	2.3	130	2.5	3.8	8.1	5.9	3.0
16	8.6	7.6	5.5	0.5	3.5	2.3		6.3	2.5	11	5.9	3.0
17	9.7	7.6	5.5		3.3	2.3		6.8	3.8	11	5.5	3.0
18	9.7	7.6	5.2		3.5	3.1	46	5.5	3.8	11	5.5	3.0
19	9.7	8.1	5.2		3.0	2.1		5.5	4.1	10	5.5	3.0
20	9.7	8.1	4.8		3.0	2.3		5.7	4.5	10	5.9	2.9
21	9.7	9.2	4.8		3.3	2.5	70	4.9	4.5	13	5.9	2.9
22	9.7	8.6	4.8		3.3	2.5		6.3	4.5	15	5.9	2.8
23	9.9	9.2	4.8		3.5	2.5		6.3	4.5	13	5.5	2.8
24	9.9	9.2	4.8		3.5	2.5		6.3	4.5	9.7	5.5	2.5
25	9.7	9.7	4.8		3.5	2.5	47	6.3	4.5	8.1	5.2	2.5
26	9.7	9.7	4.8		3.8	2.5	37	6.8	4.5	7.6	4.8	2.3
27	9.7	9.2	4.5		3.8	2.5	27	6.8	4.5	7.6	4.8	2.3
28	9.7	9.2	4.5		3.5	2.5	26	9.7	4.5	7.6	4.5	2.3
29	9.7	8.6	4.5		2.5	2.5	25	10	4.1	7.6	4.5	2.1
30	9.2	8.6	3.8		-------	2.5	2.3	11	4.1	7.6	3.8	2.1
31	9.2	-------	2.5		-------	2.3	-------	10	-------	7.2	3.5	-------

NOTE.—Discharge estimated because of ice effect Dec. 8–13, Jan. 1–31, and Feb. 1–6, on basis of observer's notes and weather records; Apr. 13–17 and 19–24 estimated because of lack of current-meter measurements for high stages. Braced figures show mean discharge for periods indicated.

Monthly discharge of Soda Creek at Lau ranch, near Soda Springs, Idaho, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	12	8.6	9.76	600
November	9.7	7.6	8.45	503
December	9.7	2.5	5.80	357
January	----------	----------	.50	31
February	3.8	----------	2.62	151
March	2.5	2.1	2.33	143
April	----------	2.3	45.5	2,710
May	24	2.3	11.4	701
June	17	2.5	8.00	476
July	15	3.8	7.93	488
August	6.6	3.5	5.52	339
September	3.8	2.1	3.07	183
The year	----------	----------	9.20	6,680

NOTE.—Schmidt ditch diverted from right bank 150 feet above gage; 6 acre-feet of water in May and 100 acre-feet in June as determined by occasional discharge measurements and from observer's notes. Ditch reported dry during remainder of year.

SODA CREEK NEAR SODA SPRINGS, IDAHO

LOCATION.—In sec. 24, T. 8 S., R. 41 E., at George Schmidt's ranch, one-eighth mile below confluence of two branches of creek, 5 miles north of Soda Springs, Caribou County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 5, 1913, to September 30, 1924.

GAGE.—Vertical staff set in concrete on left bank, quarter of a mile south of ranch house, installed June 28, 1921, at a datum 3.30 feet higher than former vertical staff at same location which was used August 1, 1913, to July 27, 1921. George Schmidt, observer.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock. Control is a reef about 15 feet below gage.

EXTREMES OF DISCHARGE.—Maximum discharge during year, 241 second-feet, April 13 and 14; minimum discharge, 40 second-feet, January 10.

1913–1924: Maximum stage recorded, 5.3 feet April 6, 1913 (discharge, 324 second-feet); minimum stage, 3.95 feet January 8 and 12–15, 1919 (discharge, 38 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Practically no water diverted above station; a small ditch diverts water just below gage.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent on account of effect of aquatic growth, but flow is uniform. Gage read to nearest even two-hundredths once daily. Daily discharge ascertained by shifting-control method throughout the year using a standard rating curve and several curves parallel thereto. Records October to March, fair; April to September, good.

Discharge measurements of Soda Creek near Soda Springs, Idaho, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 19	0.96	59.0	May 9	0.96	81.2	July 16	0.89	62.8
Mar. 3	.75	49.7	June 7	.92	65.5	Sept. 20	.78	49.7

Daily discharge, in second-feet, of Soda Creek near Soda Springs, Idaho, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	58	53	43	44	51	49	78	65	54	57	52
2	65	58	53	43	44	48	49	78	73	54	54	52
3	62	58	51	43	44	49	49	78	70	54	54	52
4	62	58	51	43	44	48	49	78	67	54	54	52
5	65	58	51	43	44	48	49	78	65	54	54	51
6	65	55	51	44	44	48	52	81	63	54	54	51
7	62	55	51	42	46	48	52	81	66	57	54	51
8	62	55	51	42	46	48	54	81	66	59	54	51
9	65	55	51	42	46	48	54	81	66	59	54	51
10	67	53	48	40	46	46	62	81	66	59	54	52
11	67	53	49	41	46	46	79	79	66	59	54	52
12	65	53	49	41	46	46	140	79	63	59	54	52
13	65	53	49	41	46	48	241	70	63	59	54	52
14	59	53	52	41	46	48	241	62	63	59	54	52
15	59	53	49	41	46	48	217	62	63	58	54	52
16	59	54	51	42	46	48	163	60	62	63	54	52
17	62	54	51	44	46	48	155	60	59	63	54	52
18	59	54	51	44	46	48	125	60	59	62	54	52
19	59	54	48	44	46	46	102	60	57	62	54	52
20	59	52	48	44	48	46	125	60	57	63	54	49
21	59	52	47	43	48	48	150	59	57	65	55	49
22	59	52	47	43	48	51	155	59	57	65	55	49
23	59	52	47	43	48	51	146	59	57	65	55	49
24	59	52	45	43	48	51	138	59	57	63	54	49
25	59	54	45	43	48	51	105	59	57	62	54	49
26	59	54	46	44	48	52	98	58	57	62	52	49
27	59	54	44	44	51	52	87	60	57	62	52	49
28	59	54	44	44	51	52	87	63	57	62	52	49
29	59	54	44	44	48	52	87	63	57	62	52	49
30	59	52	44	44	------	52	84	63	54	62	52	48
31	59	------	42	44	------	49	------	66	------	59	52	------

Monthly discharge of Soda Creek near Soda Springs, Idaho, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	67	59	61.4	3,780
November	58	52	54.2	3,230
December	53	42	48.5	2,980
January	44	40	42.8	2,630
February	51	44	46.5	2,670
March	52	46	48.9	3,010
April	241	49	108	6,430
May	81	58	68.2	4,190
June	73	54	61.5	3,660
July	65	54	59.8	3,680
August	57	52	53.8	3,310
September	52	48	50.7	3,020
The year	241	40	58.7	42,600

LOGAN RIVER ABOVE STATE DAM, NEAR LOGAN, UTAH

LOCATION.—In sec. 36, T. 12 N., R. 1 E., at Logan plant of Utah Power & Light Co., 125 feet above confluence of trailrace with river, and 2½ miles above Logan, Cache County.

DRAINAGE AREA.—218 square miles (measured on topographic map).

RECORDS AVAILABLE.—May 7, 1913, to September 30, 1924. June 1, 1896, to July 17, 1903, and April 14, 1904, to December 31, 1912, at old station a quarter of a mile downstream; flow at present station plus that of tailrace comparable to that at old station.

GAGE.—Stevens continuous water-stage recorder on right bank about 100 feet west of power house; installed May 7, 1913; inspected by operator of power plant.

DISCHARGE MEASUREMENTS.—Made by wading at gage; high-water measurements made from cable 400 feet downstream and flow in tailrace deducted.

CHANNEL AND CONTROL.—Banks high, clean, and not subject to overflow; right bank is dry rubble retaining wall. Control is concrete cut-off wall about 6 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.17 feet from 9 to 10 a. m. May 13 (discharge, 676 second-feet); minimum stage, 0.75 foot March 7–10 (discharge, 9 second-feet).

1913–1924: Maximum stage recorded, 5.6 feet at 9.30 a. m. March 21, 1916 (discharge estimated, 2,000 second-feet); minimum discharge, 8 second-feet December 11, 1915.

ICE.—Stage-discharge relation seldom affected by ice.

BACKWATER.—Stage-discharge relation affected at times by backwater from State dam, half a mile downstream.

DIVERSIONS.—Utah Power & Light Co. diverts water above station for power, and Logan, Hyde Park & Smithfield Canal diverts for irrigation. Logan has a municipal power plant about 2 miles above station, but water is returned to river above two diversions noted. Logan is entitled to divert for municipal supply, from 4 to 10 second-feet of water, from springs in sec. 22, T. 12 N., R. 2 E., the quantity depending on flow in river.

REGULATION.—Some diurnal fluctuation is caused at times by operation of two power plants.

ACCURACY.—Stage-discharge relation affected by backwater from dam a large part of year. New artificial control installed during August, 1924. Rating curves fairly well defined. Water-stage recorder operated satisfactorily. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph and corrected for backwater. Records fair.

COOPERATION.—Gage-height record and nine discharge measurements furnished by Utah Power & Light Co.

Discharge measurements of Logan River above State dam, near Logan, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 3	[a] 1.17	13.8	Mar. 17	0.80	11.8	June 13	1.48	81.7
Dec. 7	[a] 1.27	18.6	May 7	2.08	248	July 15	.90	22.9
Dec. 27	.87	21.2	May 12	2.81	510	Aug. 19	[b] 2.04	14.5
Jan. 11	.87	16.2	May 31	2.04	215			

[a] Affected by backwater from dam.
[b] New artificial control in place with forms still attached.

Daily discharge, in second-feet, of Logan River above State dam, near Logan, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	15	19	19	30	21	33	258	211	36	16	15
2	20	15	40	19	30	16	37	299	201	33	16	15
3	45	14	40	19	33	16	37	361	185	33	16	18
4		15	18	31	33	14	44	416	174	32	16	15
5		15	19	26	33	12	42	420	164	35	16	15
6		15	19	56	33	10	48	293	139	35	15	16
7		15	19	16	33	9	40	264	143	39	15	16
8		15	19	16	38	9	53	309	132	38	15	16
9		15	19	19	39	9	111	358	112	33	15	16
10		15	19	16	33	9	109	416	104	29	15	16
11		15	19	18	18	10	105	494	91	28	15	16
12		15	19	18	18	10	111	526	89	27	15	16
13	25	15	19	19	27	10	138	594	89	27	15	16
14		15	19	18	28	11	176	541	89	23	15	16
15		15	19	21	31	11	159	515	86	19	15	17
16		15	19	20	21	11	105	536	87	17	14	17
17		15	19	19	21	26	59	545	96	18	14	18
18		13	19	19	21	23	56	541	94	19	14	18
19		14	19	20	22	25	77	541	91	16	14	17
20		15	19	19	19	24	109	558	87	16	14	16
21		15	19	18	21	15	171	494	70	19	14	17
22		15	18	36	21	19	211	477	66	17	13	16
23	160	21	21	33	21	12	267	452	59	19	13	17
24		19	24	30	21	21	249	403	64	16	14	17
25		19	21	26	21	22	194	427	70	16	15	16
26		19	19	23	21	38	138	494	94	16	15	16
27	18	19	19	29	21	42	147	427	73	18	15	17
28		19	18	29	21	38	143	395	46	17	15	16
29		19	18	25	21	41	161	356	46	16	15	16
30		19	18	29	-------	41	169	286	37	16	15	19
31		-------	17	28	-------	38	-------	230	-------	16	15	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Logan River above State dam, near Logan, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	160	----------	27.9	1,720
November	21	13	16.0	952
December	40	17	20.4	1,250
January	56	16	23.7	1,460
February	39	18	25.9	1,490
March	42	9	19.8	1,220
April	267	33	117	6,960
May	594	230	427	26,300
June	211	37	103	6,130
July	39	16	23.8	1,460
August	16	13	14.8	910
September	19	15	16.4	976
The year	594	9	69.9	50,800

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

LOCATION.—In NE. ¼ sec. 36, T. 12 N., R. 1 E., 100 feet below power house at plant of Utah Power & Light Co., 2½ miles above Logan, Cache County.

RECORDS AVAILABLE.—May 7, 1913, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank just above weir; inspected by plant operators.

DISCHARGE MEASUREMENTS.—Made from footbridge just above gage.

CHANNEL AND CONTROL.—A rectangular wooden weir, with metal crest strip, just below gage acts as control. Length of crest, 17.7 feet. Capacity of channel above weir not sufficient to eliminate all velocity of approach. Stage of zero flow, zero on gage.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—Flow at station affected by operation of power plant.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record and nine discharge measurements furnished by Utah Power & Light Co.

Canal diverts water from right bank of Logan River in SE. ¼ SW. ¼ sec. 29, T. 12 N., R. 2 E. Water is returned to river 125 feet below gaging station on Logan River above State dam in NE. ¼ sec. 36, T. 12 N., R. 1 E. Water is used for development of power.

Discharge measurements of Utah Power & Light Co.'s tailrace, near Logan, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 30	1.76	165	Jan. 11	1.54	120	June 13	1.80	163
Dec. 7	1.70	148	Mar. 17	1.35	101	July 15	1.80	166
Dec. 27	1.50	120	May 7	1.83	168	Aug. 19	1.50	121
Dec. 28	1.51	121	May 12	1.68	146			

Daily discharge, in second-feet, of Utah Power & Light Co.'s tailrace near Logan, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	162	155	134	117	99	115	79	133	168	158	137	111
2	162	158	109	110	95	90	79	137	166	158	135	110
3	135	158	108	119	97	107	79	138	163	158	133	101
4	164	155	134	105	95	100	79	161	163	158	133	110
5	164	155	140	110	93	107	79	169	162	158	131	110
6	161	155	134	121	90	107	79	168	158	162	134	108
7	161	155	137	120	94	107	103	168	160	163	131	107
8	161	154	130	123	95	105	158	163	163	163	131	107
9	161	154	121	127	94	101	179	157	163	163	131	105
10	161	154	118	128	94	102	176	154	162	163	130	105
11	159	156	120	128	93	100	158	150	162	163	128	105
12	156	154	131	124	96	103	179	147	163	163	124	105
13	158	149	131	116	99	101	179	93	162	163	123	105
14	159	148	133	124	99	101	179	165	162	162	121	102
15	158	145	128	124	101	103	174	163	162	163	121	102
16	156	145	126	126	102	103	152	163	160	163	121	102
17	159	144	122	123	116	103	179	163	163	163	120	101
18	161	144	121	123	114	93	179	163	165	163	120	101
19	159	144	122	119	106	92	177	163	163	160	120	101
20	161	147	133	101	114	89	177	162	162	157	120	101
21	162	154	133	93	120	105	174	163	162	160	121	100
22	165	148	128	93	120	92	177	163	152	158	121	101
23	20	148	125	96	116	100	176	162	163	158	121	101
24	159	148	128	96	108	92	176	163	163	154	120	95
25	161	148	131	97	107	82	176	163	163	148	119	93
26	161	152	135	99	103	74	177	136	163	147	116	94
27	161	134	126	99	105	74	176	165	163	144	116	95
28	158	133	126	99	101	74	176	165	162	144	115	96
29	158	134	135	99	114	73	173	155	162	144	114	81
30	158	134	124	97	------	71	173	166	160	144	114	94
31	158	------	120	96	------	74	------	168	------	140	112	------

Monthly discharge of Utah Power & Light Co.'s tailrace near Logan, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	165	20	155	9,530
November	158	133	149	8,870
December	140	108	127	7,810
January	128	93	111	6,820
February	120	90	103	5,920
March	115	71	95.2	5,850
April	179	79	153	9,100
May	169	93	156	9,590
June	168	152	162	9,640
July	163	140	157	9,650
August	137	112	124	7,620
September	111	81	102	6,070
The year	179	20	133	96,500

LOGAN, HYDE PARK & SMITHFIELD CANAL NEAR LOGAN, UTAH

LOCATION.—In SE. ¼ sec. 25, T. 12 N., R. 1 E., at concrete rating flume 1¼ miles below head of canal and 2½ miles east of Logan, Cache County.

RECORDS AVAILABLE.—Fragmentary records 1904–1924.

GAGE.—Stevens continuous water-stage recorder on right bank at rating flume; installed May 29, 1924. Record previous to this date obtained from station half a mile above; no change in flow between locations. Gage attended by Logan, Hyde Park & Smithfield Canal Co.

DISCHARGE MEASUREMENTS.—Made from footplank at flume or by wading.

CHANNEL AND CONTROL.—Rectangular concrete rating flume. Stage of zero flow at zero on gage.

ICE.—Recording gage usually removed during winter. A small flow of water is maintained for domestic use.

DIVERSIONS.—None above gage.

REGULATION.—Flow regulated by head gates at diversion works.

ACCURACY.—Stage-discharge relation changed between October 11 and May 11 when no records were obtained. Rating curves well defined. Operation of water-stage recorder satisfactory October 1–11, May 29 to June 30, and July 5 to September 30. Staff gage readings used July 1–4. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Discharge estimated October 12 to May 10 and May 12–28. Records good.

Canal diverts water from Logan River in NE. ¼ NE. ¼ sec. 31, T. 12 N. R. 2 E., for irrigation and domestic use in territory north of Logan.

Discharge measurements of Logan, Hyde Park & Smithfield Canal near Logan, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
May 12	2.42	112	May 31	1.32	67.1	July 15	0.92	43.1
May 31	.98	45.5	July 5	1.08	50.4	July 28	.99	47.

Daily discharge, in second-feet, of Logan, Hyde Park & Smithfield Canal near Logan, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24								66	58	38	32
2	24								77	57	38	32
3	24								90	59	36	32
4	26								100	58	36	31
5	24								109	49	34	32
								110				
6	24								113	51	34	34
7	26						5		108	49	34	32
8	24		10						107	57	34	30
9	24								107	46	34	30
10	24								104	45	32	31
11	23	20			0			112	104	48	33	31
12									106	46	35	30
13									105	44	36	29
14							30		107	43	38	29
15									109	43	36	29
16				0		5			107	42	34	29
17									105	41	34	29
18								110	104	38	34	30
19									103	40	33	29
20									103	38	34	29
21	20		0						104	47	34	29
22							100		102	38	32	29
23									101	38	32	29
24									92	38	31	29
25								50	86	40	32	29
26		10			5			0	70	42	32	29
27			0					0	70	38	32	29
28								0	60	39	32	29
29			0					25	58	38	32	29
30					-------			43	57	36	31	28
31		-------			-------		-------	57	-------	36	30	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated when there was no gage.

Monthly discharge of Logan, Hyde Park & Smithfield Canal near Logan, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	26		21.5	1,320
November			17.3	1,030
December		0	4.8	295
January	0	0	0	0
February		0	1.4	81
March			5.0	307
April			56.5	3,360
May		0	90.9	5,590
June	113	57	94.5	5,620
July	59	36	44.6	2,740
August	38	30	33.8	2,080
September	34	28	30.0	1,790
The year		0	33.3	24,200

NOTE.—See footnote to daily-discharge table.

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

LOCATION.—In NE. ¼ sec. 8, T. 10 N., R. 2 E., 1 mile above diversion dam, 3½ miles above power plant of Utah Power & Light Co., and 6 miles east of Hyrum, Cache County.

DRAINAGE AREA.—260 square miles (measured on topographic maps and map of Cache National Forest).

RECORDS AVAILABLE.—July 19, 1900, to December 31, 1902, and November 28, 1913, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank 500 feet above wagon bridge and nearly a mile above dam; installed November 28, 1913; inspected by watchman at dam.

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

CHANNEL AND CONTROL.—Bed rough, but fairly permanent; one channel at all stages.

EXTREMES OF DISCHARGE.—Maximum mean daily stage during year, 2.85 feet April 23 (discharge, 415 second-feet); minimum mean daily stage, 1.47 feet March 31 (discharge, 81 second-feet).

1913–1924: Maximum stage determined by levels from high-water mark in well, 6.5 feet May 15, 1917 (discharge estimated by extending rating curve, 1,620 second-feet); minimum stage, 0.85 foot at 6 a. m. February 6, 1916 (discharge estimated by extending rating curve, 22 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Above all important diversions.

REGULATION.—None.

ACCURACY.—Stage-discharge relation probably permanent during year. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Utah Power & Light Co.

Discharge measurements of Blacksmith Fork above Utah Power & Light Co.'s dam near Hyrum, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 30	1.77	120	Mar. 20	1.56	87.6	June 11	1.77	136
Dec. 4	1.67	105	May 7	2.36	283	July 16	1.66	105
Dec. 28	1.67	113	May 14	2.30	280	Aug. 19	1.57	99.2
Jan. 14	1.60	100						

Daily discharge, in second-feet, of Blacksmith Fork above Utah Power & Light Co.'s dam near Hyrum, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	130	117			97	82	319	168	112	102	90
2	138	128	114			100	85	327	162	112	102	91
3	138	128	114			102	97	333	159	112	102	92
4	144	128	114			97	114	319	157	112	102	92
5	144	126	114			96	103	285	155	112	103	97
6	142	126	115			97	112	280	151	112	103	97
7	146	125	119	105	95	98	128	272	151	115	102	96
8	142	125	112			96	149	263	151	121	98	96
9	142	125	103			97	166	261	142	114	98	94
10	140	125				97	164	263	134	112	98	96
11	142	134	102			97	155	263	132	112	98	94
12	140	128				97	175	261	126	112	98	92
13	138	125				97	215	261	126	112	98	92
14	138	123	100	100	92	98	299	261	123	112	98	92
15	138	123			97	97	302	253	119	110	97	92
16	138	121			94	96	223	250	121	108	96	92
17	138	121	100		96	97	192	247	119	108	92	91
18	138	119			99	97	185	236	119	105	92	92
19	138	117			102	96	205	231	121	105	94	92
20	138	117			105	96	234	221	115	105	97	92
21	137	117	100		107	94	293	213	114	105	96	92
22	136	117		100	105	92	341	205	112	105	92	91
23	135	117			98	92	415	198	108	102	92	91
24	134	115			97	92	313	185	110	102	92	91
25	133	115	106		97	90	231	178	110	102	90	92
26	132	115			98	90	234	168	110	100	86	91
27	132	114			97	90	263	164	110	102	88	91
28	131	114	112		97	91	274	166	112	102	88	90
29	131	114			97	90	310	171	112	102	88	91
30	130	119	110		-------	85	327	175	112	102	88	90
31	130	-------			-------	81	-------	173	-------	103	88	------

NOTE.—No gage-height record; discharge estimated Oct. 21–26, 28, 29, Dec. 10–13, 15–20, 22–27, 29–31, Jan. 1–13, 15–31, Feb. 1–13, 17, and 18. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Blacksmith Fork above Utah Power & Light Co.'s dam near Hyrum, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	146	130	138	8,480
November	134	114	122	7,260
December	119	----------	107	6,580
January	----------	----------	a 102	6,270
February	107	----------	97.0	5,580
March	102	81	94.6	5,820
April	415	82	213	12,700
May	333	164	239	14,700
June	168	108	129	7,680
July	121	100	108	6,640
August	103	86	95.4	5,870
September	97	90	92.4	5,500
The year	415	81	128	93,100

a Estimated.

WEST SIDE CANAL NEAR COLLINSTON, UTAH

LOCATION.—In NW. ¼ sec. 34 T. 13 N., R. 2 W., at Wheelon siding on Oregon Short Line Railroad, 600 feet below penstock of Utah Power & Light Co.'s Wheelon plant, 1,000 feet northwest of gaging station on Bear River, and 4 miles north of Collinston, Box Elder County.

RECORDS AVAILABLE.—June 1, 1912, to September 30, 1924.

GAGE.—Friez water-stage recorder on left bank; installed May 22, 1914; replaced by Stevens water-stage recorder in 1924.

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

CHANNEL AND CONTROL.—Bed composed of earth and gravel. Banks steep and clean. Control not well defined; stage-discharge relation is probably affected by aquatic vegetation and slight silt deposit.

ICE.—Stage-discharge relation seriously affected at times by ice.

DIVERSIONS.—Water is taken out of canal, about 600 feet above gage, for power plant, and, if necessary, water can also be siphoned across river to Hammond Canal.

REGULATION.—Flow can be regulated at head gates, and also at fore bay of power plant.

COOPERATION.—Records of daily discharge and eight discharge measurements furnished by Utah Power & Light Co.

Canal diverts water from west side of Bear River in SW. ¼ sec. 23, T. 13 N., R. 2 W., by means of low diversion dam. Part of water is used through Wheelon plant of Utah Power & Light Co. about 1½ miles below; the rest which passes gaging station is used for irrigation on west side of river. When cleaning or repairing Hammond Canal in canyon, water can be siphoned across the river at power plant from West Side Canal.

Discharge measurements of West Side Canal near Collinston, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	4.10	213	Apr. 15	0.07	a 0.1	July 14	6.73	581
Oct. 31	2.72	91.8	May 9	5.60	428	Aug. 20	6.83	604
Nov. 23	2.08	53.3	May 13	6.64	590			
Feb. 18	1.26	25.0	June 1	6.85	614			

a Estimated.

Daily discharge, in second-feet, of West Side Canal near Collinston, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	213	74	53	51	111	21		194	623	598	588	577
2	213	73	54	14	164	20		242	625	603	590	567
3	215	71	54	34	174	21		306	627	604	590	567
4	214	70	54	34	160	21		326	627	603	585	569
5	214	72	54	26	160	20		326	628	595	585	561
6	215	77	53	62	155	21		332	628	563	585	537
7	213	65	53	68	146	20		351	617	548	587	513
8	212	58	53	69	100	20		400	524	593	582	487
9	214	58	53	68	54	22		483	524	609	598	453
10	214	65	53	68	45	21		535	534	609	599	444
11	216	69	50	68	25	20		543	515	607	598	442
12	182	73	52	86	22	20		550	516	601	599	441
13	166	73	56	86	20	20		592	515	582	603	446
14	168	49	51	80	20	22	0	585	516	582	604	454
15	168	50	48	40	20	22		583	537	582	604	446
16	167	50	47	48	22	22		592	561	583	606	424
17	169	46	51	44	23	21		611	582	587	606	405
18	113	50	48	114	19	20		609	583	599	604	399
19	81	50	49	86	20	21		609	585	599	606	398
20	81	50	49	42	21	20		607	583	598	604	393
21	82	51	49	34	20	20		619	583	598	601	393
22	80	50	48	46	22	19		622	583	599	595	398
23	80	50	48	103	22	20		620	583	588	587	396
24	80	50	48	99	20	20		620	587	583	587	395
25	80	52	49	99	19	20		622	585	583	587	410
26	79	52	50	99	20	22		620	591	587	587	403
27	82	52	50	80	21	21	133	622	593	588	587	407
28	80	52	46	99	22	19	203	622	587	588	587	414
29	80	54	50	106	22	20	211	622	588	588	585	409
30	79	52	52	99	-------	21	199	622	596	588	587	372
31	82	-------	49	125	-------	20	-------	622	-------	588	588	-------

Monthly discharge of West Side Canal near Collinston, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	216	79	146	8,980
November	77	46	58.6	3,490
December	56	46	50.8	3,120
January	125	14	70.2	4,320
February	174	19	57.6	3,310
March	22	19	20.5	1,260
April	211	0	24.9	1,480
May	622	194	523	32,200
June	628	515	578	34,400
July	609	548	591	36,300
August	606	582	594	36,500
September	577	372	451	26,800
The year	628	0	265	192,000

HAMMOND (EAST SIDE) CANAL NEAR COLLINSTON, UTAH

LOCATION.—In NW. ¼ sec. 34, T. 13 N., R. 2. W., at Wheelon siding on Oregon Short Line Railroad, 400 feet below penstock of Utah Power & Light Co., and 4 miles north of Collinston, Box Elder County.

RECORDS AVAILABLE.—June 1, 1912, to September 30, 1924.

GAGE.—Friez water-stage recorder on right bank; installed May 22, 1914; replaced by Stevens continuous recorder in 1924.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage or by wading.
CHANNEL AND CONTROL.—Bed composed of earth and gravel. Control not well defined.
DIVERSIONS.—Water is taken from this canal 400 feet above gage for power plant.
REGULATION.—Flow can be regulated at head gates and by means of a wasteway at power plant fore bay; also affected by operation of plant.
COOPERATION.—Records of daily discharge and seven discharge measurements furnished by Utah Power & Light Co.

Canal diverts water on east side of Bear River in SW. ¼ sec. 23, T. 13 N., R. 2 W., at same diversion dam as West Side Canal. Part of water is used by Wheelon plant of Utah Power & Light Co. and remainder is either wasted into river or passes gaging station for irrigation use.

Discharge measurements of Hammond (east side) Canal near Collinston, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	2.48	23.3	May 13	4.95	152	Aug. 20	4.84	143
Oct. 31	2.45	22.0	June 1	4.56	126			
May 8	4.78	137	July 14	4.86	143			

Daily discharge, in second-feet, of Hammond (east side) Canal near Collinston, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	24	24		62	125	141	142	136
2	24	11		62	126	148	139	134
3	23	14		84	126	149	140	134
4	23	17		95	127	148	136	134
5	23	17		102	122	139	140	132
6	24	16		113	126	147	141	82
7	24	19		134	127	147	141	116
8	23	18		139	122	144	142	116
9	23	18		137	104	147	138	119
10	23	16		135	105	147	137	117
11	23	15		136	116	153	136	117
12	23	15		136	110	150	138	116
13	23	16		145	106	154	136	117
14	23	14		149	101	150	141	118
15	23	15		149	101	146	140	24
16	23	16		148	101	148	142	64
17	24	16		150	130	147	141	99
18	24	15		150	128	149	142	103
19	24	5		150	130	148	142	103
20	24			151	134	145	144	103
21	24			151	144	146	143	103
22	24			150	148	147	134	103
23	23			150	122	147	140	103
24	22			150	154	161	134	102
25	23			150	148	144	138	102
26	22			153	147	147	136	102
27	23		47	151	145	149	140	102
28	23		60	150	148	139	140	100
29	24		64	151	150	134	139	102
30	25		55	113	140	141	139	94
31	25			124		141	139	

NOTE.—Canal dry Nov. 20 to Apr. 26.

Monthly discharge of Hammond (east side) Canal near Collinston, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	25	22	23.4	1,440
November	24	0	9.9	589
December	0	0	0	0
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	64	0	7.6	452
May	153	62	133	8,180
June	154	101	127	7,560
July	161	134	147	9,040
August	144	134	139	8,550
September	136	24	106	6,310
The year	161	0	58.0	42,100

WEBER RIVER BASIN

WEBER RIVER NEAR OAKLEY, UTAH

LOCATION.—In NE. ¼ sec. 15, T. 1 S., R. 6 E., near mouth of canyon, 3 miles above Oakley, Summit County. South Fork of Weber River enters 2 miles above station, and Beaver or Kamas Creek 6 miles below.

DRAINAGE AREA.—163 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 22, 1904, to September 30, 1924.

GAGE.—Inclined staff on left bank a quarter of a mile above diversion dam of New Field & North Bench Irrigation Co.'s Canal. Read by John Franson.

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

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. One channel at all stages; steep and rough, but fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.9 feet May 19 (discharge, 1,290 second-feet); minimum discharge, 51 second-feet August 29–31 and parts of September.

1904–1924: Maximum discharge recorded, 4,000 second-feet July 6, 1907, and June 5–7, 1909; minimum stage, 4.0 feet for periods during February and March, 1908 (discharge, 46 second-feet).

ICE.—Stage-discharge relation seriously affected by ice every winter.

DIVERSIONS.—Above all important diversions.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent; affected by ice December 4 to about February 1. Rating curve well defined below 1,200 second-feet; extended above. Gage read to half-tenths once a day to August 1 and quarter-tenths thereafter except as stated in footnote to daily-discharge table. Daily discharge determined by applying daily gage height to rating table, except for periods when stage-discharge relation was affected by ice or gage was not read. For these periods discharge was estimated from one meter measurement, temperature records, and observer's notes. Records good for October, November, June 1 to September 30; fair for rest of year.

The following discharge measurements were made:

February 15, 1924: Gage height, 4.19 feet; discharge, 63.2 second-feet.

June 12, 1924: Gage height, 5.27 feet; discharge, 325 second-feet.

August 9, 1924: Gage height, 4.22 feet; discharge, 67.5 second-feet.

Daily discharge, in second-feet, of Weber River near Oakley, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	95	65			79	87	208	378	123	79	53
2	113	95	65			79	87	238	419	123	72	53
3	113	95				79	87	304	510	113	72	53
4	113	87			62	79	87	378	560	113	72	51
5	113	87				79	95	378	670	113	65	51
6	113	87				79	95	340	610	113	65	59
7	123	87			65		95	378	560	113	65	51
8	123	87				76	95	398	560	133	59	51
9	133	87					104	463	419	113	66	51
10	133	87					104	560	378	113	65	53
11	123	79			66	72	104	670	378	113	65	55
12	123	79				68	104	730	359	104	65	53
13	113	79				65	113	850	359	104	63	53
14	113	79			65		133	920	340	104	79	53
15	113	72			64		133	990	340	104	72	53
16	113	72		60	63	68	113	1,060	304	95	68	53
17	113	72	62		63		113	1,210	287	95	65	53
18	104	72			64	72	113	1,210	270	87	63	53
19	104	72			64	72	123	1,290	238	87	59	51
20	104	72			65	72	133	1,210	208	79	59	51
21	104	72			66	72	156	1,130	194	79	63	53
22	104	72			67	72	181	1,100	181	79	59	53
23	95	72			68	72	208	920	181	72	55	53
24	95	72			69	72	238	885	168	72	55	53
25	95	72			70	79	181	850	156	72	55	53
26	95	65			72	79	133	850	156	72	53	53
27	95	65			76	79	133	610	144	72	53	53
28	95	65			79	79	156	510	144	79	51	53
29	95	65			79	79	181	463	144	79	51	53
30	95	65			------	79	181	419	133	79	51	53
31	95	------			------	79	------	378	------	79	51	------

NOTE.—Discharge estimated or interpolated for following periods when gage was not read: Dec. 3, 4, 6, 7, 9, 11, 13–18, 20–25, 27–30, Jan. 1, 3–8, 10–15, 17–22, 24–30, Feb. 1–6, 8–13, 16–19, 21–25, 27, 29, Mar. 1–3, 5, 7–10, 12, 14–17, 19, 20, 22, June 30, and Sept. 24. Braced figures show estimated mean discharge.

Monthly discharge of Weber River near Oakley, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	133	95	109	6,700
November	95	65	77.6	4,620
December	------	------	[a] 62.2	3,820
January	------	------	[a] 60	3,690
February	79	------	66.4	3,820
March	79	------	74.6	4,590
April	238	87	129	7,680
May	1,290	208	706	43,400
June	670	133	325	19,300
July	123	72	96.0	5,900
August	79	51	62.4	3,840
September	59	51	52.8	3,140
The year	1,290	51	152	110,000

[a] Estimated.

WEBER RIVER AT DEVILS SLIDE, UTAH

LOCATION.—In SW. ¼ sec. 19, T. 4 N., R. 4 E., 300 feet north of hotel and 500 feet downstream from highway bridge at Devils Slide, Morgan County. Lost Creek enters from right a quarter of a mile above station.

DRAINAGE AREA.—1,090 square miles (measured on topographic and United States Forest Service maps).

RECORDS AVAILABLE.—February 1, 1905, to September 30, 1924.

GAGE.—Vertical staff on left bank; installed September 21, 1915; read by A. E. Lucas.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and sand; shifts occasionally. One channel at all stages. Stage of zero flow at gage height about 1.2 feet; determined August 27, 1924.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.01 feet at noon May 19 (discharge, 1,360 second-feet); minimum stage, 1.56 feet at noon August 8 (discharge, 35 second-feet).

1905–1924: Maximum stage recorded, 8.0 feet at 6 p. m. May 22, 1920 (discharge, 6,000 second-feet); minimum discharge, 31 second-feet September 3, 1919.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—A number of canals divert water above this station for irrigation and domestic use.

REGULATION.—Diversions for irrigation only.

ACCURACY.—Stage-discharge relation shifted in first part of winter. First rating curve well defined; second curve well defined below 500 second-feet; extended above. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records November to January fair; rest good.

The following discharge measurements were made:

February 16, 1924: Gage height, 2.76 feet; discharge, 438 second-feet.

June 13, 1924: Gage height, 2.46 feet; discharge, 301 second-feet.

August 27, 1924: Gage height, 1.68 feet; discharge, 52.2 second-feet.

Daily discharge, in second-feet, of Weber River at Devils Slide, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	303	282	181	196	231	208	699	790	61	37	67
2	312	307	249	156	196	279	261	762	741	52	37	71
3	303	303	230	208	188	274	360	895	664	59	37	75
4	325	295	211	192	192	266	580	1,080	699	55	37	77
5	381	295	200	166	196	248	490	1,140	790	63	37	75
6	381	295	237	159	196	227	568	972	713	55	36	77
7	420	291	330	170	200	279	828	925	650	102	36	77
8	420	286	230	181	227	188	940	910	615	115	35	77
9	610	291	164	248	261	181	1,140	932	580	97	36	67
10	452	286	145	219	261	174	1,020	1,020	496	97	39	80
11	452	316	136	244	223	231	706	1,070	385	89	39	75
12	420	320	170	188	227	208	615	1,170	324	97	43	71
13	381	299	211	181	253	227	850	1,180	292	89	43	75
14	370	291	270	192	288	231	1,080	1,260	257	92	43	67
15	370	286	279	188	370	219	1,070	1,220	240	92	48	59
16	360	278	227	196	435	196	629	1,250	227	82	50	63
17	350	270	204	170	400	163	550	1,320	188	73	48	67
18	345	249	188	211	365	188	526	1,350	174	73	48	61
19	340	241	211	219	310	204	550	1,360	147	73	48	52
20	330	274	240	166	360	227	608	1,320	159	65	55	52
21	330	274	244	156	405	227	622	1,230	149	63	52	55
22	320	282	219	163	370	219	678	1,130	130	57	50	59
23	330	274	170	170	288	223	805	1,020	125	55	50	69
24	350	286	163	208	219	196	776	902	109	55	49	69
25	325	282	192	211	211	159	720	828	87	55	48	65
26	320	253	236	219	292	215	587	820	80	55	52	67
27	316	226	152	204	244	248	587	1,140	75	52	50	67
28	316	226	181	204	196	306	580	1,040	71	49	52	71
29	316	230	261	192	236	244	568	748	75	44	52	73
30	312	282	227	200	-------	196	685	1,130	69	40	55	75
31	299	-------	196	196	-------	152	-------	828	-------	40	61	-------

Monthly discharge of Weber River at Devils Slide, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	610	299	361	22,200
November	320	226	280	16,700
December	330	136	215	13,200
January	248	156	192	11,800
February	435	188	269	15,500
March	306	152	220	13,500
April	1,140	208	673	40,000
May	1,360	699	1,050	64,600
June	790	69	337	20,100
July	115	40	69.2	4,250
August	61	35	44.9	2,760
September	80	52	68.5	4,080
The year	1,360	35	315	229,000

WEBER RIVER AT GATEWAY, UTAH

LOCATION.—In NW. ¼ SW. ¼ sec. 27, T. 5 N., R. 1 E., 300 feet below mouth of Strawberry Creek, 1,400 feet above Union Pacific Railroad bridge across Weber River and 4,400 feet above section house at Gateway, Morgan County. East Canyon Creek enters from left 9 miles above station, and Ogden River from right 16 miles below.

DRAINAGE AREA.—1,610 square miles (measured on map by Utah Water Storage Association, edition of 1919).

RECORDS AVAILABLE.—June 22 to September 17, 1919, and July 26, 1920, to September 30, 1924. Records were obtained from October, 1889, to July, 1903, at a station 1 mile downstream known as Weber River near Uinta, Utah. Records at these stations are comparable, as there were no diversions and no important tributaries between the two points.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by George Strong and William Poll.

DISCHARGE MEASUREMENTS.—From cable about 1,000 feet above gage or by wading. Flow of Strawberry Creek is added when cable is used.

CHANNEL AND CONTROL.—Bed composed of gravel and cobblestones. Right bank high. At high stages river overflows a bar opposite gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.32 feet at 10 p. m. May 4 (discharge, 1,740 second-feet); minimum stage, 0.10 foot August 23 and 24 (discharge, 85 second-feet).

1889–1903 and 1919–1924: Maximum discharge recorded, 7,980 second-feet May 31, 1896; minimum discharge, 65 second-feet August 7–13, 1898.

ICE.—Affected by ice usually only for short periods.

DIVERSIONS.—Numerous diversions from Weber River and tributaries for irrigation above Gateway. Three miles below station, Davis & Weber Canal diverts water for irrigation on bench lands south of Ogden. Entire low-water flow is diverted by various canals during irrigation season so that river is practically dry at Plain City station.

REGULATION.—Water stored by Davis & Weber Canal Co., on East Canyon Creek is released during July to September and passes gaging station.

ACCURACY.—Stage-discharge relation permanent during year; affected by ice from latter part of December to about February 13. Rating curve well defined. Operation of water-stage recorder satisfactory, except for periods stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good except for estimated periods for which they are fair.

Discharge measurements of Weber River at Gateway, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Feb. 14	1.12	406	Aug. 14	0.49	179
June 13	1.03	351	Sept. 1	.24	114

Daily discharge, in second-feet, of Weber River at Gateway, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	432	400	370			358	320	1,100	970	258	170	114
2	424	400	328		270	373	380	1,240	900	254	170	112
3	428	388	300			400	482	1,390	830	251	160	110
4	457	384	280			392	659	1,600	830	251	170	105
5	482	380	270		280	365	664	1,620	840	254	170	105
6	499	380	290		280	354	743	1,370	820	234	165	107
7	525	377	360		290	373	969	1,260	708	280	160	110
8	547	373	343		320	350	1,220	1,240	728	300	170	110
9	584	369	250		380	320	1,380	1,240	698	280	170	107
10	574	369	210		420	332	1,290	1,240	635	270	165	114
11	556	392	200		350	339	1,030	1,240	534	260	170	114
12	525	408	240		330	328	944	1,310	440	270	170	114
13	495	392	280		360	320	1,110	1,270	369	270	170	116
14	490	377	340		388	335	1,440	1,270	332	275	179	110
15	486	373	350		512	343	1,560	1,250	302	280	182	107
16	482	365	300	260	565	324	1,080	1,250	358	275	176	105
17	473	365	280		530	302	896	1,280	346	270	175	103
18	469	340	260		482	320	855	1,320	328	270	180	101
19	478	340	270		448	328	844	1,420	365	260	180	97
20	469	350	300		469	332	838	1,360	360	250	190	95
21	465	360	300		525	339	913	1,240	360	240	130	99
22	473	360	290		521	335	1,010	1,170	354	210	100	103
23	482	365	240		448	320	1,170	1,060	339	210	85	107
24	486	365	230		388	313	1,190	944	320	200	85	110
25	469	365	260		358	313	1,100	896	280	190	130	110
26	460	355	300		396	324	925	944	270	185	150	105
27	450	340	250		388	361	855	944	270	182	151	107
28	440	320	250		365	388	850	811	271	174	154	114
29	428	320	340		358	373	890	896	268	172	160	116
30	420	360	310		-------	339	963	1,250	268	170	126	123
31	410	-------	280		-------	302	-------	1,140	-------	170	114	-------

NOTE.—No gage-height record Oct. 26–28, 30, 31, Nov. 1, 2, 18–23, 25–31, Dec. 1, 3–7, 9–21, 23–28, 30, 31, Jan. 1–4, 6–11, 13–18, 20–26, 28–31, Feb. 1, 2, 4–13, June 1–6, 20, 21, 25–27, July 8–11, 13–18, 20–26, 29–31, Aug. 1, 3–9, 11–13, 17–22, 25, and 26; discharge estimated by comparative hydrographs using station at Devils Slide and Utah Power & Light Co.'s station at mouth of canyon.

Monthly discharge of Weber River at Gateway, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	584	410	479	29,500
November	408	320	368	21,900
December	370	200	286	17,600
January	----------	----------	[a] 260	16,000
February	565	----------	387	22,300
March	400	302	342	21,000
April	1,560	320	952	56,600
May	1,620	811	1,210	74,400
June	970	268	490	29,200
July	300	170	239	14,700
August	190	85	156	9,590
September	123	95	108	6,430
The year	1,620	85	440	319,000

[a] Estimated.

WEBER RIVER NEAR PLAIN CITY, UTAH

LOCATION.—In SE. ¼ sec. 5, T. 6 N., R. 2 W., at county highway bridge 1 mile south of Plain City, Weber County, on road to Ogden, 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 (measured on topographic and United States Forest Service maps).

RECORDS AVAILABLE.—May 14, 1905, to September 30, 1924. Records obtained at this point in 1904 by State engineer.

GAGE.—Chain gage upstream side of highway bridge, installed November 12, 1914; read by W. E. Davies.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading; conditions fair.

CHANNEL AND CONTROL.—Bed composed of sand and mud; shifting. One channel at all stages. Banks are high.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 11.33 feet at noon April 15 (discharge, 2,520 second-feet); minimum discharge, probably less than 2 second-feet in August.

1904–1924: Maximum stage recorded, 19.1 feet June 6, 1909 (discharge 7,580 second-feet); river practically dry during latter part of several summers since 1915.

ICE.—Stage-discharge relation occasionally affected by ice.

DIVERSIONS.—In summer practically entire flow of Weber River above station is diverted for irrigation.

REGULATION.—Flow affected by diversions.

ACCURACY.—Stage-discharge relation changed somewhat during summer; affected by ice January 2–9. Rating curve fairly well defined. Gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

The following discharge measurement was made:

September 8, 1924: Gage height, 1.66 feet; discharge, 7.15 second-feet.

Daily discharge, in second-feet, of Weber River near Plain City, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	561	582	549	613	503	633	654	1,900	1,210	8		
2	561	570	544		492	657	680	2,040	878	7		
3	549	565	485		503	737	692	2,170	983	6		2
4	549	558	473		527	707	935	2,350	891	6		
5	561	558	478		539	682	1,100	2,450	800	5		
6	561	570	496	575	551	657	1,400	2,130	724	5		2
7	694	558	520		558	670	1,500	1,790	692	4		3
8	682	546	520		611	489	1,690	1,680	662	4		7
9	794	541	404		660	597	2,010	1,620	613	3		23
10	826	546	371	577	684	609	2,100	1,540	553	3		27
11	764	630	349	541	672	597	1,970	1,460	441			31
12	770	642	371	529	660	585	1,680	1,560	326			4
13	732	618	382	494	734	573	1,780	1,500	214			9
14	707	594	439	482	805	609	2,040	1,500	175			17
15	694	570	450	494	808	633	2,520	1,410	144			18
16	682	570	462	494	810	585	2,250	1,310	114		2	21
17	670	582	473	494	823	573	2,070	1,230	114			14
18	670	558	462	482	797	561	1,660	1,240	62			57
19	645	534	450	529	760	573	1,620	1,250	121			63
20	637	534	439	517	734	585	1,550	1,310	112			63
21	621	546	473	505	810	633	1,650	1,160	102	2		60
22	621	546	427	475	849	585	1,810	1,030	69			57
23	670	534	427	459	760	585	2,140	906	65			63
24	682	534	450	471	684	597	2,190	740	62			51
25	670	522	485	494	672	585	2,020	702	48			51
26	633	522	568	541	660	561	1,870	677	36			57
27	645	510	520	494	672	621	1,760	702	26			57
28	650	510	496	459	635	645	1,660	714	20			60
29	597	498	520	494	635	802	1,740	727	15			80
30	597	510	544	529	------	707	1,840	1,280	10			61
31	597	------	568	529	------	645	------	1,400	------			------

NOTE.—No gage-height record Feb. 15, May 18, and July 1 to Sept. 7; discharge estimated. Discharge estimated June 27–30 owing to ineffective gage heights. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Weber River near Plain City, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	826	549	655	40,300
November	642	498	555	33,000
December	568	349	471	29,000
January	----------	459	526	32,300
February	849	492	676	38,900
March	802	561	622	38,200
April	2,520	654	1,690	101,000
May	2,450	677	1,400	86,100
June	1,210	[a] 10	343	20,400
July	[a] 8	----------	[a] 3	184
August	----------	----------	[a] 2	123
September	80	----------	32.2	1,920
The year	2,520	----------	580	421,000

[a] Estimated.

LOST CREEK AT DEVILS SLIDE, UTAH

LOCATION.—In SE. ¼ sec. 19, T. 4 N., R. 4 E., a quarter of a mile above confluence with Weber River, half a mile east of Devils Slide, Morgan County.

DRAINAGE AREA.—228 square miles (measured on United States Bureau of Reclamation map).

RECORDS AVAILABLE.—April 1, 1921, to September 30, 1924, at present site; February 2 to December 31, 1905, at a site 150 feet above mouth of creek (published as "Lost Creek near Croyden, Utah").

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by A. E. Lucas.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed consists of gravel; rocky at gage. Straight for about 100 feet above and below gage. Most of water at this point during late summer is seepage and from springs. One channel at all stages. Some moss on rocks at control. Control shifts occasionally. Point of zero flow at gage height, ±0.3 foot; determined June 29, 1923.

EXTREMES OF DISCHARGE.—Maximum stage during year, 2.30 feet from 12 to 3 a. m. May 5 (discharge, 335 second-feet). Minimum discharge, 8 second-feet December 9, September 18–22, 29, and 30.

1905 and 1921–1924: Maximum stage, 4.39 feet from 4 to 6 a. m. May 11, 1923 (discharge from extension of rating, 1,390 second-feet). Minimum discharge, 8 second-feet December 9, 1923, September 18–22, 29, and 30, 1924.

ICE.—Stage-discharge relation occasionally affected by ice.

DIVERSIONS.—Below all diversions.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during period of ice effect January 1–11. First rating curve fairly well defined; second curve well defined. Water-stage recorder successfully operated throughout year, except during periods of ice effect. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good.

The following discharge measurements were made:

February 16, 1924: Gage height, 1.12 feet; discharge, 43.5 second-feet.

June 13, 1924: Gage height, 1.02 feet; discharge, 29.4 second-feet.

August 27, 1924: Gage height, 0.77 foot; discharge, 8.1 second-feet.

Daily discharge, in second-feet, of Lost Creek at Devils Slide, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	28	27	18	21	35	41	236	135	21	11	10
2	33	28	20	16	22	39	44	264	130	21	12	10
3	31	29	20	14	22	39	51	292	115	22	12	12
4	33	29	16		22	38	57	323	110	23	11	11
5	39	28	14		22	38	57	303	98	24	10	11
6	38	28	16	12	22	37	65	260	90	20	10	11
7	39	28	18		24	39	84	245	77	24	10	11
8	38	29	13		28	35	115	245	63	22	10	12
9	39	28	8		34	32	128	242	62	23	10	10
10	38	28	10	10	30	36	133	224	57	21	10	10
11	38	31	11	10	29	36	124	210	42	17	10	10
12	37	31	12	20	30	32	130	181	35	17	10	11
13	34	30	14	23	34	35	154	149	31	17	10	10
14	33	28	16	22	37	35	194	126	30	20	11	10
15	33	28	18	21	41	36	205	102	24	19	11	10
16	31	27	20	21	44	35	164	98	21	15	10	10
17	30	27	18	19	42	34	149	96	16	14	10	10
18	30	27	16	18	39	37	146	92	19	14	10	8
19	29	25	18	18	39	35	135	92	22	14	10	8
20	29	28	23	14	42	37	146	94	22	14	12	8
21	29	28	22	16	44	37	171	92	22	15	11	8
22	28	29	19	17	41	36	194	90	18	17	10	8
23	29	29	17	17	38	35	230	84	17	16	10	9
24	30	29	17	20	36	37	227	77	16	14	10	10
25	29	28	20	22	37	35	194	68	17	14	10	10
26	28	28	21	21	39	37	168	81	18	13	10	10
27	29	26	12	20	37	39	154	81	22	13	10	10
28	29	24	14	21	37	41	158	75	23	13	10	9
29	29	27	43	21	36	41	168	84	22	13	10	8
30	28	27	27	21	-------	38	197	126	22	12	10	8
31	28	-------	19	21	-------	34	-------	142	-------	12	10	-------

NOTE.—Braced figure shows estimated mean discharge for period indicated when stage-discharge relation was affected by ice.

Monthly discharge of Lost Creek at Devils Slide, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	39	28	32.4	1,990
November	31	24	28.0	1,670
December	43	8	18.0	1,110
January	23	----------	17.2	1,060
February	44	21	33.4	1,920
March	41	32	36.5	2,240
April	230	41	139	8,270
May	323	68	157	9,650
June	135	16	46.5	2,770
July	24	12	17.2	1,060
August	12	10	10.4	640
September	12	8	9.8	583
The year	323	8	45.5	33,000

SOUTH FORK OF OGDEN RIVER NEAR HUNTSVILLE, UTAH

LOCATION.—In SE. ¼ 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 5½ miles east of Huntsville, Weber County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 21, 1921, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by T. L. Pass. Datum lowered 0.50 foot September 6, 1922.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed of stream rocky and clean. One channel for all stages. Control well defined but subject to slight shifting.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.21 feet at 9 p. m. May 4 (discharge, 618 second-feet); minimum stage, 0.37 foot from 4 to 8 p. m. September 9 (discharge, 33 second-feet).

1921–1924: Maximum stage, 5.4 feet at 10 p. m. May 10, 1923 (discharge, 1,450 second-feet); minimum stage, 0.37 foot from 4 to 8 p. m. September 9, 1924 (discharge, 33 second-feet).

ICE.—Stage-discharge relation only occasionally affected.

DIVERSIONS.—Above all, except few small ranch diversions.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent during year; affected by ice January 1–26. Rating curve well defined. Water-stage recorder operated satisfactorily except for periods indicated in footnote to daily-discharge table. Daily discharge ascertained by applying rating table to mean daily gage height determined from recorder graph. Records good.

Discharge measurements of South Fork of Ogden River near Huntsville, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 13	0.58	53.6	June 20	0.82	82.2
Nov. 20	.52	48.0	July 30	.48	43.7
Feb. 25	.62	57.5			

Daily discharge, in second-feet, of South Fork of Ogden River near Huntsville, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	57	52		43	57	64	410	138	61	43	37
2	53	56	48		43	60	70	458	144	60	43	37
3	53	57	49		43	61	83	529	152	59	42	38
4	56	57	46			60	93	584	162	59		38
5	56	57	45			58	93	532	162	57		42
6	57	57	49		45	58	107	435	156	58	42	41
7	59	56	55			59	140	395	152	62		38
8	59	55	50			56	180	395	148	62		36
9	58	53				55	206	405	138	58		35
10	57	53			48	56	202	410	130	57	42	36
11	56	57	45			55	180	410	122	57	40	37
12	56	55				55	188	408	116	57	38	38
13	55	53				55	242	400	110	55	37	39
14	55	52		42	55	56	330	380	104	54		40
15	54	50				57	304	348	100	52	40	39
16	54	49	43			55	226	332	94	50		38
17	52	48	42		61	54	188	308	90	49	38	37
18	52	47	42			55	161	286	89	49	38	36
19	50	47	42			55	161	272	86	48	38	37
20	50	48	42		59	56	190	246	84	49	43	39
21	50	48	43			57	240	224	81	49	41	40
22	52	48	43			55	312	208	79	48	39	40
23	55	48	43			55	378	190	76	47	39	41
24	55	48	42		57	56	352	171	74	46	41	41
25	53	48	44		59	55	286	162	73	46	42	42
26	53	48	47		59	57	240	152	70	47	41	42
27	54	48	42	43	58	59	230	138	68	46	43	41
28	55	48	43	43	58	64	244	128	67	46	43	41
29	55	50	44	43	57	64	286	136	66	45	42	39
30	55	54	45	43	-------	59	342	140	65	44	39	38
31	56	-------	45	43	-------	57	-------	133	-------	43	38	-------

NOTE.—No gage-height record Dec. 9–15, 18–22, 28, 29, Jan. 28–31, Feb. 1, 2, 4–9, 11–16, 18–23, Aug. 4–9, 14–16, and Sept. 22–25; discharge estimated. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of South Fork of Ogden River near Huntsville, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	59	50	54.5	3,350
November	57	47	51.7	3,080
December	55	42	45.2	2,780
January	----------	----------	a 42.2	2,590
February	----------	43	53.1	3,050
March	64	54	57.1	3,510
April	378	64	211	12,600
May	584	128	314	19,300
June	162	65	107	6,370
July	62	43	52.3	3,220
August	43	37	40.7	2,500
September	42	35	38.8	2,310
The year	584	35	88.9	64,700

a Estimated.

JORDAN RIVER BASIN

JORDAN RIVER NEAR LEHI, UTAH

LOCATION.—In sec. 25, T. 5 S., R. 1 W., about 800 feet below pumping station at outlet of Utah Lake and 4 miles southwest of Lehi, Utah County.

DRAINAGE AREA.—2,570 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 30 to December 31, 1904, and July 22, 1913, to September 30, 1924.

GAGE.—Stevens 8-day water-stage recorder on right bank about 25 feet above bridge since May 16, 1920; operated by W. A. Knight.

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

CHANNEL AND CONTROL.—Bed composed of clay and hardpan. Banks clean and low; not subject to overflow. One channel at gage. Area slightly constricted below by highway bridge.

EXTREMES OF DISCHARGE.—Maximum mean daily stage during year, 6.34 feet June 27 (discharge, 970 second-feet); minimum mean daily stage, 3.82 feet September 25 (discharge, 387 second-feet).

1913–1923: Maximum mean daily stage reported, 7.78 feet June 8, 1923 (discharge, 1,370 second-feet). Minimum stage occurred at 6 p. m. December 15, 1915, when river was dry owing to strong wind which blew water in lake away from outlet gates. River was dry also August 14–15 and September 2, 1919, because of dam placed in lake outlet to permit repairing cut-off wall under pump house, and October 16, 1919, to May 15, 1920, because of dam placed in lake outlet incident to construction of new pumping plant.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—None from Jordan River above station. In Narrows about 6 miles north (downstream several miles by river) a number of large canals divert for irrigation in Salt Lake Valley and for use by smelters, etc., in vicinity of Garfield.

REGULATION.—During irrigation season when natural flow from Utah Lake is inadequate for demands below, water is pumped from lake into Jordan River. A pumping plant, capacity about 1,500 second-feet, is at outlet of lake, 800 feet above gage; owned and operated by various canal companies interested in stream. This capacity of 1,500 second-feet includes four 200-second-feet units installed during winter of 1919–20.

ACCURACY.—Stage-discharge relation changed May 10 when pumps were started. Rating curves fairly well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Records of mean daily gage height furnished by W. A. Knight, water commissioner.

The following discharge measurements were made:

May 23, 1924: Gage height, 6.06 feet; discharge, 899 second-feet.

July 1, 1924: Gage height, 6.30 feet; discharge, 958 second-feet.

Daily discharge, in second-feet, of Jordan River near Lehi, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	503	526	543	611	640	684	716	650	706	964	912	894
2	503	533	565	611	640	689	710	647	706	949	917	897
3	507	503	565	614	640	693	714	652	708	920	915	881
4	512	528	574	614	640	677	664	661	822	954	915	881
5	484	533	572	616	643	673	686	554	891	949	917	891
6	514	535	572	618	645	684	698	607	910	951	917	889
7	501	535	561	620	647	650	705	609	868	943	902	886
8	507	539	550	620	650	677	696	607	868	889	899	868
9	522	541	535	620	652	693	689	607	868	818	897	792
10	514	548	561	620	654	682	703	750	868	815	894	775
11	510	554	574	622	657	675	698	890	865	907	894	732
12	493	541	581	622	657	675	703	890	865	956	884	780
13	503	543	576	625	659	689	710	890	863	930	894	780
14	516	543	578	627	661	689	698	891	855	917	891	780
15	505	543	583	627	664	670	605	899	860	928	907	780
16	512	541	587	627	666	654	631	897	865	912	912	770
17	486	548	587	629	670	691	677	897	863	915	910	692
18	516	548	585	631	673	661	686	894	876	928	904	609
19	514	548	587	631	675	684	691	886	902	933	904	592
20	518	550	587	634	675	698	684	897	881	938	894	739
21	522	550	589	634	677	682	689	897	876	907	904	763
22	528	552	592	634	677	689	693	897	873	907	902	768
23	478	554	594	634	680	726	700	899	868	920	897	763
24	518	554	594	634	680	707	643	899	860	907	899	607
25	514	524	594	634	680	710	645	897	852	897	902	387
26	526	541	585	634	680	707	664	899	889	912	897	541
27	528	524	592	636	680	712	673	904	970	923	891	671
28	522	559	598	636	682	714	670	907	964	938	902	674
29	522	561	603	636	682	673	657	860	967	894	899	634
30	528	574	607	638	------	675	650	725	954	894	899	583
31	528	------	607	638	------	712	------	708	------	917	899	------

Monthly discharge of Jordan River near Lehi, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	528	478	511	31,400
November	574	503	542	32,300
December	607	535	580	35,700
January	638	611	627	38,600
February	682	640	663	38,100
March	726	650	687	42,200
April	716	605	682	40,600
May	907	554	799	49,100
June	970	706	866	51,500
July	964	815	917	56,400
August	917	884	902	55,500
September	897	387	743	44,200
The year	970	387	710	516,000

SPANISH FORK AT THISTLE, UTAH

LOCATION.—In SW. ¼ sec. 28, T. 9 S., R. 4 E., in Thistle, Utah County, 800 feet below point where Soldier Fork and Thistle Creek unite to form Spanish Fork, 3 miles above confluence with Diamond Fork.

DRAINAGE AREA.—490 square miles (measured on topographic map).

RECORDS AVAILABLE.—December 3, 1907, to September 30, 1924.

GAGE.—Inclined staff on right bank 10 feet below cable, installed May 4, 1915; read by W. W. McClure.

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

CHANNEL AND CONTROL.—Bed composed of gravel and sand. One channel at all stages. Left bank low and subject to overflow; right bank high and partly wooded. Channel straight for 100 feet above and 600 feet below gage. Control is gravel bar about 30 feet below gage; shifting.

ICE.—Stage-discharge relation affected by ice for short periods.

DIVERSIONS.—No important diversions above station.

REGULATION.—None.

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

Discharge measurements of Spanish Fork at Thistle, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	5.19	66.6	July 10	5.14	39.3
Apr. 4	5.32	82.4	July 18	5.02	25.5
June 19	5.10	37.5			

Daily discharge, in second-feet, of Spanish Fork at Thistle, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	76	70	57	62	54	44	64	80	25	22	18
2	78	76	72	84	62	54	54	59	71	24	22	18
3	76	76	70	69	62	59	64	54	67	22	20	18
4	78	75	70	57	59	59	71	62	62	25	19	17
5	76	75	66	44	57	52	76	71	62	34	19	19
6	76	75	70	71	57	47	76	84	54	42	18	18
7	76	75	73	71	57	57	71	91	54	91	18	24
8	78	75	72	71	57	57	91	98	54	34	18	28
9	74	75	78	67	57	52	105	107	52	33	18	33
10	78	75	84	62	57	47	102	123	45	33	18	33
11	78	75	93	62	57	54	91	133	47	35	18	33
12	79	75	103	62	62	47	91	164	39	39	18	33
13	75	75	94	62	62	47	84	215	39	33	18	33
14	75	75	80	76	67	54	76	215	54	32	24	30
15	75	75	72	67	74	54	76	215	39	29	29	29
16	75	73	68	62	80	50	76	215	39	28	26	29
17	75	73	65	71	76	45	76	215	39	27	24	29
18	75	72	65	67	67	49	76	194	39	25	24	29
19	75	72	65	67	59	49	76	164	39	24	21	32
20	75	72	65	64	59	49	76	143	39	21	21	32
21	75	72	65	64	59	49	76	112	39	21	21	33
22	75	72	68	64	59	49	76	105	37	21	21	33
23	75	72	63	64	54	52	76	98	34	21	21	33
24	79	72	61	69	50	52	84	91	33	21	21	33
25	79	71	64	64	50	45	84	80	33	21	21	30
26	79	71	70	62	54	50	80	98	30	21	21	30
27	79	71	70	64	54	59	76	109	30	20	20	30
28	79	70	71	62	54	59	71	98	29	26	20	30
29	78	70	71	62	59	59	71	98	28	23	19	30
30	78	70	66	62	------	47	71	91	27	23	19	30
31	76	------	62	62	------	39	------	84	------	23	18	------

Monthly discharge of Spanish Fork at Thistle, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	79	74	76.7	4,720
November	76	70	73.4	4,370
December	103	61	71.8	4,410
January	84	62	64.9	3,990
February	80	50	60.1	3,460
March	59	39	51.5	3,170
April	105	44	77.2	4,590
May	215	54	121	7,440
June	80	27	44.5	2,650
July	91	20	28.9	1,780
August	29	18	20.5	1,260
September	33	17	28.2	1,680
The year	215	17	59.9	43,500

SPANISH FORK AT LAKE SHORE, UTAH

LOCATION.—In NW. ¼ sec. 15, T. 8 S., R. 2 E., 1 mile east of Lake Shore, Utah County, 3 miles above mouth, 3 miles northwest of Spanish Fork, and below all tributaries and diversions.

DRAINAGE AREA.—700 square miles (measured on topographic map).

RECORDS AVAILABLE.—December 10, 1903, to July 10, 1907; March 10, 1909, to September 30, 1924.

GAGE.—Staff gage on left bank about half a mile below highway bridge, used since January 1, 1923; read by Andrew Poulsen.

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

CHANNEL AND CONTROL.—Bed soft; fairly permanent. One channel at all stages; banks of earth, high and covered with willows.

ICE.—Stage-discharge relation slightly affected for short periods.

DIVERSIONS.—Entire flow is diverted above station during latter part of irrigation season; only waste and return waters pass gage at that time.

REGULATION.—Natural flow affected by irrigation diversions.

COOPERATION.—Records furnished by the United States Bureau of Reclamation.

Discharge measurements of Spanish Fork at Lake Shore, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 6	5.30	90.9	June 2	3.50	6.0
Apr. 8	6.33	170	Sept. 4	3.50	2.1

Daily discharge, in second-feet, of Spanish Fork at Lake Shore, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	110	101	105	114	121	132	21	6	30	3	2
2	101	122	95	105	114	121	136	21	6	23	3	2
3	104	110	94	105	114	121	139	25	6	179	3	2
4	122	109	87	105	114	119	145	25	6	26	3	2
5	122	109	87	109	117	119	153	21	5	30	3	2
6	157	120	81	112	117	120	153	21	5	3	3	2
7	122	120	81	112	120	116	155	23	5	3	2	2
8	122	116	86	109	120	116	154	21	5	3	2	2
9	142	107	91	109	120	116	154	21	5	3	2	2
10	162	126	91	111	127	120	154	21	5	3	2	2
11	128	54	91	111	128	120	149	18	5	3	2	2
12	121	106	88	110	134	116	145	14	2	3	2	2
13	133	105	91	106	138	117	142	10	4	3	2	2
14	140	118	95	112	141	117	139	10	4	3	2	2
15	154	123	104	112	141	117	126	6	4	3	2	2
16	169	111	90	112	141	117	119	6	4	3	2	2
17	132	110	90	113	141	117	116	6	4	3	2	2
18	153	110	97	113	141	117	113	6	4	3	2	2
19	113	110	84	113	138	117	107	6	4	3	2	2
20	112	122	97	113	134	117	87	6	4	3	2	2
21	137	122	97	113	135	118	87	6	4	3	2	1
22	137	110	97	113	135	118	70	6	4	3	2	1
23	150	110	97	109	135	118	21	6	3	3	2	1
24	158	110	94	109	128	121	49	6	3	14	2	1
25	126	110	90	108	128	125	44	6	3	3	2	1
26	117	109	90	108	126	125	21	6	37	3	2	1
27	116	102	90	108	126	128	21	6	3	3	2	1
28	117	95	87	109	121	131	21	6	3	3	2	1
29	117	95	97	109	121	131	21	6	11	3	2	1
30	164	88	103	109	-------	125	21	6	20	3	2	1
31	122	-------	103	114	-------	131	-------	6	-------	3	2	-------

Monthly discharge of Spanish Fork at Lake Shore, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	169	57	130	7,990
November	126	88	109	6,490
December	104	81	92.5	5,690
January	114	105	110	6,760
February	141	114	128	7,360
March	131	116	120	7,380
April	155	21	103	6,130
May	25	6	12.1	744
June	37	2	6.1	363
July	179	3	12.2	750
August	3	2	2.2	135
September	2	1	1.7	101
The year	179	1	68.7	49,900

PROVO RIVER AT FORKS, UTAH

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

DRAINAGE AREA.—600 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 17, 1911, to September 30, 1924. Records have been obtained at various points below the mouth of South Fork since 1890.

GAGE.—Vertical staff on right bank, 16 feet above steel bridge; installed July 21, 1920; read by J. F. Carter.

DISCHARGE MEASUREMENTS.—Made by wading or from bridge.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; fairly permanent. Banks fairly high and not subject to overflow; one channel at all stages. Control is gravel riffle; shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.43 feet at 7 p. m. May 18 (discharge, 800 second-feet); minimum discharge, 122 second-feet September 18.

1911–1924: Maximum stage recorded, 6.13 feet at 7 p. m. June 11, 1921 (discharge, 3,180 second-feet); minimum discharge, 122 second-feet September 18, 1924.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—Station is below diversions for irrigation in Heber Valley and above those near Provo.

REGULATION.—A number of small lakes at headwaters have been utilized as storage reservoirs and flow is regulated to slight extent.

ACCURACY.—Stage-discharge relation changed frequently during year; affected by ice about January 3–26. Fairly well defined normal curves were used shifting to measurements. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

COOPERATION.—Eight discharge measurements furnished by Utah Power & Light Co.

Discharge measurement of Provo River at Forks, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	2.67	435	Apr. 17	2.44	362	July 11	1.90	167
Nov. 14	2.35	307	May 15	3.30	718	Aug. 2	1.74	138
Jan. 12	2.26	256	June 2	2.36	321			
Feb. 14	2.32	312	June 11	1.96	176			

Daily discharge, in second-feet, of Provo River at Forks, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	297	312	319	294	282	289	296	303	335	159	154	124
2	297	312	304	243	286	292	303	282	321	148	147	124
3	290	319	312	290	289	303	310	268	265	148	154	130
4	312	319	312	270	286	300	361	262	253	156	149	130
5	312	312	297	224	282	289	369	268	250	159	144	135
6	312	312	304	237	282	275	354	268	246	161	144	140
7	389	304	334	243	286	286	369	262	240	159	144	137
8	405	312	326	297	292	282	405	258	230	188	140	140
9	449	312	290	290	303	275	444	265	224	176	140	140
10	405	312	243	276	303	282	418	357	218	164	140	140
11	397	326	224	276	296	282	369	365	194	164	140	144
12	380	326	256	256	296	268	342	476	188	170	140	140
13	380	319	270	256	303	275	361	523	170	161	140	140
14	372	312	312	250	317	275	384	671	170	159	144	132
15	372	304	334	250	354	275	409	627	170	159	149	130
16	372	304	334	263	369	262	376	605	176	159	142	130
17	356	304	290	230	358	272	361	660	176	153	140	130
18	356	304	304	263	339	278	354	800	170	154	135	122
19	349	304	290	270	324	265	346	689	188	157	135	126
20	349	297	312	243	332	268	339	695	188	154	135	140
21	341	297	319	243	332	278	369	643	182	159	149	140
22	341	304	312	270	328	275	339	543	182	154	149	140
23	364	304	312	270	317	268	354	518	176	154	142	137
24	364	304	297	297	303	278	369	458	170	154	135	137
25	356	312	319	280	310	268	354	392	159	154	130	130
26	341	312	319	270	314	275	332	418	153	154	130	140
27	334	312	290	268	303	332	317	444	153	154	130	140
28	312	304	263	296	292	324	310	357	159	181	126	149
29	312	312	334	289	289	310	310	413	159	170	124	144
30	312	312	319	278	------	296	303	458	159	170	124	132
31	304	------	297	282	------	262	------	369	------	159	124	------

Monthly discharge of Provo River at Forks, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	449	290	349	21,500
November	326	297	310	18,400
December	334	224	302	18,600
January	297	224	267	16,400
February	369	282	309	17,800
March	332	262	283	17,400
April	444	296	354	21,100
May	800	258	449	27,600
June	335	153	201	12,000
July	188	148	160	9,840
August	154	124	139	8,550
September	149	122	135	8,030
The year	800	122	272	197,000

SOUTH FORK OF PROVO RIVER AT FORKS, UTAH

LOCATION.—In sec. 26, T. 5 S., R. 3 E., at Vivian Park summer resort, just above Forks, Utah County, a quarter of a mile above confluence with Provo River and 12 miles up Provo Canyon on highway and railroad from Provo to Heber.

DRAINAGE AREA.—30 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 17, 1911, to September 30, 1924.

GAGE.—Vertical staff nailed to cottonwood tree on right bank; established June 15, 1913; moved 20 feet upstream May 2, 1922; read by J. F. Carter. No reference to original datum.

DISCHARGE MEASUREMENTS.—Made from foot log near gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel; shifting. One channel at all stages; banks low but seldom overflowed.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 46 second-feet October 9; minimum discharge, 20 second-feet September 2.

1911–1924: Maximum discharge, 123 second-feet May 27, 1922; minimum discharge, 20 second-feet July 23, 1917, January 2, 1920, and September 2, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Below all diversions.

REGULATIONS.—None.

ACCURACY.—Stage-discharge relation changed frequently. Standard rating curve fairly well defined. Gage read to hundredths once a day. Daily discharge ascertained by applying gage height to rating table, using shifting-control method. Records good.

COOPERATION.—Eight discharge measurements furnished by Utah Power & Light Co.

Discharge measurements of South Fork of Provo River at Forks, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	1.60	45.9	Apr. 17	1.48	30.4	July 11	1.42	25.6
Nov. 14	1.52	39.0	May 15	1.39	25.1	Aug. 2	1.52	25.2
Jan. 9	1.48	33.9	June 2	1.40	25.7			
Feb. 14	1.50	32.7	June 12	1.44	26.2			

Daily discharge, in second-feet, of South Fork of Provo River at Forks, Utah, for the year ending September 30, 1924

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

NOTE—No gage height record July 1–10; discharge estimated.

Monthly discharge of South Fork of Provo River at Forks, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	46	41	42.1	2,590
November	42	38	39.8	2,370
December	39	34	35.9	2,210
January	35	32	33.6	2,070
February	33	33	33.0	1,900
March	32	30	31.5	1,940
April	32	25	29.8	1,770
May	31	22	26.7	1,640
June	29	26	27.2	1,620
July	27	23	26.0	1,600
August	28	21	23.8	1,460
September	29	20	23.8	1,460
The year	46	20	31.1	22,600

SEVIER LAKE BASIN

SEVIER RIVER AT HATCH, UTAH

LOCATION.—In SE. ¼ sec. 28, T. 36 S., R. 5 W., at county bridge a quarter of a mile east of J. C. Barnhurst's house at Hatch, Garfield County, and 1½ miles below dam site of former Hatchtown Reservoir.

DRAINAGE AREA.—260 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 3, 1911, to July 31, 1921; and April 1, 1922, to September 30, 1924; fragmentary.

GAGE.—Stevens continuous water-stage recorder on left bank, installed August 23, 1914; inspected by J. C. Barnhurst.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—One channel at all stages. Bed composed of sand and gravel.

EXTREMES OF DISCHARGE.—For this year not determined.

1911–1924: Maximum stage occurred about 9 p. m. May 25, 1914, when Hatchtown Reservoir dam failed (discharge not determined); maximum stage recorded, 5.25 feet at 4 a. m. May 26, 1922 (discharge, 1,490 second-feet); minimum flow, 10 second-feet on days in January, March, and April, 1912, while water was being stored at Hatchtown Reservoir.

ICE.—Stage-discharge relation slightly affected by ice.

DIVERSIONS.—Above all diversions, except Hatch Bench Canal, and Panguitch Lake ditch, which divert a small quantity of water from Mammoth Creek. Hillsdale ditch diverts about 4 miles downstream and several other canals about 7 miles below for irrigation in Panguitch Valley.

REGULATION.—Entire flow controlled by gates in Hatchtown Reservoir Dam before May 25, 1914. No regulation since that date.

ACCURACY.—Stage-discharge relation shifted slightly during year. Standard rating curve fairly well defined. Water-stage recorder record badly broken. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Shifting-control method used February 28 to September 30. Records good though fragmentary.

Discharge measurements of Sevier River at Hatch, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 7	0.96	112	June 19	0.80	83.2	Aug. 25	0.69	65.4
Feb. 28	.85	94.6	July 26	.78	80.4			
May 23	1.56	263	Aug. 17	.72	75.6			

Daily discharge, in second-feet, of Sevier River at Hatch, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Feb.	Mar.	May	June	July	Aug.	Sept.
1	118	116	106		89	174		89		62
2	116	114	106		87	192		89		62
3	116	112	106		91	232		96		60
4	114	112	102		93	242		145		60
5	114	112	100		89	260		148		62
6	112	112	102					120		62
7	112	112	106				118		75	60
8	120	114	104		95				77	
9	122	114	102		96			84	77	
10	118	116	104						77	
11	116	118	104			335			77	
12	120	116	104						77	
13	120	112	100						77	
14	118	112	98				114		80	
15	118	112	100		86				79	
16	118	110	91					84	77	
17	118	110	87					77	75	
18	118	110	91					77	75	
19	118	110	95				84	77	74	
20	116	110	100				84	77	72	
21	116	110					87	79		
22	116	110					84	80		
23	116	110				254	84	80	68	64
24	116	108				252	84	80	64	67
25	116	108				250	82	82	65	67
26	118	108				244	80	80	65	67
27	116	106				234	80	112	65	67
28	116	106		91			89	116	64	65
29	114	102		91			89	96	64	65
30	114	104					87		62	65
31	114								62	

NOTE.—Mean discharge for October, 117 second-feet; November, 111 second-feet.

SEVIER RIVER NEAR CIRCLEVILLE, UTAH

LOCATION.—In sec. 29, T. 31 S., R. 4 W., 2½ miles above mouth of Pine Creek and 8 miles southwest of Circleville, Piute County.

DRAINAGE AREA.—950 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 10 to September 19, 1912; April 23, 1914, to September 30, 1924. Fragmentary for 1923.

GAGE.—Stevens continuous water-stage recorder; installed April 23, 1914, attended by J. A. Betenson.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—One channel at all stages; stream bed composed of sand; shifting.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.03 feet at 5 and 6 a. m. September 6 (discharge, 430 second-feet); minimum stage, 2.00 feet June 19 (discharge, 45 second-feet).

1912–1924: Maximum stage occurred in 1914 during flood resulting from failure of Hatchtown Dam; discharge not determined. Maximum discharge recorded, 1,600 second-feet August 16, 1916, and May 30, 1922; minimum stage recorded, 2.00 feet June 19, 1924 (discharge, 45 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Above all diversions for Circle Valley; below several diversions for Hatchtown project and Panguitch Valley.

REGULATION.—Flow affected by diversions only.

ACCURACY.—Stage-discharge relation changed during early part of June; affected by ice about December 10 to March 17. Rating curves well defined. Water-stage recorder operated satisfactorily, except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records fair, except for winter, for which they may be poor.

Discharge measurements of Sevier River near Circleville, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	2.71	126	June 23	2.02	46.1	Aug. 25	2.26	62.2
Feb. 29	2.98	152	July 25	2.18	58.8	Sept. 29	2.44	81.4
May 24	2.92	157	Aug. 16	2.38	76.4			

Daily discharge, in second-feet, of Sevier River near Circleville, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	135	170	194				163		130		66	63
2	146	170	187				180		112	50	62	62
3	154	170	181				195	170	105		60	68
4	154	169	178				210		100	53	60	71
5	148	170	174			150	225		105		60	71
6	142	174	170				240	169	95	55	58	260
7	138	181	194				255	172	85			101
8	144	185	181				270	183	75		60	108
9	133	178	161				283	210	65			113
10		170					299	242	57	111	60	117
11		178					280				60	141
12	140	169					258				68	114
13		167				160	240		55		73	108
14		169					288			60	90	100
15		172			175		270	240	49		87	101
16	144	176		130			235				77	105
17	144	174					210		45		68	95
18	139	174				170	213			57	64	95
19	144	176				168	210		45		64	94
20	142	174	150			167	203	245	47		68	94
21	146	174				167	200	220	47	57	68	91
22	158	174					200	200	46		66	91
23	161	174					195	180	46		64	89
24	160	178					190	163	47		65	86
25	161	181					190	165	47	57	65	84
26	161	165				165	185	165	47	61	65	80
27	163	158					180	178	47	60	66	80
28	172	151					174	170	-------	209	68	84
29	167	172					170	160	50		62	82
30	170	192			-------		170	150	-------	65	63	81
31	170	-------			-------		-------	140	-------		65	-------

NOTE.—No gage-height record; discharge estimated Oct. 10–15, Mar. 19, 22–31, Apr. 2–8, 15, 16, 21–27, 29, 30, May 1–5, 11–19, 21–23, 28–31, June 1, 3–9, 11–14, 16–18, 22, 25, 26, 28–30, July 1–3, 5–9, 11–17, 19–24, 29–31, and Aug. 7–9. Stage-discharge relation affected by ice about Dec. 10 to Mar. 17. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Sevier River near Circleville, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	172	133	150	9,220
November	192	151	173	10,300
December	194	-------	159	9,780
January	-------	-------	130	7,990
February	-------	-------	175	10,100
March	-------	-------	160	9,840
April	299	163	219	13,000
May	245	140	197	12,100
June	130	45	63.4	3,770
July	209	-------	64.2	3,950
August	90	58	65.9	4,050
September	260	62	97.6	5,810
The year	299	45	138	99,900

SEVIER RIVER NEAR KINGSTON, UTAH

LOCATION.—In NW. ¼ sec. 16, T. 30 S., R. 3 W., 1 mile west of Kingston, Piute County, and 2 miles above mouth of East Fork.

DRAINAGE AREA.—1,110 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 12, 1914, to September 30, 1924; also several miscellaneous measurements in 1911, published in Water-Supply Paper 310 as "South Fork near Junction, Utah."

GAGE.—Stevens continuous water-stage recorder on left bank, installed September 20, 1918; inspected by W. S. Price.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—One channel at all stages. Concrete control 10 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, 2.22 feet at 12.30 a. m., September 6 (discharge, 500 second-feet); minimum stage, 0.70 foot from 7 to 8 p. m. July 4 (discharge, 11 second-feet).

1914–1924: Maximum stage recorded, 4.92 feet at 4 p. m. May 21, 1922 (discharge, 1,460 second-feet); minimum stage, 0.70 foot from 7 to 8 p. m. July 4, 1924 (discharge, 11 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Below all diversions above mouth of East Fork.

REGULATION.—Flow affected by diversions for irrigation.

ACCURACY.—Stage-discharge-relation changed during ice-affected period December 10 to January 19 and about April 7–9. Rating curve well defined which was used up to December 9 and after April 9; other poorly defined. Operation of water-stage recorder satisfactory, except for periods as shown in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good, October, November, and May to September; others poor.

Discharge measurements of Sevier River near Kingston, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 10	1.28	117	June 23	0.74	17.6	Aug. 25	0.80	18.8
Feb. 29	1.62	203	July 15	.78	20.7	Sept. 27	.94	40.7
May 22	.98	51.9	Aug. 15	.86	28.5			

Daily discharge, in second-feet, of Sevier River near Kingston, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	161	194		391	212	216	136	45	13	21	40
2	119	157	191		366	216	226	90	44	14	19	37
3	130	161	184		366	212	230	90	42	14	17	34
4	124	164	180		378	223	248	45	35	12	18	37
5	116	167	170		340	212	230		34	19	18	62
6	113	170	167		260	202	248		31	20	16	153
7	113	177	177		248	212	357		29	25	16	69
8	116	191	174		206	212	418	75	28	27	15	60
9	121	184	161		209	209	396		27	31	15	58
10	121	180		135	220	226	395		25	47	17	60
11	136	187			223	220	359		22	87	20	67
12	136	180			209	202	337	102	21	73	21	52
13	133	174			260	192	306	83	19	44	25	47
14	133	170			279	202	350	136	17	29	28	42
15	133	170			275	212	433	119	17	19	31	52
16	130	170			279	199	350	73	18	18	27	52
17	127	170			267	209	302	75	18	16	21	50
18	124	170			252	216	289	83	18	16	19	47
19	124	174			237	220	289	60	17	14	18	47
20	130	174	150	131	245	216	298	73	19	14	17	52
21	130	174			248	226	319	83	16	14	19	57
22	139	174			248	226	341	62	17	15	19	58
23	157	174		131	220	220	315	49	16	15	19	54
24	157	177			216	230	306	47	13	14	20	50
25	157	177			220	230	302	45	13	16	20	49
26	154	167		131	220	226	256	44	14	16	18	45
27	151	164			212	234	209	44	13	16	20	44
28	157	157		131	209	245	174	52	13	37	24	44
29	161	170			209	230	164	50	13	67	28	47
30	161	191		150	-------	216	145	49	13	34	32	45
31	161	-------		200	-------	206	-------	47	-------	25	38	-------

NOTE.—Stage-discharge relation affected by ice Dec. 10 to Jan. 19. No gage-height record Jan. 21–25, 27–31, May 2, 3, 5–11, and Sept. 19–21; discharge estimated. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Sevier River near Kingston, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	161	113	135	8,300
November	191	157	173	10,300
December	194	----------	[a] 158	9,720
January	----------	131	[a] 136	8,360
February	391	206	259	14,900
March	245	192	217	13,300
April	433	145	294	17,500
May	136	44	73.0	4,490
June	45	13	22.2	1,320
July	87	12	26.5	1,630
August	38	15	21.2	1,300
September	153	34	53.7	3,200
The year	433	12	130	94,300

[a] Estimated.

PIUTE RESERVOIR NEAR MARYSVALE, UTAH

LOCATION.—In NW. ¼ sec. 3, T. 29 S., R. 3 W., at Piute Dam, 11 miles south of Marysvale, Piute County.

RECORDS AVAILABLE.—March 22, 1914, to September 30, 1924.

GAGE.—Iron pins driven every foot into rock face at outlet gates; readings between footmarks are measured with a graduated scale.

COOPERATION.—Gage-height record furnished by Piute Reservoir & Irrigation Co.

Daily contents, in acre-feet, of Piute Reservoir near Marysvale, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,650	5,160	13,300	23,200	31,300	44,600	56,600	51,300	24,400	10,900	4,200	2,600
2	9,250	5,280	13,600	23,600	31,600	45,000	56,800	50,400	24,200	10,600	4,050	2,500
3	8,850	5,400	13,900	23,700	32,000	45,500	57,100	50,500	23,700	10,200	3,900	2,400
4	8,360	5,520	14,200	23,800	32,200	46,100	57,500	48,500	23,100	9,800	3,750	2,300
5	8,100	5,640	14,400	24,200	32,600	46,500	57,800	47,200	22,600	9,300	3,600	2,200
6	7,740	5,840	14,600	24,400	32,900	46,900	58,200	46,300	22,100	8,800	3,450	2,180
7	7,360	6,080	14,900	24,700	33,500	47,200	58,600	45,400	21,500	8,600	3,420	2,300
8	7,000	6,320	15,200	25,000	34,000	47,600	59,100	44,600	21,000	8,320	3,360	2,350
9	6,520	6,600	15,300	25,400	34,600	47,900	59,800	43,600	20,500	7,960	3,270	2,380
10	6,080	6,880	15,500	25,600	35,000	48,300	60,400	42,700	20,000	7,780	3,270	2,450
11	5,600	7,120	15,500	26,000	35,400	48,700	60,700	41,500	19,600	7,690	3,360	2,500
12	5,200	7,400	15,600	26,200	35,800	49,200	60,900	40,800	19,200	7,600	3,390	2,580
13	5,200	7,640	15,800	26,500	36,200	49,600	61,000	39,500	18,700	7,480	3,450	2,600
14	5,100	7,870	16,000	26,700	36,600	50,000	61,000	38,300	18,200	7,320	3,600	2,620
15	4,960	8,140	16,200	27,000	37,100	50,400	60,800	37,300	17,700	7,160	3,780	2,650
16	4,780	8,410	16,500	27,300	37,800	50,700	60,600	36,200	17,200	6,960	3,930	2,680
17	4,640	8,700	16,600	27,500	38,300	51,200	60,200	35,400	16,700	6,760	4,050	2,940
18	4,500	8,950	17,100	27,800	38,900	51,600	59,800	34,500	16,200	6,600	4,140	3,120
19	4,380	9,200	17,400	28,000	39,400	51,800	59,300	33,500	15,800	6,440	4,230	3,300
20	4,290	9,500	17,700	28,200	40,000	52,200	58,800	32,200	15,200	6,240	4,320	3,390
21	4,200	9,900	18,000	28,400	40,600	52,500	58,200	31,000	14,700	6,000	4,410	3,330
22	4,110	10,300	18,400	28,600	41,100	52,900	57,600	29,700	14,300	5,800	4,500	3,240
23	4,020	10,700	18,900	28,900	41,700	53,300	57,000	28,800	13,800	5,600	4,540	3,120
24	4,200	11,100	19,300	29,100	42,200	53,600	56,400	28,200	13,400	5,400	4,470	3,030
25	4,320	11,400	19,700	29,300	42,500	53,900	55,900	27,400	13,000	5,200	4,350	2,880
26	4,440	11,700	20,200	29,600	42,900	54,200	55,200	26,700	12,700	4,990	3,840	2,730
27	4,540	12,000	20,700	29,800	43,300	54,600	54,400	26,000	12,400	4,880	3,570	2,620
28	4,640	12,400	21,200	30,000	43,700	55,000	53,600	25,600	11,900	4,740	3,300	2,500
29	4,780	12,700	21,700	30,300	44,300	55,400	52,800	25,200	11,500	4,640	3,060	2,400
30	4,920	13,000	22,200	30,600	--------	55,800	52,000	24,900	11,200	4,470	2,820	2,300
31	5,060	--------	23,000	31,000	--------	56,200	--------	24,800	--------	4,320	2,700	------

SEVIER RIVER BELOW PIUTE DAM NEAR MARYSVALE, UTAH

LOCATION.—In sec. 34, T. 28 S., R. 3 W., 700 yards below dam of Piute Reservoir, 11 miles south of Marysvale, Piute County.

DRAINAGE AREA.—2,440 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 17 to August 31, 1911; May 1, 1912, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank; installed June 17, 1922; inspected by M. C. Jensen.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. One channel at all stages. Control is riffle of heavy gravel and rocks immediately below gage; shifts occasionally.

EXTREMES OF DISCHARGE.—1911–1924: Maximum stage 4.45 feet between 6 p. m. May 23 and 8 a. m. May 24, 1922 (discharge, 2,600 second-feet); river practically dry when reservoir gates are closed.

ICE.—Stage-discharge relation generally slightly affected by ice.

DIVERSIONS.—None between station and Piute Reservoir.

REGULATION.—Flow past station regulated by operation of gates in dam above.

ACCURACY.—Stage-discharge relation changed during winter. Rating curves well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Sevier River below Piute Dam near Marysvale, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 13	1.29	260	June 17	1.94	564	Aug. 13	1.25	253
Nov. 18	.82	124	July 15	1.85	511	Aug. 24	1.27	259
May 22	2.04	648	Aug. 12	1.45	326			

Daily discharge, in second-feet, of Sevier River below Piute Dam near Marysvale, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	402	182	122	28			32	613	460	518	465	177
2	379	182	124	29			37	606	475	558	460	186
3	379	182	124	29			28	606	507	576	455	188
4	383	182	120	28			24	606	507	588	450	191
5	379	157	114	28			20	582	507	588	445	191
6	379	141	118	28			2	693	490	576	426	188
7	379	139	120	28			2	665	485	558	390	162
8	383	137	120	27			2	665	475	546	399	162
9	383	134	120	27			2	665	500	518	373	162
10	383	134	137	27			25	679	529	518	331	162
11	383	139	132	27			74	672	558	518	327	162
12	305	143	122	28			138	672	582	518	323	162
13	268	145	124	27	2		245	672	582	518	285	162
14	293	132	122	24			285	679	576	518	254	162
15	293	132	120	19			327	686	582	518	254	162
16	289	134	118	16		2	373	700	582	512	254	123
17	289	134	120	9			465	686	564	524	254	86
18	286	128	60				465	679	576	524	238	86
19	261	120	33				465	672	576	524	211	86
20	247	114	31				465	665	588	518	208	118
21	247	116	31				507	652	582	518	211	197
22	234	116	30				564	626	564	512	226	200
23	231	116	30				570	620	564	500	238	197
24	187	118	30		2		570	613	460	490	258	197
25	187	118	30				564	613	460	485	293	200
26	185	120	29		3		564	600	465	480	303	197
27	185	120	29		3		606	570	546	475	300	197
28	185	120	28		3		620	529	552	470	238	197
29	182	120	28		3		613	475	558	470	235	194
30	182	120	29				613	460	546	470	220	194
31	182		28			24		460		465	186	

NOTE.—Reservoir gates closed, seepage only, Jan. 18 to Mar. 30 and Apr. 6–9. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Sevier River below Piute Dam near Marysvale, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	402	182	288	17,700
November	182	114	136	8,090
December	137	28	81.4	5,010
January	29	----------	14.7	904
February	----------	----------	2.1	121
March	24	----------	2.7	166
April	620	2	309	18,400
May	700	460	625	38,400
June	588	460	533	31,700
July	588	465	518	31,900
August	465	186	307	18,900
September	200	86	168	10,000
The year	700	----------	250	181,000

SEVIER RIVER AT SEVIER, UTAH

LOCATION.—In E. ½ sec. 32, T. 25 S., R. 4 W., at Sevier, Sevier County; 100 yards above railroad bridge on Y spur of Denver & Rio Grande Western Railroad. Clear Creek enters Sevier River immediately above this station. Prior to November 15, 1916, Clear Creek entered Sevier River 45 yards below this station.

DRAINAGE AREA.—2,850 square miles including Clear Creek which was diverted into Sevier River above this station on November 15, 1916; 2,700 square miles exclusive of Clear Creek. Areas measured on topographic maps.

RECORDS AVAILABLE.—May 20, 1911, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by R. W. Levie.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Channel straight; composed of gravel. Banks seldom overflowed. Control composed of coarse gravel about 75 feet below gage; somewhat shifting.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.85 feet from 2 a. m. to noon, May 20 (discharge, 835 second-feet); minimum stage, 2.16 feet at 6 p. m. February 20 (discharge, 15 second-feet).

1911–1924: Maximum discharge estimated, 2,800 second-feet during last week in May, 1922; minimum stage, 1.15 feet at 2 p. m. November 27, 1919 (discharge, 10 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—A few small ditches divert between station and Piute Dam.

REGULATION.—Flow past the station practically controlled by operation of gates in Piute Dam, about 27 miles above.

ACCURACY.—Stage-discharge relation permanent throughout year; affected by ice December 9 to February 16. Rating curve well defined. Water-stage recorder operated successfully, except when affected by ice, and March 24–29. Daily discharge ascertained by applying mean daily gage height to rating table. Discharge estimated for periods of missing gage heights by hydrographic comparison with station below Piute Dam and study of climatological data. Records good except for estimated periods for which they are fair.

Discharge measurements of Sevier River at Sevier, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 17	3.79	362	Nov. 17	3.14	163	Aug. 14	3.59	301
Nov. 3	3.43	241	Feb. 26	2.44	36.7	Aug. 24	3.50	258

Daily discharge, in second-feet, of Sevier River at Sevier, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	484	244	172			39	34	692	549	549	469	210
2	445	244	172			40	47	692	558	558	465	196
3	448	244	168			40	62	704	590	576	462	202
4	448	244	165			41	66	710	649	594	462	207
5	448	244	158			41	60	704	664	599	458	207
6	445	194	158			40	62	740	704	599	455	204
7	445	185	165			42	74	752	664	594	419	191
8	458	185	165	70		49	68	776	618	576	416	183
9	455	185			40	63	79	770	594	567	416	178
10	451	185				68	91	776	618	545	380	183
11	445	185				69	84	782	633	536	351	178
12	435	185				58	111	782	659	532	355	178
13	328	185	165			41	194	782	680	532	345	178
14	355	180				37	314	782	686	528	300	178
15	365	168				32	371	782	675	520	287	180
16	365	168		60		34	380	807	659	516	284	183
17	362	165		50	44	36	428	828	644	516	275	131
18	358	165	105		42	38	480	800	623	516	271	101
19	351	165			37	35	503	807	628	516	241	101
20	314	158			35	38	516	828	638	516	229	97
21	314	153			34	37	528	814	628	511	229	158
22	314	153			32	37	599	770	604	511	235	213
23	307	155			31	35	638	740	599	507	250	210
24	275	155		45	30	35	633	722	536	503	265	207
25	256	155	75		34	34	614	722	495	499	297	210
26	256	153			37	34	614	746	507	491	321	213
27	250	155			37	34	609	752	536	491	324	213
28	247	158			37	34	649	692	562	495	307	213
29	247	158			38	33	654	649	567	491	253	210
30	244	165			-------	33	654	585	571	484	250	210
31	244	-------			-------	31	-------	567	-------	476	221	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated

Monthly discharge of Sevier River at Sevier, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	484	244	360	22,100
November	244	153	181	10,800
December	----------	----------	[a] 125	7,690
January	----------	----------	[a] 57.7	3,550
February	----------	30	[a] 38.2	2,200
March	69	31	40.6	2,500
April	654	34	341	20,300
May	828	567	744	45,700
June	704	495	611	36,400
July	599	476	530	32,600
August	469	221	332	20,400
September	213	97	184	10,900
The year	828	30	296	215,000

[a] Estimated.

SEVIER RIVER NEAR VERMILION, UTAH

LOCATION.—In NE. ¼ sec. 19, T. 22 S., R. 1 W., at highway bridge half a mile below Rockyford Dam, 2 miles below Vermilion, Sevier County, and 4 miles above mouth of Lost Creek.

DRAINAGE AREA.—3,340 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 15 to September 23, 1912; July 31, 1914, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by Orsen Wilkinson.

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

CHANNEL AND CONTROL.—Fairly permanent.

EXTREMES OF DISCHARGE.—1914–1924: Maximum stage, about 8.1 May 30, 1922 (discharge, 2,400 second-feet); minimum discharge about 1 second-foot July 16–18, 1923 (seepage only).

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—Entire flow usually diverted above station during low-water season. Flow past station at such times represents seepage and return flow from canals.

REGULATION.—Flow regulated to large extent by dams and reservoirs above.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined. Water-stage recorder operated satisfactorily for intermittent periods (see footnote to daily-discharge table); weekly gage readings were made for remainder of year. Daily discharge ascertained by applying mean daily gage height or weekly reading to rating table. Discharge estimated for periods of missing gage heights to determine mean for months and total acre-feet. Records good from March to May; fair for remainder of year.

Discharge measurements of Sevier River near Vermilion, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 8	4.50	191	June 14	3.42	13.0	Aug. 8	3.12	3.4
Mar. 1	4.34	149	July 5	3.26	8.0	Aug. 28	3.13	3.2

Daily discharge, in second-feet, of Sevier River near Vermilion, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	174					149	102	16	180			
2	155		201			155		13	366			
3	147				171			10	256		3	
4	137	194						7	25			
5								7		7		
6				160			107	7		7		
7	125					12	107	6		7		6
8		194				14	98	6	25		3	4
9		197	227			19	76	6	25			
10		197			177	45	76	6			3	
11		201				111	78	6				
12		201				127	78					
13		204		76		149	56			7		
14	125	207				142	42		14			8
15		207				137	40		13			
16		207	235			134	40					
17					182	134	42				4	
18						132	40	14		10		
19		207				132	40	14				
20				76		129	38	14				
21						127	36	19				31
22	144		227			139	36	33	9			
23	147		220			139	35	33				
24					165	139	33	32			4	
25		194				139	32	32				
26						144	29	32				
27				165		144	27	39		3		
28	155					142	26	73			4	50
29						139	23		14			
30			194			120	19					
31						102					5	

NOTE.—Discharge determined only for days when recorder was operating or when daily gage readings were made. Monthly table includes estimates for periods of missing records.

Monthly discharge of Sevier River near Vermilion, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	174	125	141	8,670
November	207		198	11,800
December	235		218	13,400
January			119	7,320
February			172	9,890
March	155	12	122	7,500
April		19	59.2	3,520
May		6	23.4	1,440
June	366	9	41.1	2,450
July		3	6.7	412
August	5	3	3.5	215
September		4	20.6	1,230
The year	366	3	93.4	67,800

NOTE.—See footnote to daily-discharge table.

SEVIER RIVER BELOW SAN PITCH RIVER, NEAR GUNNISON, UTAH

LOCATION.—In NE. ¼ sec. 14, T. 19 S., R. 1 W., 1,000 feet below mouth of San Pitch River, 3 miles west of Gunnison, Sanpete County.

DRAINAGE AREA.—4,880 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 1, 1917, to September 30, 1924. Records of Sevier River near Gunnison were obtained above confluence with San Pitch River June 29, 1900, to September 30, 1917. Combined flow of Sevier River near Gunnison and San Pitch River near Gunnison is comparable with flow at present station.

GAGE.—Stevens continuous water-stage recorder on left bank; installed October 4, 1917; inspected by L. D. Christensen and Reuben Christensen.

DISCHARGE MEASUREMENTS.—Made from cable about 250 feet above gage or by wading.

CHANNEL AND CONTROL.—One channel at all stages. Bed is composed of fine sand and gravel; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage during year, 2.58 feet at 4 a. m. March 26 (discharge, 516 second-feet); minimum stage, 1.40 feet July 20 and 21 (discharge, 55 second-feet).

1918–1924: Maximum stage, 5.32 feet at 2 a. m. June 1, 1922 (discharge, 2,620 second-feet); minimum discharge, 55 second-feet July 20 and 21, 1924.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—During irrigation season, greater part of flow is diverted above station.

REGULATION.—Flow at gage is affected by operation of reservoirs and numerous irrigation diversions above.

ACCURACY.—Stage-discharge relation shifting. Standard rating curve fairly well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph; shifting-control method used May 4 to September 30. Records good.

Discharge measurements of Sevier River below San Pitch River near Gunnison, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 9	2.38	398	June 14	1.56	93.4	Aug. 22	1.47	80.0
Feb. 25	2.26	356	July 2	1.60	115	Aug. 28	1.47	83.5
Apr. 26	1.88	186	July 19	1.42	60.0			
May 28	1.98	256	Aug. 6	1.44	67.7			

Daily discharge, in second-feet, of Sevier River below San Pitch River near Gunnison, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	404	404	440	390	333	346	488	148	338	77	82	111
2	390	399	435	380	352	338	461	167	375	106	82	111
3	361	399	429	370	356	346	424	198	414	111	84	103
4	338	394	435	360	352	338	409	234	280	106	84	84
5	324	399	429	347	352	338	390	255	202	100	69	90
6	311	399	435	348	356	284	386	226	167	84	67	97
7	306	399	455	350	365	226	382	210	148	79	69	84
8	298	404	450	352	370	222	378	194	144	84	67	82
9	320	404	429	354	380	222	375	214	125	87	67	90
10	342	409	424	356	370	234	375	242	117	92	67	131
11	347	419	424	358	361	259	375	280	106	95	67	117
12	352	419	424	361	365	306	333	311	106	90	74	111
13	361	419	424	360	370	311	280	311	100	90	79	117
14	370	419	424	359	385	329	259	289	84	90	87	125
15	365	424	429	358	394	324	272	255	82	92	100	128
16	352	429	429	357	399	346	280	246	87	79	87	141
17	352	429	429	356	394	333	242	298	79	77	82	144
18	352	429	424	355	390	346	251	298	95	79	84	151
19	352	429	435	352	380	370	246	311	87	64	92	154
20	356	429	445	340	370	399	242	311	82	55	90	161
21	356	429	450	325	370	394	242	267	97	55	79	172
22	361	429	440	315	370	409	251	234	114	60	84	172
23	394	429	424	306	352	409	246	206	117	60	84	151
24	424	429	409	306	346	424	222	187	97	62	77	125
25	399	429	399	311	352	466	194	172	90	60	79	138
26	390	424	404	320	346	488	187	180	84	60	77	161
27	385	419	414	324	352	505	180	267	84	60	79	165
28	390	409	399	329	352	493	158	263	87	62	82	187
29	390	404	399	338	347	493	138	306	87	62	108	218
30	385	424	409	333	-------	482	131	352	87	67	114	161
31	404	-------	399	333	-------	440	-------	359	-------	82	111	-------

NOTE.—No gage-height record Jan. 2–4, 6, 7, 9–11, 13–18, 20, 21, and Apr. 6–9; discharge estimated or interpolated.

Monthly discharge of Sevier River below San Pitch River near Gunnison, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	424	298	362	22,300
November	429	394	416	24,800
December	455	399	426	26,200
January	390	306	345	21,200
February	399	333	365	21,000
March	505	222	362	22,300
April	488	131	293	17,400
May	359	148	251	15,400
June	414	79	139	8,270
July	111	55	78.3	4,810
August	114	67	82.4	5,070
September	218	82	133	7,910
The year	505	55	271	197,000

SEVIER BRIDGE RESERVOIR NEAR JUAB, UTAH

LOCATION.—In NW. ¼ sec. 1, T. 17 S., R. 2 W., at dam of Consolidated Sevier Bridge Reservoir Co., 13 miles southwest of Juab, Juab County.

RECORDS AVAILABLE.—January 1, 1914, to September 30, 1924.

GAGE.—Inclined staff gage about 100 feet upstream from south end of dam, since April 26, 1914.

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

Daily contents, in acre-feet, of Sevier Bridge Reservoir near Juab, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44,900	69,700	94,800	121,000	144,000	167,000	189,000	184,000	119,000	89,700	55,700	21,800
2	45,500	70,500	95,800	122,000	145,000	168,000	190,000	182,000	119,000	88,400	54,700	21,000
3	46,100	71,300	96,900	123,000	146,000	168,000	191,000	181,000	118,000	87,100	53,500	20,200
4	46,800	72,100	97,600	124,000	147,000	168,000	192,000	177,000	118,000	85,800	51,600	19,600
5	47,700	73,000	98,600	124,000	147,000	169,000	192,000	176,000	118,000	84,600	49,300	18,800
6	48,800	73,800	99,700	125,000	148,000	170,000	193,000	173,000	118,000	83,300	47,300	18,100
7	49,500	74,700	100,000	126,000	149,000	170,000	194,000	171,000	118,000	82,700	45,700	17,300
8	50,200	75,200	101,000	126,000	149,000	171,000	194,000	168,000	118,000	82,400	44,200	16,600
9	50,900	76,400	102,000	128,000	151,000	171,000	195,000	166,000	118,000	82,100	42,600	15,700
10	51,600	77,000	103,000	128,000	152,000	172,000	196,000	164,000	118,000	81,500	41,400	15,200
11	52,300	77,900	104,000	129,000	152,000	172,000	196,000	161,000	118,000	80,900	39,700	14,500
12	53,300	78,800	104,000	130,000	153,000	172,000	197,000	159,000	117,000	79,700	38,300	13,700
13	54,000	79,700	105,000	130,000	154,000	172,000	198,000	157,000	116,000	78,200	37,100	12,900
14	54,700	80,600	106,000	131,000	154,000	173,000	198,000	154,000	115,000	76,400	35,900	12,100
15	55,700	81,200	107,000	131,000	155,000	174,000	198,000	152,000	113,000	74,100	34,700	11,300
16	56,400	82,400	108,000	133,000	157,000	175,000	199,000	149,000	111,000	72,100	34,100	10,700
17	56,900	83,000	108,000	133,000	157,000	176,000	199,000	147,000	110,000	69,900	33,500	9,770
18	57,700	83,900	109,000	134,000	158,000	176,000	199,000	144,000	108,000	67,800	32,800	9,280
19	58,700	84,900	110,000	135,000	158,000	177,000	199,000	142,000	107,000	65,600	32,600	8,540
20	59,400	85,500	111,000	136,000	160,000	178,000	199,000	141,000	106,000	64,600	31,600	7,840
21	60,200	86,500	112,000	137,000	160,000	179,000	199,000	139,000	105,000	63,500	30,800	7,180
22	61,200	87,500	113,000	137,000	161,000	180,000	198,000	136,000	104,000	62,700	30,000	6,560
23	62,000	88,100	114,000	138,000	162,000	181,000	196,000	133,000	103,000	62,000	29,300	6,050
24	63,000	89,100	115,000	139,000	163,000	181,000	195,000	132,000	102,000	61,200	28,200	5,630
25	63,800	90,100	115,000	139,000	163,000	182,000	193,000	129,000	99,700	60,400	27,300	5,240
26	64,800	90,700	116,000	140,000	164,000	184,000	192,000	128,000	98,600	60,200	26,600	4,720
27	65,600	91,400	117,000	140,000	164,000	184,000	192,000	125,000	96,900	59,400	25,800	4,210
28	66,400	92,400	118,000	142,000	165,000	186,000	189,000	123,000	95,200	58,900	25,400	3,740
29	67,200	93,400	119,000	142,000	166,000	186,000	187,000	121,000	93,400	57,900	24,600	3,050
30	68,000	94,100	120,000	143,000	-------	187,000	186,000	120,000	91,400	57,400	23,600	2,650
31	68,800	-------	120,000	144,000	-------	188,000	-------	119,000	-------	56,400	22,600	-------

SEVIER RIVER NEAR JUAB, UTAH

LOCATION.—In NE. ¼ sec. 2, T. 17 S., R. 2 W., 1,600 feet downstream from Sevier Bridge Dam and 14 miles southwest of Juab, Juab County.

DRAINAGE AREA.—5,120 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 23, 1911, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank, installed April 16, 1914; inspected by O. E. Howard.

DISCHARGE MEASUREMENTS.—Made from cable 600 feet above gage or by wading.

CHANNEL AND CONTROL.—One channel at all stages. Bed composed of sand, clay, and fine gravel. Artificial control of rocks immediately below gage.

EXTREMES OF DISCHARGE.—1911–1924: Maximum stage recorded, 8.50 feet at 7 p. m. June 2, 1922 (discharge, 2,140 second-feet). No flow March 7, 1918.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—None between this station and that near Gunnison.

REGULATION.—Flow regulated by gates in dam just above station.

ACCURACY.—Stage-discharge relation changed July 31; unsettled during high water in May and June. Rating curves well defined. Water-stage recorder operated satisfactorily, except during winter when only seepage water was passing gage. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph; shifting-control method used May 1 to June 10. Discharge estimated during winter when recorder was not operated. Records good, except during May and first part of June, for which they are fair.

COOPERATION.—Water commissioner of Sevier River furnished six measurements during year.

Discharge measurements of Sevier River near Juab, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 26	1.36	11.5	May 28	5.22	1,200	July 20	4.06	777
Dec. 13	1.22	3.2	June 7	2.10	171	Aug. 27	3.10	495
May 9	5.48	1,450	July 3	4.04	772			

Daily discharge, in second-feet, of Sevier River near Juab, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	194	11	3	4		6	5	1,010	661	866	596	500
2	98	11	3	4		6	5	1,020	651	766	583	491
3	47	11	3	5		6	5	1,070	496	766	900	484
4	11	11	3	5		6	5	1,220	440	759	1,100	478
5	11	10	3	5		5	5	1,320	382	755	1,090	478
6	11	10	3	5	5	5	5	1,420	234	668	1,080	500
7	11	10	3			5	5	1,580	172	237	1,070	491
8	11	10	3			5	6	1,520	172	237	935	484
9	11	10	3			5	6	1,450	132	234	816	475
10	11	10	3			5	6	1,450	89	414	851	491
11	11	10	3		5	5	6	1,420	177	752	904	504
12	11	10	3		5	5	6	1,400	519	918	893	494
13	11	5	3		5	5	6	1,400	860	930	778	488
14	11	2	3		5	5	5	1,390	860	1,060	679	475
15	11	2	3		5	5	5	1,350	856	1,170	593	382
16	11	2	3		5	5	5	1,370	852	1,160	430	475
17	11	2	3		5	5	80	1,360	802	1,160	379	507
18	11	2	3		5	5	212	1,310	714	1,160	379	507
19	11	2	4	5	5	5	212	1,290	628	1,030	488	520
20	11	2	4		5	5	308	1,270	578	789	603	504
21	11	2	4		5	5	470	1,260	489	512	600	491
22	11	2	4		5	5	582	1,220	532	470	590	472
23	11	2	4		5	5	615	1,190	677	414	582	452
24	12	2	4		5	5	783	1,190	866	414	580	433
25	12	3	4		5	5	884	1,240	890	372	544	414
26	12	3	4		5	5	875	1,290	910	331	501	388
27	12	3	4		5	5	933	1,240	945	453	494	366
28	12	3	4		5	5	964	1,210	976	496	507	340
29	12	3	4		5	5	968	957	968	559	517	302
30	11	3	4		-------	5	1,000	674	960	582	510	302
31	11	-------	4		-------	5	-------	668	-------	378	504	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Sevier River near Juab, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	194	11	21.1	1,300
November	11	2	5.6	333
December	4	3	3.4	209
January	----------	----------	4.9	301
February	----------	----------	5.0	288
March	6	5	5.1	314
April	1,000	5	299	17,800
May	1,580	668	1,250	76,900
June	976	89	616	36,700
July	1,170	234	671	41,300
August	1,100	379	680	41,800
September	520	302	456	27,100
The year	1,580	2	337	244,000

SEVIER RIVER AT OASIS, UTAH

LOCATION.—In E. ½ sec. 33, T. 17 S., R. 7 W., three-quarters of a mile northwest of Oasis, Millard County, and 1½ miles below county bridge, locally known as Hinckley Bridge.

DRAINAGE AREA.—8,080 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 13, 1912, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank; installed April 24, 1914; inspected by Alfred Stanworth.

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

CHANNEL AND CONTROL.—Two channels at extremely high water, one channel at low and medium stages. Bed composed of sand with slight aquatic vegetation. Control is fairly permanent.

EXTREMES OF DISCHARGE.—1912–1924: Maximum discharge, 1,580 second-feet June 12, 1914; minimum discharge, 0.5 second-foot May 13–19, 1912.

ICE.—Stage-discharge relation at times affected by ice.

DIVERSIONS.—Numerous diversions above station take practically entire flow during irrigation season; water passing gage at such times is largely seepage or return water entering below Gunnison Bend Reservoir.

REGULATION.—Flow controlled by storage reservoirs and diversion dams above station.

ACCURACY.—Stage-discharge relation changed by disappearance of aquatic vegetation in fall and its reappearance in spring; probably affected by ice December 29 to January 31. Rating curves well defined. Water-stage recorder record badly broken. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph or weekly readings obtained when recorder was not in operation; shifting-control method used October 7 to November 8 and June 1–9. Records fair; estimated periods poor.

COOPERATION.—Discharge measurements furnished by Sevier River water commissioner.

The following discharge measurements were made:

May 8, 1924: Gage height, 1.92 feet; discharge, 41.1 second-feet.

May 30, 1924: Gage height, 2.35 feet; discharge, 63.5 second-feet.

June 12, 1924: Gage height, 1.72 feet; discharge, 23.7 second-feet.

Daily discharge, in second-feet, of Sevier River at Oasis, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	145	40	48			54	42	33	55	25	18	
2		40	49		65	54	40		42	30		
3		40	49			45	40	32	39	25	17	
4	100	40	44		67	48	40		42	29	16	13
5		40	40			46	39	32	36	23	19	
6		39	46		70	45	38	29	32	22	18	
7	74	39	51			43	38	35	30	22	18	12
8		38	52			42	40	41	29	25	20	13
9		40	57			43		55	26	25	25	13
10	75	42	84		67	41			25	23	20	12
11		44	81			40	35	67	25	28	20	12
12			68			39			24	25	18	13
13	45		63		70	40			25	24	18	13
14			62			40	28		26		20	14
15	42	46	63			39		50	27		19	15
16			64	50	65	39	35			24	18	15
17			65			36					17	18
18	43		64		61	37		40			17	16
19		49	65			35	39	38	27		18	15
20		46	65		60	37	40			23	19	15
21	44	46	65			37	40	40			18	15
22		52	65		60	36	37		27		18	16
23		53	66		62	38	32		28		17	16
24		53	65		62	37	23		28		16	15
25	41	53	65		60	35	22	44	27	24		15
26		54	66		60	39	42		23			13
27		56	65		59	38	52	60	23		15	14
28	39	53	65		59	40	50		25			19
29	39	53	64		60	41	50		27	23		23
30	39	53	60		-------	41	40	67	27	20		22
31	40	-------	60		-------	40	-------	60	-------		14	-------

NOTE.—Braced figures show estimated mean discharge for periods when no gage-height records were obtained. Discharge also estimated or interpolated Nov. 9, 10, Dec. 31, Apr. 5, May 7, 31, June 6, 7, 10, 11, 13, 14.

Monthly discharge of Sevier River at Oasis, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	145	39	59.9	3,680
November	56	38	46.2	2,750
December	84	40	60.8	3,740
January	----------	----------	50	3,070
February	----------	59	64.9	3,730
March	54	35	40.8	2,510
April	52	22	37.6	2,240
May	67	29	46.2	2,840
June	55	23	29.3	1,740
July	30	----------	24.1	1,480
August	25	14	17.6	1,080
September	23	----------	14.7	875
The year	145	----------	41.0	29,700

EAST FORK OF SEVIER RIVER NEAR KINGSTON, UTAH

LOCATION.—In SW. ¼ sec. 13, T. 30 S., R. 3 W., 1 mile below highway bridge and 2 miles east of Kingston, Piute County.

DRAINAGE AREA.—1,260 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 29, 1914, to September 30, 1924. Records obtained about 1½ miles above Rockyford Bridge, in SW. ¼ sec. 16, T. 30 S., R. 2½ W., March 27, 1913, to April 28, 1914; also at gage three-fourths of a mile north of Kingston, in NE. ¼ sec. 10, T. 30 S., R. 3 W., May 11 to September 20, 1912.

GAGE.—Stevens continuous water-stage recorder on right bank, 1 mile below highway bridge, established April 29, 1914; inspected by W. S. Price.

DISCHARGE MEASUREMENTS.—Made from cable 2 miles above gage, from highway bridge 1 mile above, or by wading.

CHANNEL AND CONTROL.—One channel at all stages. Right bank is overflowed during high water. Bed composed of gravel. Concrete control built December 4–11, 1917, 20 feet below gage.

EXTREMES OF DISCHARGE.—1913–1924: Maximum stage recorded, 6.10 feet May 8, 1922 (discharge, 1,740 second-feet); minimum stage, 1.00 foot September 19, 20, and 21, 1913 (discharge, 8 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Above all diversions in vicinity of Kingston.

REGULATION.—Flow largely regulated at Otter Creek Reservoir 8 miles above.

ACCURACY.—Stage-discharge relation changed during first part of August. Rating curves well defined. Operation of water-stage recorder satisfactory, except as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying mean daily gage height to rating table. Records good; estimated periods fair.

Discharge measurements of East Fork of Sevier River near Kingston, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 6	2.66	31.6	June 23	3.60	282	Aug. 24	3.42	166
Feb. 27	2.68	37.4	July 28	3.92	395	Sept. 28	2.92	56.3
May 22	2.66	34.6	Aug. 18	3.66	248			

Daily discharge, in second-feet, of East Fork of Sevier River near Kingston, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	24	24			41	30	44	193	335	384	86
2	37	24	21			42	30	56	196	335	372	80
3	35	22	20			42	30	102	187	331	372	75
4	33	22	21			42	30	84	190	331	376	73
5	33	22	22			42	30	92	196	331	380	73
6	32	22	34			41	32	72	190	331	368	92
7	26	22	26		25	41	47	63	184	331	351	82
8	24	21	25			41	76	56	180	335	339	80
9	20	21	21			40	52	50	250	339	324	80
10	21	23				42	37	44	267	343	311	82
11	21	22				42	34	38	278	347	303	80
12	21	22				41	33	32	278	351	299	78
13	20	24			35	40	29	30	282	343	295	77
14	23	22			30	40	29	28	286	331	288	75
15	21	23			26	41	35	23	289	327	276	73
16	21	26		15	26	42	32	28	286	324	269	75
17	32	25			26	41	29	34	286	327	254	71
18	26	23			26	37	30	40	278	343	246	66
19	25	20			26	35	26	41	282	351	234	63
20	25	22	18		18	35	26	38	282	376	222	64
21	24	25			13	34	35	35	278	384	205	66
22	22	22			13	34	48	42	278	380	195	64
23	22	22			38	33	62	174	278	393	183	61
24	20	22			35	32	47	165	274	388	171	58
25	20	22			35	32	35	180	278	380	157	56
26	20	22			37	32	33	187	312	376	148	58
27	20	23			37	32	30	196	320	384	140	56
28	20	24			37	33	30	190	330	388	130	58
29	20	32			38	33	30	196	331	388	120	73
30	25	29			-------	32	32	196	335	388	108	71
31	24	-------			-------	30	-------	196	-------	393	97	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated when stage-discharge relation was affected by ice. No gage-height record May 8–11, June 27, 28, and Aug. 19; discharge estimated.

Monthly discharge of East Fork of Sevier River near Kingston, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	37	20	24.8	1,520
November	32	20	23.2	1,380
December	34	----------	19.7	1,210
January	----------	----------	[a]15	922
February	38	13	27.5	1,580
March	42	30	37.6	2,310
April	76	26	36.0	2,140
May	196	23	88.8	5,460
June	335	180	262	15,600
July	393	324	355	21,800
August	384	97	255	15,700
September	92	56	71.5	4,250
The year	393	13	102	73,900

[a] Estimated.

ROCKYFORD CANAL NEAR VERMILION, UTAH

LOCATION.—In sec. 19, T. 22 S., R. 1 W., 300 feet below head of canal and 2 miles northeast of Vermilion, Sevier County.

RECORDS AVAILABLE.—July 8, 1914, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank; installed October 18, 1917; inspected by O. A. Wilkinson.

DISCHARGE MEASUREMENTS.—Made from highway bridge 400 feet downstream or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and clay; shifting. Banks lined with willows.

ICE.—Stage-discharge relation affected at times by ice.

DIVERSIONS.—None above gage. Gage is a short distance below wasteway which returns surplus water to Sevier River.

REGULATION.—Flow controlled by head gates and wasteway.

ACCURACY.—Stage-discharge relation shifting. Standard rating curve used with shifts to measurements. Water-stage recorder operated satsifactorily except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records fair.

Canal diverts water from Rockyford Reservoir, a small reservoir on Sevier River, at Vermilion, in sec. 19, T. 22 S., R. 1 W. Flow dependent on water stored in reservoir and seepage and return waters below Richfield. Water used for irrigation north of Vermilion.

Discharge measurements of Rockyford Canal near Vermilion, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 8	1.52	38.5	July 5	2.74	93.4	Aug. 28	2.14	70.1
Mar. 1	1.22	21.9	July 18	2.62	91.4			
June 14	2.38	77.5	Aug. 5	2.36	75.5			

Daily discharge, in second-feet, of Rockyford Canal near Vermilion, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	36	46	26	23	22	36		56	72	86	80
2	59	35	47	25	23	22	36	79	53	74	85	83
3	58	35	47	25	23	21	36		53	70	84	82
4	70	36	47	24	23	22	36	79	57	84	80	84
5	62	36	47	24	23	20	36		57	93	75	78
6	62	37	47	24	23	24	35		62	91	67	72
7	62	37	48	24	23	53	35	76	64	84		74
8	60	38	48	24	23	52	35		73	84	70	74
9	62	39	49	24	24	50	35		83	84		74
10	61	39		24	24	48	35		83	84	74	74
11	62	38		24	24	44	35	73	79	84	75	74
12	62	38	42	24	24	45	35	58	74	84	77	74
13	63	38		24	24	45	53	50	76	87	78	74
14	63	45		24	24	45	69	50	77	85	85	74
15	62	50		24	24	45	70		72	86	93	
16	62	48	34	24	24	45	70	66	72	88	98	
17	62	48	34	24	24	45	71		78	90	97	67
18	62	48	35	24	24	45	71	72	80	92	97	
19	62	48	35	24	24	44	72	71	80	93	97	
20	62	48	35	24	24	44	68	72	80	93	95	
21	63	48	35	24	24	41	63	71	79		95	60
22	64	47	35	24	24	38	70	76	79		92	
23	64	47	34	24	24	38	77	82	72		89	
24	65	47	34	24	24	38	74	78	59	91	86	
25	65	47	32	24	23	38	72	79	64			64
26	65	47	32	23	23	38	75	79	62		81	
27	65	47	32	23	23	37	78	76	67	89		
28	65	46	30	23	23	36		68	66		76	67
29	50	46	27	23	22	36	78	70	67		51	67
30	35	47	26	23	-------	36		70	71	88	77	67
31	35	-------	26	23	-------	36	-------	65	-------		81	-------

NOTE.—Braced figures show estimated mean discharge for periods when gage did not operate. Discharge also estimated June 20, 21, July 19, Aug. 1, 2, 4, 11, 12, and Sept. 8–13.

Monthly discharge of Rockyford Canal near Vermilion, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	70	35	60.4	3,710
November	50	35	42.9	2,550
December	----------	26	38.5	2,370
January	26	23	23.9	1,470
February	24	22	23.5	1,350
March	53	20	38.5	2,370
April	----------	35	57.1	3,400
May	----------	----------	71.9	4,420
June	83	53	69.8	4,150
July	----------	70	86.7	5,330
August	98	----------	82.0	5,040
September	84	----------	70.6	4,200
The year	----------	20	55.6	40,400

BEAVER RIVER BASIN

BEAVER RIVER NEAR BEAVER, UTAH

LOCATION.—In SE. ¼ sec. 18, T. 29 S., R. 6 W., a quarter of a mile above city diversion dam at mouth of canyon, 4½ miles above Beaver, Beaver County.

DRAINAGE AREA.—82 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 15 to September 22, 1906; March 15, 1914, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank used since November 14, 1914; inspected by G. W. Valantine.

DISCHARGE MEASUREMENTS.—Made from footbridge 70 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders and coarse gravel; somewhat shifting. One channel; left bank subject to overflow at extremely high stages. Control composed of boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.99 feet at 9 p. m. May 9 (discharge, 299 second-feet); minimum stage, 3.12 feet at 1 p. m. September 27 (discharge, 7 second-feet).

1914–1924: Maximum stage, 6.31 feet at 6 p. m. May 25, 1922 (discharge, 785 second-feet); minimum stage recorded, 3.12 feet at 1 p. m. September 27, 1924 (discharge, 7 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Above all irrigation diversions. Above station is a small storage reservoir known as Kents Lake. Water is diverted by Beaver River Power Co. but returned to stream several miles above station.

REGULATION.—Flow probably not affected by operation of Beaver River Power Co.'s plant but is somewhat affected by Kents Lake storage reservoir.

ACCURACY.—Stage-discharge relation shifted about June 15–29; affected by ice December 10 to January 28. Rating curves well defined. Water-stage recorder operated successfully, except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good, except for estimated periods and June and July which are fair.

The following discharge measurements were made:

December 8, 1923: Gage height, 3.46 feet; discharge, 29.1 second-feet.

June 4, 1924: Gage height, 3.97 feet; discharge, 77.4 second-feet.

August 26, 1924: Gage height, 3.38 feet; discharge, 20.1 second-feet.

Daily discharge, in second-feet, of Beaver River near Beaver, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	26	27		23	24	23	115	64	32	23	15
2	28	26	23		23	23	24	118	71	31	21	15
3	29	27	28		22		24	131	76	32	21	15
4	29	26	28		38		26	135	78	32	20	16
5	28	26	38		23	23	24	133	80	32	20	17
6	28	27	42		23		33	129	77	32	20	22
7	27	26	26		23		47	149	72	40	20	19
8	29	28	25		23		50	174	67	33	20	19
9	30	26	24		23	24	69	198	66	31	19	26
10	28	26			23	23	78	210	63	32	19	24
11	29	24			23	23	74	198	64	35	21	21
12	29	26			24		85	193	63	28	26	22
13	29	24			24	23	100	193	69	26	25	20
14	28	24			26		113	156	69	25	26	20
15	31	26		22	24	24	96	162	66	24	24	20
16	29	28			24	24	69	186	62	23	21	21
17	29	26			24	24	61	169	58	24	20	20
18	28	24			24	24	58	147	57	23	20	17
19	30	26			23	24	63	145	55	21	19	16
20	28	24			24	25	69	135	54	20	19	17
21	27	24	20		24	26	83	124	50	22	21	17
22	29	22			24	27	100	113	50	20	19	19
23	29	25			24	24		101	48	20	18	17
24	30	24			23	25		91		19	18	17
25	27	24			23	23		88		22	18	17
26	28	20			23	23	110	95	40	20	17	17
27	26	23			23	23		90		24	16	17
28	28	25			23	23		81		45	16	14
29	26	30		24	23	23		78	32	33	17	14
30	24	28		24	-------	23		71	32	25	15	13
31	26	-------		23	-------	24	-------	66	-------	24	15	-------

NOTE.—Stage-discharge relation affected by ice Dec. 10 to Jan. 28. No gage-height record; discharge estimated Mar. 3–8, 12–14, Apr. 12, 23–30, May 1, and June 24–28. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Beaver River near Beaver, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	31	24	28.2	1,730
November	30	20	25.4	1,510
December	42	----------	[a] 22.6	1,390
January	----------	----------	[a] 22.2	1,360
February	38	22	23.9	1,370
March	27	23	23.6	1,450
April	----------	23	75.0	4,460
May	210	66	135	8,300
June	80	32	58.1	3,460
July	45	19	27.4	1,680
August	26	15	19.8	1,220
September	26	13	18.1	1,080
The year	210	13	40.0	29,000

[a] Estimated.

BEAVER RIVER AT ADAMSVILLE, UTAH

LOCATION.—In S. ½ sec. 30, T. 29 S., R. 8 W., 100 yards below highway bridge on road from Milford to Beaver, a quarter of a mile above mouth of Indian Creek, and three-quarters of a mile south of Adamsville, Beaver County.

DRAINAGE AREA.—272 square miles (measured on topographic maps).

RECORDS AVAILABLE.—December 16, 1913, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank, installed March 13, 1914; inspected by W. A. Rees.

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

CHANNEL AND CONTROL.—Bed composed of fine gravel. Banks low; covered with willows; subject to overflow at extremely high stages. Concrete control constructed July 11, 1916, and rebuilt September 26, 1919.

EXTREMES OF DISCHARGE.—Maximum stage during year, 2.11 feet March 26 (discharge, 64 second-feet); minimum stage, practically no flow parts of May, August, and September.

1914–1924: Maximum stage, 4.85 feet at 6 a. m. May 23, 1920 (discharge, 796 second-feet); minimum stage, practically no flow parts of May, August, and September, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—No diversions between station and storage reservoir of Beaver County Irrigation Co. There are a number of ditches above station supplying Adamsville and Beaver districts.

REGULATION.—Low-water flow affected by irrigation diversions.

ACCURACY.—Stage-discharge relation permanent; affected by ice December 5 to January 30. Rating curve fairly well defined. Water-stage recorder operated satisfactorily, except as noted in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. For periods when recorder was not in operation and periods of ice effect, discharge was determined by study of temperature records and observer's notes. Records good except for estimated periods for which they are fair.

The following discharge measurements were made:

December 9, 1923: Gage height, 2.12 feet;[3] discharge, 25.6 second-feet.

June 4, 1924: Gage height, 1.35 feet; discharge, 1.1 second-feet.

August 27, 1924: Gage height, 1.17 feet; discharge estimated, 0.1 second-foot.

Daily discharge, in second-feet, of Beaver River at Adamsville, Utah, for the year ending September 30, 1924

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

NOTE.—Braced figures show estimated mean discharge for periods indicated. No gage-height record; discharge estimated Oct. 29, 30, Feb. 21, 22, 24–26, May 4–6, 11–13, 18–20, 22, 23, 25–28, and Aug. 1.

[3] Stage-discharge relation affected by ice.

Monthly discharge of Beaver River at Adamsville, Utah, for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	59	33	47.4	2,910
November	56	42	46.8	2,780
December	54	----------	37.4	2,300
January	49	----------	40.3	2,480
February	55	35	46.9	2,700
March	64	35	47.6	2,930
April	54	20	40.7	2,420
May	19	• 0	3.8	234
June	----------	----------	1.0	60
July	3	----------	1.1	68
August	2	0	.3	18
September	0	0	.0	0
The year	64	0	26.0	18,900

BEAVER RIVER AT ROCKYFORD DAM NEAR MINERSVILLE, UTAH

LOCATION.—In NW. ¼ sec. 11, T. 30 S., R. 9 W., half a mile below Rockyford Dam, and 4 miles above Minersville, Beaver County.

DRAINAGE AREA.—512 square miles (measured on topographic maps).

RECORDS AVAILABLE.—December 18, 1913, to September 30, 1924.

GAGE.—Friez water-stage recorder on right bank, installed June 1, 1916; inspected by J. L. Jackson and F. B. Robinson.

DISCHARGE MEASUREMENTS.—Made by wading or from cable 1,000 feet below gage.

CHANNEL AND CONTROL.—Bed composed of gravel; some aquatic vegetation One channel at all stages. Banks not subject to overflow. Concrete control installed November 2–12, 1916. Slight growth of moss on control during summer. Stage of zero flow, at gage height, 0.60 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year not determined; minimum stage, 0.90 foot September 24–30 (discharge, 7 second-feet).

1913–1924: Maximum stage, 3.53 feet at 7 p. m., June 10, 1921 (discharge, 727 second-feet); minimum discharge estimated, 0.3 second-foot March 19 and 20, 1914.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None between dam and station. There are a number above Adamsville.

REGULATION.—Flow regulated by operation of gates at Rockyford Dam.

ACCURACY.—Stage-discharge relation changed by débris lodged on control early in July. Rating curves well defined. Water-stage recorder operated successfully, except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good except for estimated periods for which they are fair.

COOPERATION.—Gage-height record furnished by Beaver County Irrigation Co.

Discharge measurements of Beaver River at Rockyford Dam near Minersville, Utah, during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 8	0.93	10.3	Aug. 27	ª 1.46	61.3
June 4	1.45	65.4	Sept. 24	ª.90	6.7

ª Débris lodged upon control.

Daily discharge, in second-feet, of Beaver River at Rockyford Dam near Minersville, Utah, for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	64	45	10	9	28	14	73	68	78	67	58
2	21	57	45	10	9	28	14	73	68	58	64	58
3	21	53	45	10	9	28	14	73	67	43	61	57
4	21	53	45	10	9	28	14		66	45	61	57
5	21	53	31	10	9	28	14		62	28	61	55
6	25	53	12	10	9	28	14		60	10	61	55
7	25	53	11	10	9	28	14		60		61	52
8	25	53	10	10	9	28	14		60	40	61	48
9	25	53	10	10	9	28	14		61		62	44
10	25	53	10	10	9	28	14		62		62	39
11	25	53	10	9	9	28	14		62	72	61	33
12	25	54	10	9	10	28	14		62	72	61	31
13	25	54	10	9	10	28	14		62	72	61	30
14	25	54	10	9	11	28	14		62	73	61	30
15	29	55	10	9	11	28	14		62	73	61	16
16	36	55	10	9	11	22	14		62	73	61	10
17	37	53	10	9	11	13	14	70	66	73	61	9
18	38	48	10	9	12	13	14		66	73	61	10
19	39	48	10	9	20	13	14		66	73	60	9
20	39	46	10	9	26	13	14		64	73	60	8
21	39	46	10	9	27	14	14		64	73	60	8
22	39	46	10	9	28	14	41		64	73	61	8
23	39	45	10	9	28	14	57		68	73	62	8
24	39	45	10	9	28	14	66		72	73	62	7
25	39	45	10	9	28	14	67		78	73	61	7
26	53	45	10	9	28	14	68		78	73	61	7
27	80	45	10	9	28	14	68		78	76	61	7
28	80	45	10	9	28	14	68		78	73	61	7
29	76	45	10	9	28	14	68		78	73	60	7
30	64	45	10	9	-------	14	70		78	72	58	7
31	64	-------	10	9	-------	14	-------		-------	70	58	-------

NOTE.—No gage-height record, discharge estimated Jan. 5–15, Mar. 5–12, 23–31, Apr. 1–9, 20, 21, May 4–31, June 1, 26, 27, July 5, 7–10, 13, 17–19, 31, Aug. 1, 2, 8, and Sept. 7. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Beaver River at Rockyford Dam near Minersville, Utah, for the year ending September 30, 1924

Month	Discharge in second feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	80	17	37.3	2,290
November	64	45	50.6	3,010
December	45	10	15.3	941
January	10	9	9.3	572
February	28	9	16.3	938
March	28	13	20.9	1,290
April	70	14	28.9	1,720
May	-------	-------	[a] 70.3	4,320
June	78	60	66.8	3,970
July	78	10	62.9	3,870
August	67	58	61.1	3,760
September	58	7	26.1	1,550
The year	-------	7	38.9	28,200

[a] Estimated.

SALTON SINK BASIN

SNOW CREEK NEAR WHITEWATER, CALIF.

LOCATION.—In NW. ¼ NW. ¼ sec. 33, T. 3 S., R. 3 E., 100 feet below intake of Southern Pacific Co.'s ditch, 300 feet below junction of forks, and 3½ miles southwest of Whitewater, Riverside County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 21, 1921, to September 30, 1924.

GAGE.—Water-stage recorder on left bank just above weir.

DISCHARGE MEASUREMENTS.—Made from gaging bridge just above intake of Southern Pacific Co.'s ditch or by wading.

CHANNEL AND CONTROL.—Bed consists of boulders and is rough. Control is a concrete, rectangular, compound weir with end contractions and steel plates for crest.

EXTREMES OF STAGE.—Not reported.

DIVERSIONS.—See Southern Pacific Co.'s ditch record, page 77.

REGULATION.—None.

COOPERATION.—Record of daily discharge furnished by Southern Sierras Power Co.

The following discharge measurement was made:

March 7, 1923: Gage height, 0.26 foot; discharge, 1.7 second-feet.

Daily discharge, in second-feet, of Snow Creek near Whitewater, Calif., for the years ending September 30, 1921–1924

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1921				1921				1921			
1	------	0.7	0.6	11	------	0.6	0.2	21	0.8	0.7	0.2
2	------	.7	.6	12	------	.6	.2	22	.8	1.0	.2
3	------	.7	.6	13	------	.6	.2	23	.8	.8	.2
4	------	.7	.6	14	------	.6	.2	24	.9	.7	.2
5	------	.7	.6	15	------	.6	.2	25	.8	.7	.2
6	------	.7	.6	16	------	.6	.2	26	.8	.7	.2
7	------	.8	.6	17	------	.6	.2	27	.8	.7	.2
8	------	.8	.6	18	------	.6	.2	28	.7	.6	.2
9	------	.7	.3	19	------	.6	.2	29	.7	.6	.2
10	------	.7	.2	20	------	.7	.2	30	.7	.7	10.7
								31	.7	.6	------

Day	Oct.	Nov.	Dec.	May	June	July	Aug.	Sept.
1921–22								
1	7.6	0.2	0.4	--------	18.0	10.3	4.9	2.3
2	.6	.3	.4	--------	18.0	9.8	4.5	2.3
3	.3	.3	.3	--------	18.0	10.0	4.1	2.3
4	.2	.3	.4	--------	17.2	9.6	3.8	2.2
5	.2	.3	.4	--------	16.4	9.6	3.6	2.0
6	.2	.3	.4	--------	15.7	9.5	3.6	2.0
7	.2	.3	.4	--------	15.7	8.8	3.4	2.0
8	.2	.3	.4	--------	15.7	8.2	3.6	2.3
9	.2	.3	.4	--------	15.0	8.0	3.7	2.2
10	.2	.3	.4	--------	13.4	7.8	3.7	2.0
11	.2	.3	.4	--------	12.6	7.5	3.6	2.0
12	.2	.3	.4	--------	12.1	4.5	3.3	2.0
13	.2	.3	.4	--------	11.8	4.1	2.9	2.0
14	.2	.3	.4	--------	11.8	5.2	2.7	2.0
15	.2	.3	.4	--------	11.8	7.4	2.5	2.0
16	.2	.3	.4	15.7	12.1	7.2	2.4	1.9
17	.2	.4	.4	19.7	12.6	6.9	2.8	1.8
18	.2	.4	--------	19.7	12.6	6.8	2.7	1.8
19	.2	.4	--------	17.6	12.3	6.9	2.7	1.9
20	.2	.4	--------	16.8	12.1	6.3	2.7	2.0
21	.2	.4	--------	16.8	11.9	6.0	2.6	1.9
22	.3	.4	--------	17.2	11.8	5.2	2.5	1.9
23	.3	.4	--------	18.0	11.8	4.6	2.5	1.9
24	.4	.4	--------	19.3	11.6	4.6	2.5	1.8
25	.3	.4	--------	19.7	11.6	4.3	2.6	1.8
26	.3	.4	--------	19.3	11.6	4.6	2.5	1.8
27	.3	.4	--------	18.8	11.2	4.7	2.5	1.8
28	.3	.4	--------	19.3	11.0	4.6	2.5	1.9
29	.2	.4	--------	18.8	10.9	4.3	2.4	1.9
30	.2	.4	--------	19.3	10.3	4.3	2.7	1.8
31	.2	--------	--------	18.8	--------	5.3	2.4	--------

Daily discharge, in second-feet, of Snow Creek near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1922–23												
1	1.8	1.3	1.0	1.2	1.9	2.2	2.7	3.7	2.7	1.6	0.9	0.2
2	1.8	1.3	1.1	1.2	1.8	2.0	3.1	4.1	2.7	1.6	.6	.2
3	1.8	1.3	1.1	1.1	1.6	2.6	3.1	4.6	2.5	1.6	.6	.2
4	1.8	1.3	1.2	1.1	1.4	2.2	2.7	6.8	2.4	1.6	.6	.2
5	1.8	1.3	1.2	1.0	1.4	1.8	3.7	6.9	2.4	1.4	.6	.2
6	1.8	1.3	1.1	1.0	1.4	1.8	13.7	7.0	2.4	1.3	.6	.2
7	1.8	1.3	1.3	1.0	1.4	1.9	11.0	6.9	2.2	1.3	.6	.2
8	1.8	1.4	1.2	.8	1.4	2.0	6.3	7.0	2.2	1.4	.6	.3
9	1.8	11.5	1.1	.8	1.8	1.9	5.7	7.2	2.4	1.4	.6	.3
10	1.8	3.5	6.0	.8	1.4	1.8	10.9	7.7	2.4	1.4	.4	.3
11	1.8	1.6	3.8	.8	1.8	1.6	9.0	7.0	2.5	1.4	.2	.3
12	1.8	1.1	3.1	.8	1.9	1.6	8.0	6.3	2.4	1.4	.2	.4
13	1.8	.9	42	.8	1.8	1.6	8.2	6.3	1.2	1.4	.2	.4
14	1.8	.8	74	.8	1.6	1.6	8.0	6.0	2.0	1.4	.2	.4
15	1.8	.8	14.0	.8	1.6	1.6	7.4	5.7	2.0	1.4	.2	.4
16	1.8	.9	9.5	.9	1.6	1.4	7.0	5.4	1.9	1.4	.2	.4
17	1.8	.9	6.9	.9	2.2	1.6	6.9	5.3	1.9	1.4	.2	.4
18	1.6	.9	5.3	.9	2.4	1.6	6.8	4.7	1.9	1.4	.2	.4
19	1.4	1.0	4.2	.9	2.5	1.6	5.9	4.5	1.9	1.4	.2	.3
20	1.4	1.0	3.6	1.2	3.1	1.6	5.4	4.3	1.9	1.4	.2	.3
21	1.3	.9	3.1	1.2	3.3	1.8	5.2	4.1	1.9	1.4	.2	.3
22	1.3	.9	2.6	1.1	2.9	1.6	4.6	3.8	1.9	1.4	.2	.3
23	1.3	.9	2.4	1.4	2.7	1.6	4.3	3.9	1.8	1.6	.2	.3
24	1.3	.9	2.0	7.5	2.6	1.6	3.7	3.9	1.8	1.6	.2	.3
25	1.3	1.0	1.8	3.8	2.7	1.8	3.3	3.8	1.8	1.4	.2	.3
26	1.3	1.0	1.6	2.4	2.6	1.8	3.3	3.3	1.8	1.8	.2	.3
27	1.3	1.0	1.4	1.8	2.3	1.6	3.3	3.4	1.8	1.3	.2	.3
28	1.6	1.0	1.6	1.6	1.9	1.6	3.4	3.2	1.6	1.3	.2	.3
29	1.3	1.0	1.6	1.4	-------	1.8	3.7	3.2	1.6	1.3	.2	.3
30	1.3	1.0	1.4	3.3	-------	1.8	3.6	3.3	1.6	1.3	.2	.3
31	1.3	-------	1.3	2.6	-------	2.0	-------	2.8	-------	1.3	.2	-------
1923–24												
1	.3	.4	.8	.8	.7	.8	.6	2.5	1.2	.8	.6	.1
2	.3	.4	.7	.6	.7	.9	.9	3.4	1.1	.8	.6	.2
3	.3	.5	.6	.6	.7	.9	.8	3.9	1.2	.8	.6	.2
4	.3	.6	.5	.6	.7	.8	.8	4.3	1.3	.8	.6	.2
5	.3	.6	.5	.6	.7	1.0	.6	3.7	1.2	.8	.4	.2
6	.3	.5	.5	.6	.7	.7	6.0	3.6	1.1	.8	.4	.2
7	.3	.4	.5	.6	.7	.7	5.6	3.4	.8	.9	.4	.2
8	.4	.4	.6	.6	.7	.7	2.7	3.4	.8	.6	.4	.4
9	.4	.4	.6	.6	.7	.7	2.4	3.4	.8	.5	.4	.4
10	.3	.4	.6	.7	.7	.8	3.8	3.4	.8	.5	.4	.4
11	.3	.4	.6	.7	.7	.8	4.6	3.3	.8	.5	.4	.3
12	.3	.5	.5	.7	.7	.8	4.3	3.1	.8	.6	.3	.3
13	.3	.5	.6	.7	.7	.7	4.2	2.6	.8	.6	.2	.2
14	.3	.5	.6	.7	.7	.7	4.1	2.3	.8	.6	.2	.2
15	.3	.5	.6	.7	.7	.7	3.1	2.2	.8	.6	.2	.2
16	.3	.6	.6	.7	.7	.7	2.0	2.5	.8	.6	.1	.2
17	.3	.6	.6	.7	.7	.7	1.4	2.6	.8	.6	.1	.2
18	.3	.6	.6	.7	.7	.7	1.3	2.8	.8	.7	.1	.2
19	.3	.6	.6	.7	.7	.7	1.4	2.6	.7	.7	.1	.2
20	.3	.6	.6	.7	.7	.7	1.8	2.3	.7	.8	.1	.1
21	.4	.6	.6	.7	.7	.7	1.9	2.0	.6	.8	.1	.1
22	.4	.6	.6	.7	.7	.7	2.2	1.9	.7	.7	.1	.1
23	.4	.6	.6	.7	.7	.7	2.7	1.8	.7	.6	.1	.1
24	.4	.7	.6	.7	.7	.8	2.3	1.8	.7	.6	.1	.1
25	.4	.7	.6	.7	.7	.7	1.8	1.6	.7	.7	.1	.1
26	.4	.7	.9	.7	.7	.7	1.6	1.6	.7	.7	.1	.1
27	.4	.6	2.5	.7	.8	5.6	1.4	1.6	.7	.7	.1	.2
28	.4	.4	1.3	.7	.8	1.6	1.6	1.4	.7	.7	.1	.2
29	.4	.4	.8	.7	.8	.8	1.8	1.3	.8	.7	.1	.2
30	.4	.4	1.2	.7	-------	.6	2.0	1.3	.8	.6	.1	.2
31	.4	-------	.8	.7	-------	.6	-------	1.4	-------	.5	.1	-------

Monthly discharge of Snow Creek near Whitewater, Calif., for the years ending September 30, 1921–1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921				
July 21–31	0.9	0.7	0.77	16.8
August	1.0	.6	.68	41.8
September	10.7	.2	.66	39.3
The period				97.9
1921–22				
October	7.6	.2	.48	29.5
November	.4	.2	.34	20.2
December 1–17	.4	.3	.39	13.2
May 16–31	19.7	15.7	18.4	584
June	18.0	10.3	13.3	791
July	10.3	4.1	6.67	410
August	4.9	2.4	3.06	188
September	2.3	1.8	1.98	118
1922–23				
October	1.8	1.3	1.60	98.4
November	11.5	.8	1.50	89.3
December	74	1.0	6.56	403
January	7.5	.8	1.51	92.8
February	3.3	1.4	2.04	113
March	2.6	1.4	1.77	109
April	13.7	2.7	5.80	345
May	7.7	2.8	5.04	310
June	2.7	1.2	2.05	122
July	1.8	1.3	1.43	87.9
August	.9	.2	.33	20.3
September	.4	.2	.30	17.9
The year	74	.2	2.50	1,810
1923–24				
October	.4	.3	.34	20.9
November	.7	.4	.52	30.9
December	2.5	.5	.72	44.3
January	.8	.6	.68	41.8
February	.8	.7	.71	40.8
March	5.6	.6	.93	57.2
April	6.0	.6	2.39	142
May	4.3	1.3	2.55	157
June	1.3	.6	.84	50.0
July	.9	.5	.67	41.2
August	.6	.1	.25	15.4
September	.4	.1	.20	11.9
The year	6.0	.1	.90	653

Combined daily discharge, in second-feet, of Snow Creek and Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1921				1921				1921			
1	------	5.9	4.9	11	------	5.5	4.7	21	6.6	5.6	4.4
2	------	5.7	4.8	12	------	5.5	4.7	22	6.4	5.9	4.3
3	------	5.6	4.7	13	------	5.3	4.7	23	6.2	6.8	4.3
4	------	5.7	4.8	14	------	5.3	4.6	24	6.5	6.1	4.4
5	------	5.6	4.7	15	------	5.1	4.5	25	6.2	5.6	4.4
6	------	5.6	4.7	16	------	5.1	4.5	26	6	5.4	4.3
7	------	6.4	4.7	17	------	5.1	4.5	27	6	5.4	4.3
8	------	6.4	4.9	18	------	5.1	4.6	28	5.9	5.1	4.4
9	------	5.7	4.8	19	------	5.1	4.7	29	5.9	5.1	4.5
10	------	5.7	4.7	20	------	5.4	4.5	30	5.7	5.2	22
								31	5.9	4.9	------

Combined daily discharge, in second-feet, of Snow Creek and Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Day	Oct.	Nov	Dec.	May	June	July	Aug.	Sept.
1921–22								
1	25	4.8	4.8		32	22	14.5	9.3
2	9.9	4.8	5.3		32	21	13.8	9.4
3	7.5	4.8	4.9		32	21	13.2	9.3
4	6.8	4.8	4.9		32	21	12.6	9.0
5	6.3	4.7	4.9		31	21	12.4	8.5
6	6.0	4.6	4.9		30	21	12.4	8.4
7	5.8	4.6	4.9		30	19.8	12.2	8.8
8	5.4	4.6	4.9		29	19	12.3	9.2
9	5.2	4.6	4.9		28	18.6	12.5	9.0
10	5.1	4.5	4.9		27	18.4	12.5	8.7
11	5.1	4.5	4.9		25	18.3	12.2	8.5
12	5.0	4.6	4.9		25	17.6	11.9	8.5
13	4.9	4.6	4.8		24	18.4	11.1	8.5
14	4.9	4.4	4.9		24	17.2	10.8	8.5
15	4.9	4.4	4.9		25	17.5	10.5	8.4
16	4.9	4.5	4.8	31	25	17.4	10.2	8.3
17	4.9	4.6	4.8	35	27	17	10.3	8.0
18	4.9	4.6		35	28	16.9	10.2	8.0
19	4.8	4.7		33	27	17	10.4	7.9
20	4.7	4.7		32	26	16.1	10.6	8.0
21	4.7	4.7		32	25	15.6	10.3	7.7
22	4.8	4.7		32	25	14.8	10.1	7.7
23	5.2	4.7		33	25	14.2	10.2	7.6
24	5.8	4.9		35	25	13.9	10.2	7.4
25	7.3	4.9		35	24	13.6	10.3	7.3
26	5.2	4.8		34	24	14.0	10.0	7.3
27	5.0	4.8		34	24	14.3	10.2	7.3
28	5.0	4.8		34	23	13.9	10.0	7.5
29	4.8	4.9		34	23	13.6	10.1	7.3
30	4.8	4.8		34	22	13.6	10.4	7.1
31	4.8			34		15.1	9.6	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1922–23												
1	7.0	7.0	7.6	9.3	10.2	10.5	10.6	12.5	9.9	7.0	5.8	5.4
2	7.1	7.0	7.5	9.1	10.1	10.3	11.2	13.2	9.9	6.8	5.6	5.4
3	7.2	7.3	7.7	8.8	9.7	11.4	11.2	13.7	9.5	7.0	5.5	5.2
4	7.1	7.1	7.6	8.8	9.3	10.8	10.6	16.9	9.4	7.0	5.5	5.1
5	7.0	7.1	7.4	8.7	9.3	10.1	12.0	17.0	9.6	6.8	5.3	5.1
6	7.0	7.0	7.3	8.5	9.3	9.9	25	16.8	9.6	6.5	5.3	4.9
7	6.9	7.0	8.3	8.2	9.1	9.6	23	16.7	9.4	6.3	5.3	4.9
8	6.8	7.2	8.0	8.0	9.1	9.7	16.6	16.8	9.2	6.6	5.3	5.0
9	6.9	22	7.9	8.0	10.1	9.6	15.8	17.0	9.4	6.6	5.3	5.2
10	6.9	12.6	15.3	7.8	9.3	9.5	22	17.8	9.4	6.4	5.3	5.3
11	6.9	9.7	12.6	7.8	9.9	9.1	21	16.8	9.7	6.4	5.6	5.5
12	6.9	9.0	22	7.8	10.2	9.1	19.4	15.9	9.4	6.3	6.2	5.8
13	6.9	8.4	71	7.6	9.9	9.1	19.6	15.9	7.8	6.3	6.4	6.0
14	6.8	8.0	91	7.6	9.5	9.1	19.1	15.6	8.6	6.1	6.0	6.2
15	6.8	7.8	27	7.6	9.5	8.8	18.0	15.0	8.6	6.1	5.6	5.4
16	6.7	7.9	22	7.7	9.5	8.6	17.3	14.7	8.3	6.1	5.0	5.3
17	6.7	7.7	17.2	7.5	10.5	8.8	17.0	14.6	8.1	5.9	5.0	5.3
18	5.8	7.7	15.6	7.5	11.0	8.8	16.9	13.8	8.1	5.9	5.4	5.3
19	6.8	7.6	14.3	7.5	11.3	8.8	15.5	13.3	8.1	5.9	5.2	5.0
20	6.8	7.6	13.2	8.2	12.0	8.8	15.0	12.9	8.1	5.9	5.2	5.0
21	6.7	7.5	12.4	8.0	12.1	9.3	14.8	12.4	7.9	5.9	5.1	5.0
22	6.7	7.3	11.7	7.9	11.7	8.8	14.2	12.1	7.9	6.1	5.1	5.0
23	6.7	7.3	11.2	8.6	11.5	8.8	13.9	12.2	7.6	6.5	4.9	5.2
24	6.7	7.1	10.8	18.3	11.4	8.8	12.8	12.2	7.6	6.5	5.1	5.2
25	6.7	7.2	10.6	13.1	11.8	9.0	12.1	11.9	7.4	6.1	4.9	5.2
26	6.7	7.2	10.4	11.0	11.4	9.0	12.1	11.4	7.4	6.1	4.9	5.2
27	6.9	7.2	10.2	9.9	10.9	8.6	11.9	11.3	7.2	6.0	4.9	5.2
28	8.4	7.2	10.4	9.7	10.2	8.6	12.2	10.9	7.0	6.0	4.9	5.2
29	8.3	7.2	10.2	9.3		9.0	12.5	10.9	7.0	6.0	4.9	5.2
30	7.2	7.6	9.7	12.4		9.0	12.4	11.0	7.0	6.2	4.9	5.2
31	7.1		9.6	11.4		9.5		10.3		6.0	4.9	

Combined daily discharge, in second-feet, of Snow Creek and Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1923–24												
1	5.2	6.0	7.4	8.0	5.6	4.9	7.2	10.8	7.8	4.8	4.1	4.2
2	5.2	5.6	7.1	6.8	5.4	5.9	8.4	12.2	7.5	4.6	4.3	4.2
3	5.0	5.4	6.4	6.8	5.4	5.6	8.0	13.0	7.6	4.6	4.3	4.2
4	5.0	5.5	5.9	6.6	5.4	5.7	7.8	13.4	7.9	4.5	4.1	4.3
5	5.0	5.5	5.7	6.4	5.4	7.0	7.4	12.8	7.6	4.5	3.9	4.3
6	5.0	5.5	5.7	6.2	5.4	5.7	16.1	12.4	7.3	4.5	4.1	4.2
7	5.9	5.6	5.7	6.2	5.4	5.6	15.9	12.2	6.6	4.6	4.1	4.2
8	7.0	5.6	6.2	6.0	5.4	5.6	11.5	12.2	6.4	4.4	4.1	4.2
9	6.2	6.0	6.0	6.0	5.4	5.6	11.0	12.0	6.2	4.5	4.1	4.2
10	5.7	5.8	5.8	5.9	5.4	5.5	13.1	12.2	6.0	4.5	4.1	4.2
11	5.5	5.6	5.8	5.9	5.2	5.3	14.2	12.1	6.0	4.5	4.1	4.0
12	5.3	5.5	5.7	5.9	5.2	5.3	13.9	11.7	5.8	4.4	4.3	4.1
13	5.3	5.4	5.8	5.9	5.2	5.2	13.8	10.9	5.8	4.3	4.3	4.0
14	5.2	5.4	5.8	5.7	5.2	5.0	13.4	10.4	5.7	4.3	4.2	4.2
15	5.2	5.4	5.8	5.7	5.2	5.2	12.2	10.3	5.5	4.3	4.2	4.2
16	5.2	6.0	5.8	5.7	5.2	5.4	10.3	10.6	5.5	4.3	4.1	4.2
17	5.2	6.0	5.8	5.7	5.2	5.6	9.5	10.9	5.5	4.3	4.1	4.2
18	5.2	5.8	5.8	5.7	5.2	6.1	9.2	11.1	5.5	4.2	4.1	4.2
19	5.0	5.6	6.2	5.7	5.2	5.9	9.3	10.7	5.4	4.1	4.1	4.3
20	5.0	5.5	6.2	5.7	5.0	5.9	9.9	10.4	5.2	4.3	4.2	4.2
21	4.9	5.5	6.2	5.7	5.0	6.1	10.0	9.9	4.9	4.3	4.2	4.2
22	4.9	5.5	6.0	5.7	5.0	5.9	10.3	9.6	5.0	4.4	4.2	4.2
23	5.1	5.3	6.0	5.7	5.0	5.9	11.0	9.5	4.8	4.3	4.2	4.2
24	5.3	5.4	6.0	5.7	5.0	6.8	10.6	9.3	4.8	4.3	4.1	4.2
25	5.1	5.4	6.0	5.6	5.0	6.3	9.7	9.1	5.0	4.2	4.1	4.2
26	5.1	5.4	6.7	5.7	5.0	6.5	9.5	9.1	5.0	4.4	4.1	4.2
27	5.1	5.5	10.8	5.7	5.1	15.7	9.1	8.8	4.8	4.2	4.1	4.2
28	5.1	5.4	8.3	5.7	5.1	9.9	9.5	8.2	4.7	4.2	4.1	4.2
29	5.1	5.4	7.0	5.7	5.1	8.3	9.7	8.1	4.8	4.2	4.2	4.2
30	5.1	5.4	8.9	5.7	-------	7.4	10.1	8.1	4.9	4.1	4.1	4.2
31	5.3	-------	7.4	5.7	-------	7.2	-------	8.4	-------	4.2	4.1	-------

Combined monthly discharge of Snow Creek and Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921				
July 21–31	6.6	5.7	6.12	134
August	6.8	4.9	5.55	341
September	22	4.3	5.17	308
The period				783
1921–22				
October	25	4.7	6.11	376
November	4.9	4.4	4.68	278
December 1–17	5.3	4.8	4.90	165
May 16–31	35	31	33.6	1,070
June	32	22	26.6	1,580
July	22	13.6	17.2	1,060
August	14.5	9.6	11.2	689
September	9.4	7.1	8.21	489
1922–23				
October	8.4	5.8	6.91	425
November	22	7.0	8.18	487
December	91	7.3	16.4	1,010
January	18.3	7.5	9.08	558
February	12.1	9.1	10.4	578
March	11.4	8.6	9.32	573
April	25	10.6	15.5	922
May	17.8	10.3	14.0	861
June	9.9	7.0	8.47	504
July	7.0	5.9	6.30	387
August	6.4	4.9	5.30	326
September	6.2	4.9	5.26	313
The year	91	4.9	9.58	6,940

Combined monthly discharge of Snow Creek and Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1923–24				
October	7.0	4.9	5.27	324
November	6.0	5.3	5.56	331
December	10.8	5.7	6.45	397
January	8.0	5.6	5.97	367
February	5.6	5.0	5.22	300
March	15.7	4.9	6.39	393
April	16.1	7.2	10.7	637
May	13.4	8.1	10.7	658
June	7.9	4.7	5.85	348
July	4.8	4.1	4.36	268
August	4.3	3.9	4.14	255
September	4.3	4.0	4.19	249
The year	16.1	3.9	6.23	4,530

SOUTHERN PACIFIC CO.'S DITCH NEAR WHITEWATER, CALIF.

LOCATION.—In NW. ¼ NW. ¼ sec. 33, T. 3 S., R. 3 E., 200 feet below intake and 3½ miles southwest of Whitewater, Riverside County.

RECORDS AVAILABLE.—July 20, 1921, to September 30, 1924.

GAGE.—Water-stage recorder on left bank, about 200 feet below intake.

DISCHARGE MEASUREMENTS.—Made from foot log at gage or by wading.

CHANNEL AND CONTROL.—Bed of channel consists of small boulders and gravel; banks covered with trees.

EXTREMES OF STAGE.—Not reported.

COOPERATION.—Record of daily discharge furnished by Southern Sierras Power Co.

The following discharge measurement was made:

March 7, 1923: Gage height, 0.68 foot; discharge, 7.2 second-foot.

Daily discharge, in second-feet, of Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1921				1921				1921			
1		5.2	4.3	11		4.9	4.5	21	5.8	4.9	4.2
2		5.0	4.2	12		4.9	4.5	22	5.6	4.9	4.1
3		4.9	4.1	13		4.7	4.5	23	5.4	6.0	4.1
4		5.0	4.2	14		4.7	4.4	24	5.6	5.4	4.2
5		4.9	4.1	15		4.5	4.3	25	5.4	4.9	4.2
6		4.9	4.1	16		4.5	4.3	26	5.2	4.7	4.1
7		5.6	4.1	17		4.5	4.3	27	5.2	4.7	4.1
8		5.6	4.3	18		4.5	4.4	28	5.2	4.5	4.2
9		5.0	4.5	19		4.5	4.5	29	5.2	4.5	4.3
10		5.0	4.5	20	5.6	4.7	4.3	30	5.0	4.5	11.4
								31	5.2	4.3	

Daily discharge, in second-feet, of Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1921–22												
1	17.6	4.6	4.4	6.2	9.7	10.8	11.1	12.6	14.4	11.7	9.6	7.0
2	9.3	4.5	4.9	12.2	9.6	10.6	10.6	12.5	14.3	11.4	9.3	7.1
3	7.2	4.5	4.6	6.4	9.3	10.6	10.7	13.4	14.3	11.4	9.1	7.0
4	6.6	4.5	4.5	5.2	9.4	10.3	11.1	14.4	14.4	11.4	8.8	6.8
5	6.1	4.4	4.5	4.7	9.8	10.2	11.4	15.0	14.3	11.3	8.8	6.5
6	5.8	4.3	4.5	4.2	9.8	10.1	10.8	15.3	14.0	11.4	8.8	6.4
7	5.6	4.3	4.5	3.8	10.1	10.1	10.6	15.6	13.8	11.0	8.8	6.8
8	5.2	4.3	4.5	3.4	23	9.9	10.6	14.7	13.7	10.8	8.7	6.9
9	5.0	4.3	4.5	3.1	32	9.8	10.6	14.0	13.5	10.6	8.8	6.8
10	4.9	4.2	4.5	2.9	23	9.6	10.3	12.2	13.4	10.6	8.8	6.7
11	4.9	4.2	4.5	7.0	17.6	10.1	10.3	12.5	12.7	10.8	8.6	6.5
12	4.8	4.3	4.5	11.7	15.7	10.6	10.2	13.7	12.6	13.1	8.6	6.5
13	4.7	4.3	4.4	11.4	14.4	10.4	10.1	13.7	12.5	14.3	8.2	6.5
14	4.7	4.1	4.5	11.1	13.7	10.4	10.1	14.2	12.5	12.0	8.1	6.5
15	4.7	4.1	4.5	11.1	13.6	10.6	10.3	15.0	12.8	10.1	8.0	6.4
16	4.7	4.2	4.4	10.8	13.7	10.6	10.3	15.0	13.1	10.2	7.8	6.4
17	4.7	4.2	4.4	10.8	13.7	11.4	10.1	15.3	14.2	10.1	7.5	6.2
18	4.7	4.2	21	10.6	13.8	10.6	9.8	15.5	15.9	10.1	7.5	6.2
19	4.6	4.3	37	10.3	13.7	10.6	9.8	15.7	14.3	10.1	7.7	6.0
20	4.5	4.3	39	10.1	13.7	10.6	10.2	15.3	13.4	9.8	7.9	6.0
21	4.5	4.3	29	10.1	13.4	10.6	10.7	14.7	13.3	9.6	7.7	5.8
22	4.5	4.3	12.0	9.8	12.8	10.6	11.5	14.7	13.2	9.6	7.6	5.8
23	4.9	4.3	8.8	9.8	12.5	10.8	11.8	14.9	13.1	9.6	7.7	5.7
24	5.4	4.5	7.2	9.6	12.2	12.0	12.1	15.3	13.1	9.3	7.7	5.6
25	7.0	4.5	6.4	9.6	11.9	11.6	12.8	15.5	12.8	9.3	7.7	5.5
26	4.9	4.4	43	9.4	14.7	11.4	13.3	15.0	12.8	9.4	7.5	5.5
27	4.7	4.4	26	9.3	14.7	11.1	13.0	15.0	12.5	9.6	7.7	5.5
28	4.7	4.4	11.7	9.4	11.2	10.8	12.8	14.9	12.4	9.3	7.5	5.6
29	4.6	4.5	8.6	9.6	-------	11.0	12.5	14.9	12.2	9.3	7.7	5.4
30	4.6	4.4	6.8	9.8	-------	11.3	12.5	14.9	12.0	9.3	7.7	5.3
31	4.6	-------	5.2	9.8	-------	11.1	-------	14.7	-------	9.8	7.2	-------
1922–23												
1	5.2	5.7	6.6	8.1	8.3	8.3	7.9	8.8	7.2	5.4	4.9	5.2
2	5.3	5.7	6.4	7.9	8.3	8.3	8.1	9.1	7.2	5.2	5.0	5.2
3	5.4	6.0	6.6	7.7	8.1	8.8	8.1	9.1	7.0	5.4	4.9	5.0
4	5.3	5.8	6.4	7.7	7.9	8.6	7.9	10.1	7.0	5.4	4.9	4.9
5	5.2	5.8	6.2	7.7	7.9	8.3	8.3	10.1	7.2	5.4	4.7	4.9
6	5.2	5.7	6.2	7.5	7.9	8.1	11.4	9.8	7.2	5.2	4.7	4.7
7	5.1	5.7	7.0	7.2	7.7	7.7	12.0	9.8	7.2	5.0	4.7	4.7
8	5.0	5.8	6.8	7.2	7.7	7.7	10.3	9.8	7.0	5.2	4.7	4.7
9	5.1	10.9	6.8	7.2	8.3	7.7	10.1	9.8	7.0	5.2	4.7	4.9
10	5.1	9.1	9.3	7.0	7.9	7.7	11.4	10.1	7.0	5.0	4.9	5.0
11	5.1	8.1	8.8	7.0	8.1	7.5	11.7	9.8	7.2	5.0	5.4	5.2
12	5.1	7.9	18.9	7.0	8.3	7.5	11.4	9.6	7.0	4.9	6.0	5.4
13	5.1	7.5	29	6.8	8.1	7.5	11.4	9.6	6.6	4.9	6.2	5.6
14	5.0	7.2	17.2	6.8	7.9	7.5	11.1	9.6	6.6	4.7	5.8	5.8
15	5.0	7.0	13.1	6.8	7.9	7.2	10.6	9.3	6.6	4.7	5.4	5.0
16	4.9	7.0	12.0	6.8	7.9	7.2	10.3	9.3	6.4	4.7	4.8	4.9
17	4.9	6.8	10.3	6.6	8.3	7.2	10.1	9.3	6.2	4.5	4.8	4.9
18	4.2	6.8	10.3	6.6	8.6	7.2	10.1	9.1	6.2	4.5	5.2	4.9
19	5.4	6.6	10.1	6.6	8.8	7.2	9.6	8.8	6.2	4.5	5.0	4.7
20	5.4	6.6	9.6	7.0	8.9	7.2	9.6	8.6	6.2	4.5	5.0	4.7
21	5.4	6.6	9.3	6.8	8.8	7.5	9.6	8.3	6.0	4.5	4.9	4.7
22	5.4	6.4	9.1	6.8	8.8	7.2	9.6	8.3	6.0	4.7	4.9	4.7
23	5.4	6.4	8.8	7.2	8.8	7.2	9.6	8.3	5.8	4.9	4.7	4.9
24	5.4	6.2	8.8	10.8	8.8	7.2	9.1	8.3	5.8	4.9	4.9	4.9
25	5.4	6.2	8.8	9.3	9.1	7.2	8.8	8.1	5.6	4.7	4.7	4.9
26	5.4	6.2	8.8	8.6	8.8	7.2	8.8	8.1	5.6	4.3	4.7	4.9
27	5.6	6.2	8.8	8.1	8.6	7.0	8.6	7.9	5.4	4.7	4.7	4.9
28	6.8	6.2	8.8	8.1	8.3	7.0	8.8	7.7	5.4	4.7	4.7	4.9
29	6.0	6.2	8.6	7.9	-------	7.2	8.8	7.7	5.4	4.7	4.7	4.9
30	5.9	6.6	8.3	9.1	-------	7.2	8.8	7.7	5.4	4.9	4.7	4.9
31	5.8	-------	8.3	8.8	-------	7.5	-------	7.5	-------	4.7	4.7	-------
1923–24												
1	4.9	5.6	6.6	7.2	4.9	4.1	6.6	8.3	6.6	4.0	3.5	4.1
2	4.9	5.2	6.4	6.2	4.7	5.0	7.5	8.8	6.4	3.8	3.7	4.0
3	4.7	4.9	5.8	6.2	4.7	4.7	7.2	9.1	6.4	3.8	3.7	4.0
4	4.7	4.9	5.4	6.0	4.7	4.9	7.0	9.1	6.6	3.7	3.5	4.1
5	4.7	4.9	5.2	5.8	4.7	6.0	6.8	9.1	6.4	3.7	3.5	4.1

Daily discharge, in second-feet, of Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1923–24												
6	4.7	5.0	5.2	5.6	4.7	5.0	10.1	8.8	6.2	3.7	3.7	4.0
7	5.6	5.2	5.2	5.6	4.7	4.9	10.3	8.8	5.8	3.7	3.7	4.0
8	6.6	5.2	5.6	5.4	4.7	4.9	8.8	8.8	5.6	3.8	3.7	3.8
9	5.8	5.6	5.4	5.4	4.7	4.9	8.6	8.6	5.4	4.0	3.7	3.8
10	5.4	5.4	5.2	5.2	4.7	4.7	9.3	8.8	5.2	4.0	3.7	3.8
11	5.2	5.2	5.2	5.2	4.5	4.5	9.6	8.8	5.2	4.0	3.7	3.7
12	5.0	5.0	5.2	5.2	4.5	4.5	9.6	8.6	5.0	3.8	4.0	3.8
13	5.0	4.9	5.2	5.2	4.5	4.5	9.6	8.3	5.0	3.7	4.1	3.8
14	4.9	4.9	5.2	5.0	4.5	4.3	9.3	8.1	4.9	3.7	4.0	4.0
15	4.9	4.9	5.2	5.0	4.5	4.5	9.1	8.1	4.7	3.7	4.0	4.0
16	4.9	5.4	5.2	5.0	4.5	4.7	8.3	8.1	4.7	3.7	4.0	4.0
17	4.9	5.4	5.2	5.0	4.5	4.9	8.1	8.3	4.7	3.7	4.0	4.0
18	4.9	5.2	5.2	5.0	4.5	5.4	7.9	8.3	4.7	3.5	4.0	4.0
19	4.7	5.0	5.6	5.0	4.5	5.2	7.9	8.1	4.7	3.4	4.0	4.1
20	4.7	4.9	5.6	5.0	4.3	5.2	8.1	8.1	4.5	3.5	4.1	4.1
21	4.5	4.9	5.6	5.0	4.3	5.4	8.1	7.9	4.3	3.5	4.1	4.1
22	4.5	4.9	5.4	5.0	4.3	5.2	8.1	7.7	4.3	3.7	4.1	4.1
23	4.7	4.7	5.4	5.0	4.3	5.2	8.3	7.7	4.1	3.7	4.1	4.1
24	4.9	4.7	5.4	5.0	4.3	6.0	8.3	7.5	4.1	3.7	4.0	4.1
25	4.7	4.7	5.4	4.9	4.3	5.6	7.9	7.5	4.3	3.5	4.0	4.1
26	4.7	4.7	5.8	5.0	4.3	5.8	7.9	7.5	4.3	3.7	4.0	4.1
27	4.7	4.9	8.3	5.0	4.3	10.1	7.7	7.2	4.1	3.5	4.0	4.0
28	4.7	5.0	7.0	5.0	4.3	8.3	7.9	6.8	4.0	3.5	4.0	4.0
29	4.7	5.0	6.2	5.0	4.3	7.5	7.9	6.8	4.0	3.5	4.1	4.0
30	4.7	5.0	7.7	5.0	-------	6.8	8.1	6.8	4.1	3.5	4.0	4.0
31	4.9	-------	6.6	5.0	-------	6.6	-------	7.0	-------	3.7	4.0	-------

Monthly discharge of Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921				
July 20–31	5.8	5.0	5.37	128
August	6.0	4.3	4.86	299
September	11.4	4.1	4.51	268
The period	----------	----------	----------	695
1921–22				
October	17.6	4.5	5.64	347
November	4.6	4.1	4.34	258
December	43	4.4	10.9	670
January	12.2	2.9	8.49	522
February	32	9.3	14.0	778
March	12.0	9.6	10.7	658
April	13.3	9.8	11.1	660
May	15.7	12.2	14.5	892
June	15.9	12.0	13.4	797
July	14.3	9.3	10.5	646
August	9.6	7.2	8.16	502
September	7.1	5.3	6.23	371
The year	43	2.9	9.81	7,100
1922–23				
October	6.8	4.2	5.31	326
November	10.9	5.7	6.70	399
December	29	6.2	9.81	603
January	10.8	6.6	7.57	465
February	9.1	7.7	8.31	462
March	8.8	7.0	7.54	464
April	12.0	7.9	9.73	579
May	10.1	7.5	8.95	550
June	7.2	5.4	6.42	382
July	5.4	4.3	4.87	299
August	6.2	4.7	4.97	306
September	5.8	4.7	4.96	295
The year	29	4.2	7.09	5,130

Monthly discharge of Southern Pacific Co.'s ditch near Whitewater, Calif., for the years ending September 30, 1921–1924—Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1923–24				
October	6.6	4.5	4.93	303
November	5.6	4.7	5.04	300
December	8.3	5.2	5.73	352
January	7.2	4.9	5.29	325
February	4.9	4.3	4.51	259
March	10.1	4.1	5.46	336
April	10.3	6.6	8.33	496
May	9.1	6.8	8.11	499
June	6.6	4.0	5.01	298
July	4.0	3.4	3.69	227
August	4.1	3.5	3.89	239
September	4.1	3.7	3.99	237
The year	10.3	3.4	5.33	3,870

FALLS CREEK NEAR WHITEWATER, CALIF.

LOCATION.—In NE. ¼ NE. ¼ sec. 33, T. 3 S., R. 3 E., 3¼ miles southwest of Whitewater, Riverside County.

DRAINAGE AREA.—Not measured.

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

GAGE.—Water-stage recorder on right bank, about 2¼ miles above junction with Snow Creek.

DISCHARGE MEASUREMENTS.—Made from foot log at gage or by wading.

CHANNEL AND CONTROL.—Channel is composed of boulders and is rough. Trees and brush along each bank collect drift during high stages. Control is a weir just below gage.

EXTREMES OF STAGE.—Not reported.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Record of daily discharge furnished by Southern Sierras Power Co.

The following discharge measurement was made:

March 7, 1923: Gage height, 0.41 foot; discharge, 1.4 second-feet.

Daily discharge, in second-feet, of Falls Creek near Whitewater, Calif., for the years ending September 30, 1922–1924

Day	Sept.	Day	Sept.	Day	Sept.
1922		1922		1922	
1	3.4	11	3.0	21	2.8
2	3.4	12	3.0	22	2.8
3	3.4	13	3.0	23	2.8
4	3.3	14	3.0	24	2.7
5	3.2	15	3.0	25	2.7
6	3.1	16	2.9	26	2.7
7	3.2	17	2.9	27	2.7
8	3.2	18	2.9	28	2.6
9	3.2	19	2.9	29	2.6
10	3.0	20	2.9	30	2.6
				31	----

Daily discharge, in second-feet, of Falls Creek near Whitewater, Calif., for the years ending September 30, 1922–1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1922–23												
1	2.6	2.6	3.0	2.6	2.7	2.5	2.4	2.5	2.0	1.4	1.2	1.3
2	2.6	2.6	3.0	2.6	2.8	2.4	2.5	2.6	2.0	1.4	1.1	1.4
3	2.6	2.6	3.1	2.6	2.4	2.4	2.4	2.6	2.0	1.4	1.1	1.3
4	2.6	2.6	3.0	2.6	2.5	2.4	2.4	3.0	2.1	1.4	1.1	1.2
5	2.6	2.6	3.0	2.6	2.4	2.3	2.7	3.3	2.1	1.4	1.1	1.1
6	2.6	2.6	3.0	2.6	2.4	2.3	3.0	3.1	2.0	1.4	1.1	1.1
7	2.6	2.6	3.0	2.5	2.4	2.3	3.5	3.1	2.0	1.4	1.1	1.4
8	2.6	2.6	3.0	2.5	2.4	2.3	3.0	3.1	1.9	1.4	1.1	1.2
9	2.6	4.0	3.0	2.5	2.5	2.2	2.8	3.1	1.8	1.4	1.1	1.2
10	2.6	3.1	3.4	2.5	2.3	2.2	3.2	3.1	2.0	1.4	1.2	1.4
11	2.6	2.9	3.1	2.5	2.5	2.1	3.1	3.0	2.0	1.3	1.2	1.8
12	2.6	2.9	5.9	2.5	2.6	2.1	3.0	3.0	1.9	1.3	1.4	1.6
13	2.6	2.8	9.2	2.5	2.6	2.1	3.0	3.0	1.8	1.3	1.2	1.6
14	2.6	2.8	4.2	2.5	2.5	2.2	3.0	3.0	1.8	1.3	1.1	1.4
15	2.6	2.6	3.3	2.5	2.5	2.2	3.0	2.8	1.8	1.4	1.0	1.3
16	2.5	2.6	3.0	2.5	2.6	2.2	3.0	2.7	1.9	1.4	1.1	1.3
17	2.4	2.6	3.6	2.5	2.7	2.2	3.0	2.8	1.8	1.4	1.1	1.3
18	2.4	2.6	3.0	2.5	2.8	2.3	3.0	2.7	1.8	1.3	1.2	1.2
19	2.4	2.6	3.0	2.5	2.7	2.2	2.8	2.4	1.9	1.3	1.2	1.3
20	2.4	2.7	3.0	2.5	2.9	2.3	2.6	2.5	1.8	1.2	1.1	1.2
21	2.4	2.9	2.5	2.4	2.9	2.3	2.6	2.4	1.8	1.2	1.1	1.3
22	2.4	3.0	2.5	2.4	2.7	2.3	2.6	2.4	1.8	1.2	1.1	1.4
23	2.4	2.9	2.5	2.5	2.6	2.3	2.6	2.4	1.7	1.6	1.0	1.4
24	2.4	2.9	2.4	4.4	2.6	2.3	2.4	2.4	1.6	1.6	1.1	1.4
25	2.4	2.9	2.4	3.0	2.6	2.2	2.4	2.4	1.6	1.4	1.1	1.3
26	2.4	2.9	2.4	2.7	2.5	2.2	2.4	2.3	1.6	1.2	1.1	1.3
27	2.4	2.9	2.5	2.6	2.4	2.1	2.4	2.2	1.5	1.2	1.1	1.4
28	2.9	3.0	2.6	2.6	2.4	2.1	2.4	2.2	1.4	1.2	1.1	1.4
29	2.4	3.0	2.6	2.6	-------	2.2	2.4	2.1	1.4	1.1	1.1	1.3
30	2.4	3.0	2.6	3.1	-------	2.2	2.5	2.2	1.4	1.3	1.1	1.3
31	2.4	-------	2.6	2.9	-------	2.3	-------	2.2	-------	1.3	1.1	-------
1923–24												
1	1.3	2.0	2.6	2.6	2.0	1.5	2.1	2.2	1.6	.8	.5	.5
2	1.3	1.7	2.4	2.4	2.0	1.8	2.4	2.4	1.5	.8	.6	.5
3	1.3	1.6	2.3	2.4	2.0	1.8	2.2	2.6	1.5	.7	.6	.5
4	1.3	1.6	2.0	2.4	2.0	2.0	2.2	2.7	1.6	.7	.6	.7
5	1.3	1.6	1.9	2.4	2.0	2.3	2.2	2.6	1.5	.7	.6	.8
6	1.3	1.6	1.9	2.4	2.0	1.9	4.2	2.5	1.4	.6	.5	.7
7	1.4	1.6	2.0	2.4	2.0	1.8	3.6	2.5	1.6	.7	.5	.6
8	1.8	1.7	2.1	2.4	2.0	1.8	3.0	2.5	1.5	.7	.5	.6
9	1.6	1.8	2.1	2.3	1.9	1.7	3.0	2.5	1.4	.6	.5	.5
10	1.6	1.8	2.0	2.3	1.9	1.6	3.0	2.4	1.3	.6	.5	.5
11	1.5	1.7	2.1	2.3	1.9	1.6	3.0	2.5	1.2	.6	.6	.5
12	1.4	1.6	2.2	2.2	1.8	1.6	2.9	2.5	1.1	.6	.6	.5
13	1.4	1.6	2.2	2.2	1.8	1.5	2.9	2.3	1.1	.6	.6	.5
14	1.4	1.6	2.3	2.2	1.8	1.5	3.0	2.1	1.1	.5	.5	.5
15	1.4	1.7	2.3	2.2	1.8	1.8	2.7	2.0	1.1	.5	.5	.5
16	1.4	2.3	2.3	2.2	1.8	1.8	2.6	2.0	1.1	.5	.4	.5
17	1.4	2.0	2.3	2.2	1.8	1.9	2.3	2.1	1.1	.5	.4	.5
18	1.4	1.9	2.3	2.2	1.8	2.2	2.2	2.1	1.1	.5	.4	.6
19	1.4	1.8	2.4	2.2	1.8	2.0	2.0	2.1	1.1	.7	.4	.6
20	1.4	1.8	2.5	2.2	1.7	2.0	2.1	2.0	.9	.7	.5	.8
21	1.4	1.8	2.4	2.2	1.7	2.1	2.1	1.9	1.1	.8	.6	.7
22	1.4	1.8	2.4	2.2	1.7	2.0	2.1	1.9	1.0	.7	.6	.7
23	1.6	1.8	2.4	2.2	1.7	2.0	2.4	1.9	.9	.7	.8	.6
24	1.6	1.7	2.3	2.2	1.6	2.1	2.3	1.8	.9	.7	.6	.6
25	1.6	1.7	2.4	2.2	1.6	2.0	2.1	1.7	.9	.7	.5	.6
26	1.6	1.8	2.4	2.2	1.6	2.2	2.0	1.8	.9	.8	.4	.6
27	1.6	2.0	3.2	2.2	1.6	3.0	2.0	1.8	.8	.8	.4	.7
28	1.6	2.2	2.9	2.2	1.6	2.6	2.0	1.6	.8	.7	.4	.6
29	1.6	2.3	2.6	2.2	1.5	2.3	2.0	1.6	.7	.6	.5	.7
30	1.6	2.3	2.4	2.1	-------	2.3	2.0	1.6	.8	.6	.5	.6
31	1.7	-------	2.4	2.1	-------	2.2	-------	1.9	-------	.6	.5	-------

Monthly discharge of Falls Creek near Whitewater, Calif., for the years ending September 30, 1922–1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1922				
September	3.4	2.6	2.96	176
1922-23				
October	2.9	2.4	2.52	155
November	4.0	2.6	2.81	167
December	9.2	2.4	3.21	197
January	4.4	2.4	2.64	162
February	2.9	2.3	2.57	143
March	2.5	2.1	2.25	138
April	3.5	2.4	2.74	163
May	3.3	2.1	2.66	164
June	2.1	1.4	1.81	108
July	1.6	1.1	1.34	82.4
August	1.4	1.0	1.12	68.9
September	1.8	1.1	1.34	79.7
The year	9.2	1.0	2.25	1,630
1923-24				
October	1.8	1.3	1.47	90.4
November	2.3	1.6	1.81	108
December	3.2	1.9	2.32	143
January	2.6	2.1	2.26	139
February	2.0	1.5	1.81	104
March	3.0	1.5	1.96	121
April	4.2	2.0	2.49	148
May	2.7	1.6	2.13	131
June	1.6	.7	1.15	68.4
July	.8	.5	.65	40.0
August	.8	.4	.52	32.0
September	.8	.5	.59	35.1
The year	4.2	.4	1.60	1,160

OWENS LAKE BASIN

OWENS RIVER NEAR BIG PINE, CALIF.

LOCATION.—In sec. 2, T. 11 S., R. 34 E., at Charlies Butte, 11 miles southeast of Big Pine, Inyo County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 20, 1906, to September 30, 1924.

GAGE.—Water-stage recorder on left bank.

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

CHANNEL AND CONTROL.—Sand and gravel; shift slightly. Right bank high; left bank subject to overflow during floods.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.30 feet at 10 p. m. February 10 (discharge, 454 second-feet); minimum discharge, 45 second-feet September 9–13.

1906–1924: Maximum stage recorded, 11.2 feet about 9 p. m. January 26, 1914 (discharge, from extension of rating curve, about 3,220 second-feet); minimum stage recorded, −0.05 foot June 13–16, 1908 (discharge, 36 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—On account of diversions above station, record does not indicate total run-off from drainage area.

REGULATION.—Flow is partly regulated by diversions.

ACCURACY.—Stage-discharge relation not permanent. Standard rating curve fairly well defined. Good record from water-stage recorder. Daily discharge ascertained by applying mean daily gage height to rating table using shifting-control method. Records fair.

COOPERATION.—Gage-height record and discharge measurements furnished by the city of Los Angeles.

Discharge measurements of Owens River near Big Pine, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 1	1.56	178	Jan. 23	2.96	393	May 12	0.75	70
Oct. 9	1.98	237	Jan. 30	2.96	384	May 20	.59	52
Oct. 22	2.12	268	Feb. 5	2.91	386	May 30	.74	71
Oct. 24	2.27	286	Feb. 20	2.55	301	June 9	.50	48
Nov. 6	2.66	323	Feb. 27	2.14	237	July 8	.52	54
Nov. 12	2.90	385	Mar. 6	1.97	209	July 15	.54	52
Nov. 18	2.82	385	Mar. 13	1.73	172	July 25	.55	57
Nov. 27	2.80	372	Mar. 27	2.51	317	Aug. 1	.55	58
Dec. 3	2.90	375	Apr. 3	2.15	246	Apr. 15	.60	58
Dec. 11	2.60	330	Apr. 10	1.78	19.	Aug. 28	.51	50
Dec. 17	3.05	395	Apr. 16	1.34	129	Sept. 5	.53	54
Dec. 28	2.87	372	Apr. 23	.94	83	Sept. 17	.47	48
Jan. 4	2.69	329	Apr. 26	.71	61	Sept. 26	.47	48
Jan. 11	3.11	417	May 3	.68	61			

Daily discharge, in second-feet, of Owens River near Big Pine, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	329	385	344	402	226	268	82	60	55	60	50
2	183	328	381	329	400	222	258	73	61	59	58	50
3	190	321	375	316	383	219	248	61	61	58	55	51
4	196	319	381	337	390	216	237	60	59	61	53	52
5	202	324	383	383	388	213	216	70	57	72	54	53
6	208	321	388	388	381	210	208	80	57	67	54	53
7	213	322	400	387	381	196	208	80	53	59	54	48
8	224	326	416	398	368	192	207	76	49	54	53	46
9	240	340	408	406	371	188	206	65	48	53	52	45
10	270	362	366	414	426	186	194	58	48	54	54	45
11	273	390	335	418	416	188	182	62	48	56	56	45
12	278	385	349	420	366	184	157	69	49	57	58	45
13	283	370	377	416	353	176	146	71	49	57	63	45
14	282	373	408	408	349	173	138	84	49	55	61	46
15	283	379	410	398	344	170	130	80	49	53	59	48
16	285	381	410	408	344	183	128	64	49	57	54	48
17	287	381	398	418	338	202	121	56	49	61	53	48
18	287	385	394	408	329	207	120	58	49	57	52	48
19	287	388	396	398	304	225	113	57	49	52	50	48
20	288	390	400	398	298	236	102	53	49	53	50	46
21	290	398	394	396	295	234	94	53	52	54	50	46
22	290	398	383	396	288	225	89	61	53	55	52	48
23	295	394	375	394	270	224	84	61	53	57	52	48
24	290	392	373	388	261	248	79	59	52	58	52	48
25	298	390	392	388	261	253	69	59	52	59	52	48
26	302	385	394	390	256	266	61	60	51	63	51	48
27	302	385	385	392	238	316	60	61	50	66	49	49
28	321	368	371	390	238	364	71	67	50	65	49	50
29	335	373	371	390	234	349	82	71	50	63	49	51
30	331	383	387	388	-------	324	83	71	51	61	50	51
31	331	-------	385	394	-------	300	-------	62	-------	60	49	-------

NOTE.—Discharge interpolated Oct. 4–6 and Mar. 2–5.

Monthly discharge of Owens River near Big Pine, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	335	182	269	16,500
November	398	319	366	21,800
December	416	335	386	23,700
January	420	316	390	24,000
February	426	234	334	19,200
March	364	170	230	14,100
April	268	60	145	8,630
May	84	53	65.9	4,050
June	61	48	51.9	3,090
July	72	52	58.4	3,590
August	63	49	53.5	3,290
September	53	45	48.2	2,870
The year	426	45	200	145,000

ANTELOPE VALLEY BASIN

ROCK CREEK NEAR VALYERMO, CALIF.

LOCATION.—In NE. ¼ sec. 20, T. 4 N., R. 9 W., 1¾ miles southeast of Valyermo, Los Angeles County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 17, 1923, to September 30, 1924.

GAGE.—Water-stage recorder in wooden well and shelter on right bank, about a quarter of a mile south of the boundary line of the Angeles National Forest.

DISCHARGE MEASUREMENTS.—Made from a footbridge 20 feet below gage or by wading.

CHANNEL AND CONTROL.—Boulders and gravel which may shift at high stages; fairly permanent at low and medium stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.35 feet at 3 a. m. April 14 (discharge, 19 second-feet); minimum stage, from water-stage recorder, 0.79 foot at 7 p. m. August 14 (discharge, 1.3 second-feet).

1923 and 1924: Maximum stage, from water-stage recorder, 1.4 feet at noon April 10, 1923 (discharge, 27 second-feet); minimum stage, that of August 14, 1924.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Standard rating curve well defined. Water-stage recorder excellent except December 28 to January 8 and May 2–7 when clock was stopped. Daily discharge ascertained by shifting-control method and interpolated December 28 to January 8 and May 2–7. Records good.

Discharge measurements of Rock Creek near Valyermo, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 11	0.96	5.9	Mar. 18	0.96	3.4	July 6	0.90	2.8
Nov. 21	1.00	6.7	Apr. 8	1.10	8.6	July 21	.83	2.3
Nov. 22	.99	6.6	May 8	1.14	12	Aug. 4	.86	2.3
Jan. 9	.98	5.5	May 17	1.09	8.4	Aug. 16	.82	1.7
Feb. 4	.97	4.8	June 6	.98	5.8	Sept. 7	.86	2.2

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.5	7.5	7.5	6	5	3.6	4.9	14	7	3.1	2.5	2.4
2	6.5	7.5	7.5	6	5	4.1	5.5	14	7.5	3.1	2.5	2.4
3	6.5	7.5	7.5	6	5	3.8	5.5	14	6.5	3.1	2.5	2.4
4	6	7.5	7	6	5	4.1	6.5	13	6.5	2.9	2.5	2.4
5	6	7.5	7	6	5	3.6	6.5	13	6.5	2.9	2.5	2.4
6	6	7.5	6.5	5.5	5	3.6	7.5	12	6.5	2.9	2.4	2.4
7	6.5	7.5	6.5	5.5	5	3.6	9	12	6.5	3.1	2.4	2.4
8	7	7	6.5	5.5	5	3.6	8.5	12	6.5	3.1	2.2	2.4
9	6.5	7	7	5.5	5	3.6	9.5	12	6.5	3.3	2.2	2.5
10	6.5	7.5	7.5	5.5	4.6	3.6	11	11	6	3.6	2.2	2.5
11	6.5	7	7.5	5.5	4.6	3.6	15	11	6	3.3	2.2	2.5
12	6.5	7	7.5	5.5	4.6	3.3	16	10	5.5	3.6	2.2	2.5
13	6.5	7	7	5	4.6	3.3	18	10	5.5	3.6	2.0	2.5
14	6.5	7	7.5	5	4.6	3.3	18	9.5	5	3.3	2.0	2.7
15	6.5	6.5	7	5	4.6	3.3	16	9	5	3.3	2.0	2.7
16	6.5	6.5	7	5	4.4	3.3	14	8.5	5	3.3	2.2	2.7
17	6.5	6.5	7	5	4.4	3.3	12	9	5	3.1	2.5	2.7
18	6.5	6.5	7	5	4.4	3.3	12	9	4.9	3.1	2.7	2.7
19	6.5	6.5	7.5	5	4.4	3.3	12	8.5	4.9	2.9	2.9	2.9
20	6.5	6.5	7.5	5	4.4	3.3	14	8.5	4.4	2.9	2.9	2.9
21	6.5	6.5	7.5	5	4.4	3.3	14	8.5	4.4	2.7	2.9	2.9
22	7	6.5	7.5	5	4.1	3.3	14	8	3.8	2.7	2.7	2.9
23	7	6.5	7	5	4.1	4.1	16	8.5	3.8	2.7	2.5	2.9
24	7	6.5	6.5	5	4.1	4.1	14	8	3.8	2.7	2.5	2.9
25	7	6.5	6.5	5	4.1	3.8	13	8	3.6	2.7	2.5	2.9
26	7	6.5	6.5	5	3.8	8	12	8	3.6	2.5	2.4	2.7
27	7	7	6.5	5	3.8	7	12	8	3.6	2.5	2.5	2.7
28	7	7	6.5	5	3.6	5	12	8	3.6	2.5	2.4	2.7
29	7	7	6.5	5	3.6	4.9	13	8	3.3	2.5	2.4	2.4
30	7	7	6.5	5	-------	4.6	13	8	3.1	2.5	2.4	2.2
31	7.5	-------	6.5	5	-------	4.6	-------	7.5	-------	2.5	2.5	-------

Monthly discharge of Rock Creek near Valyermo, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7.5	6	6.65	409
November	7.5	6.5	6.93	412
December	7.5	6.5	7.00	430
January	6	5	5.27	324
February	5	3.6	4.49	258
March	8	3.3	3.97	244
April	18	4.9	11.8	702
May	14	7.5	9.95	612
June	7.5	3.1	5.13	305
July	3.6	2.5	2.97	183
August	2.9	2.0	2.43	149
September	2.9	2.2	2.61	155
The year	18	2.0	5.77	4,180

MONO LAKE BASIN

MONO LAKE NEAR MONO LAKE, CALIF.

LOCATION.—In lot 6, SE. ¼ NE. ¼ sec. 31, T. 2 N., R. 26 E., 2 miles south of Mono Lake post office, Mono County.

RECORDS AVAILABLE.—June 15, 1912, to September 30, 1924 (fragmentary).

GAGE.—Vertical staff on support of boathouse, installed September, 1916; read once daily by W. E. Green. Original gage was vertical staff fastened to willow tree about 400 feet from Hammond's store.

EXTREMES OF STAGE.—1912–1924: Maximum stage recorded, 13.55 feet July 18, 1919; minimum stage recorded, 7.93 feet December 11, 1913.

COOPERATION.—Gage-height record furnished by United States Forest Service. The following readings were made during year ending September 30, 1924:

Date	Gage height	Date	Gage height
Oct. 10	11.9	June 26	11.6
Nov. 7	11.65	July 25	11.2
Dec. 7	11.6	Aug. 20	10.9
Apr. 5	11.9	Sept. 20	10.7
May 9	11.95		

WALKER LAKE BASIN

EAST WALKER RIVER NEAR BRIDGEPORT, CALIF.

LOCATION.—In SW. ¼ NE. ¼ sec. 34, T. 6 N., R. 25 E., 1,500 feet below Bridgeport Reservoir and 4¾ miles below Bridgeport, Mono County.

DRAINAGE AREA.—362 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 29, 1911, to September 30, 1914 (fragmentary); October 1 to November 30, 1921; May 3, 1922, to September 30, 1924; and miscellaneous measurements in 1920 and 1921. 1911–1914 at a site half a mile upstream from the site used since February 21, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; installed February 21, 1924; inspected by Walker River Irrigation District. May 25, 1921, to February 19, 1924, Stevens water-stage recorder on right bank a mile downstream in sec. 27, T. 6 N., R. 25 E.; inspected by the district.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge 1½ miles below gage.

CHANNEL AND CONTROL.—Channel straight above gage; bends to right below. Bed of boulders and sand. Control of boulders; fairly permanent.

ICE.—Stage-discharge relation probably seldom affected by ice.

DIVERSIONS.—Below all diversions in Bridgeport Valley.

REGULATION.—Regulation by Twin Lakes Reservoir, irrigation above gage, and Bridgeport Reservoir, capacity 42,000 acre-feet, which was commenced in June, 1923, and finished in November, 1924.

ACCURACY.—Stage-discharge relation permanent during year; not affected by ice. Rating curves for old and new stations fairly well defined. Water-stage recorder operated successfully except as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Walker River Irrigation District furnished gage-height record.

Discharge measurements of East Walker River near Bridgeport, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 12	2.30	[a] 109	Mar. 27	2.82	56.4	Mar. 28	3.30	124
Feb. 22	2.50	27.0	Do	2.50	22.4	June 19	2.56	33.1
Feb. 24	2.92	67.7	Mar. 28	3.60	201	Sept. 26	2.43	19.3

[a] Measured at old station.

Daily discharge, in second-feet, of East Walker River near Bridgeport, Calif., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	112	98	77		67	152	58	49	66	14	31	8
2	109	97	70		65	80	45	58	59	18	31	7
3	105	85	84		66	70	44	67	54	22	22	10
4	98	85	83	75	65	80	48	69	52	26	7	14
5	93	87	83		69	69	49	72	46	25	26	15
6	86	86	87		72	74	53	67	44	24	84	20
7	97	85	72		73	74	57	59	44	22	8	23
8	109	87	72	97	71	59	63	65	39	22	4	22
9	110	99	83	85	63	65	63	71	39	22	5	22
10	109	101	74	78	60	70	67	76	43	22	6	22
11	112	97		75	66	72	55	81	52	22	6	22
12	109	92		72	70	67	66	88	51	21	6	21
13	107	90		57	75	69	66	91	49	21	6	21
14	107	87	75	64	72	67	66	85	45	21	7	20
15	103	89		68	66	69	60	76	45	21	7	20
16	99	90		71	64	53	53	106	37	21	8	21
17	97			74	63	57	53	83	34	13	8	21
18	97		89	77	64	53	53	88	34	8	11	20
19	97	88	119	66	32	53	51	78	32	7	13	19
20	97		118	44	30	52	53	94	31	8	12	18
21	97		118	33	30	47	58	103	29	6	11	18
22	97	87	83	102	27	51	53	95	26	129	11	19
23	95	87	78	231	50	49	51	88	27	51	11	20
24	95	91	66	184	71	51	60	71	23	5	10	20
25	97	84		128	65	49	70	61	19	5	10	20
26	97	82		118	79	63	71	66	15	6	10	20
27	97	81	70	114	84	44	67	70	13	6	9	22
28	89	86		103	78	82	63	70	10	6	8	24
29	84	95		102	150	57	53	69	10	6	8	22
30	85	90		102	-------	64	47	66	12	7	8	22
31	90	-------		73	-------	67	-------	67	-------	26	8	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated when there was no gage-height record.

Monthly discharge of East Walker River near Bridgeport, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	112	84	99.2	6,100
November	101	81	89.3	5,310
December	119	----------	79.7	4,900
January	231	33	88.5	5,440
February	150	27	65.8	3,780
March	152	44	65.5	4,030
April	71	44	57.2	3,400
May	106	49	75.8	4,660
June	66	10	36.0	2,140
July	129	5	20.4	1,250
August	84	4	13.3	818
September	24	7	19.1	1,140
The year	231	4	59.2	43,000

EAST WALKER RIVER ABOVE MASON VALLEY, NEAR MASON, NEV.

LOCATION.—In SW. ¼ sec. 4, T. 11 N., R. 26 E., 30 feet below highway bridge and 11 miles southeast of Mason, Mineral County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 23, 1921, to August 31, 1924, when station was discontinued. August 27, 1916, to January 5, 1918, at a site half a mile upstream; fragmentary.

GAGE.—Stevens continuous water-stage recorder on left bank, installed May 23, 1921; attended by employees of Walker River Irrigation District.

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

CHANNEL AND CONTROL.—Channel fairly straight. Bed of shifting sand and fine gravel. Banks covered with willows. Control indefinite; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage during period, 1.78 feet parts of March 1 and 2 (discharge, 135 second-feet); minimum discharge, 1 second-foot August 27 to 31.

1921–1924: Maximum stage, 4.40 feet at 3 p. m. June 29, 1922 (discharge 1,160 second-feet); minimum stage, 0.68 foot at 11 a. m. February 13, 1922 (discharge, 28 second-feet).

ICE.—Stage-discharge relation affected by ice at times.

DIVERSIONS.—Strosniders Canal heads about 1½ miles above gage.

REGULATION.—Regulation by Twin Lakes and Bridgeport Reservoirs and by irrigation.

ACCURACY.—Stage-discharge relation shifting somewhat. Standard rating curve fairly well defined. Water-stage recorder successfully operated except as noted in footnote to daily discharge table. Daily discharge ascertained by applying mean daily gage height to rating table using shifting-control method. Records fair.

COOPERATION.—Gage-height record and five discharge measurements furnished by Walker River Irrigation District.

Discharge measurements of East Walker River above Mason Valley, near Mason, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 13	1.70	124	Apr. 26	1.02	53.3	June 30	0.32	9.2
Mar. 9	1.27	71.5	June 13	.66	31.5	July 25	.60	24.1
Apr. 15	1.14	49.2	June 20	.46	11.4			

Daily discharge, in second-feet, of East Walker River above Mason Valley, near Mason, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1	112	111			105	107	72	56	47		19
2	112	118			103	131	70	55	43		20
3	111	114	95		91	94	66	51	43		21
4	110	111			87	85	59	51	38		10
5	107				93	86	55	55	30	15	3
6	105		99		95	82	53	55	25		3
7	104				99	77	50	50	23		3
8	104				101	77	48	47	28		12
9	114				111	74		44	30		15
10	118	110			107	73		43	30		12
11	120			90	98	75	50	43	30		10
12	123				89	75		42	30		9
13	125				93	76		48	34		8
14	124		85		101	77		51	29		7
15	124				107	77	49	51	28		6
16	121				109	75	50	55	20	10	6
17	119				103	70	52	59	15		5
18	119				100	71	53	59	13		5
19	119				99	68	49	55	12		5
20	118				100	66	49	60	12		4
21	115		66		99	66	51	56	12		4
22	116		60		67	63	54	64	11	5	3
23	116	100	76		55	62	53	56	11		3
24	115		105		65	62	54	54	10	52	2
25	115		82		80	60	54	49	10	28	2
26	116				79	60	57	51	10	17	2
27	118			130	82	65	56	47	9	12	1
28	118		80		92	75	57	44	9	13	1
29	116				86	65	61	47	9	15	1
30	111				-------	72	61	48	9	17	1
31	107	-------	-------		-------	72	-------	49	-------	18	1

NOTE.—No gage-height record and discharge estimated from hydrographic comparison with East Walker River near Bridgeport station Nov. 5 to Dec. 20, Dec. 26 to Feb. 1, Apr. 9–14, 16, 17, May 9, 10, June 29, July 1–23, Aug. 3, 30, and 31. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of East Walker River above Mason Valley, near Mason, Nev., for the year ending September 30, 1924

Month	Discharge in second feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	125	104	115	7,070
November	----------	----------	[a] 105	6,250
December	----------	----------	[a] 84.9	5,220
January	----------	----------	[a] 102	6,270
February	111	55	93	5,350
March	131	60	75.4	4,640
April	72	----------	54.4	3,240
May	64	42	51.5	3,170
June	47	9	22.0	1,310
July	52	----------	[a] 14.1	867
August	21	1	6.6	406
The period	----------	----------	----------	43,800

[a] Estimated.

WALKER RIVER NEAR WABUSKA, NEV.

LOCATION.—In NE. ¼ sec. 20, T. 15 N., R. 26 E., half a mile above boundary line of Walker River Indian Reservation and 5 miles east of Wabuska, Lyon County.

RECORDS AVAILABLE.—January 15, 1920, to September 30, 1924. Comparable records were obtained July 22, 1902, to July 31, 1908, at railroad bridge 3 miles upstream.

GAGE.—Stevens 8-day water-stage recorder on left bank; installed October 14, 1922; inspected by Mrs. A. E. Parker.

DISCHARGE MEASUREMENTS.—Made by wading or from cable 30 feet upstream.

CHANNEL AND CONTROL.—Banks fairly high and clean. Bed of stream composed of sand. At very high stages abandoned channel on right may carry small quantity of water around gage. At stages below about 20 second-feet the stream meanders through sandy bed in two or more channels at gage.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 290 second-feet October 1; minimum discharge, no flow in August and September.

1920–1924: Maximum stage recorded, 7.08 feet at 10 a. m. June 8, 1922 (discharge, 2,220 second-feet); no flow in August and September, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Below all diversions, except for Walker River Indian Reservation.

REGULATION.—Flow regulated by Bridgeport and Topaz Lake Reservoirs; also by diversions.

ACCURACY.—Stage-discharge relation changed radically for low stages and current-meter measurements are insufficient to define shift. Daily discharge not computed after December 22. Rating curve used October 1 to December 22 fairly well defined for range of stage used. Operation of water-stage recorder satisfactory during this period, except as indicated in footnote to daily-discharge table. Records October to December fair. Estimated monthly discharge January to July poor.

The following discharge measurements were made:

October 14, 1923: Gage height, 4.26 feet; discharge, 222 second-feet.

April 16, 1924: Gage height, 3.56 feet; discharge, 13.6 second-feet.[4]

June 18, 1924: Gage height, 3.30 feet; discharge, 3.3 second-feet.[4]

[4] Stream in three channels at gage.

Daily discharge, in second-feet, of Walker River near Wabuska, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1	290	162		11	228	164	145	21	228	152	126
2	280	160		12	226	172	150	22		150	118
3	269	164	145	13	224	170	160	23		145	
4	266	162		14	222	164	177	24		154	
5	256		139	15	219	164	132	25	219	160	
6	244		141	16	219	162	134	26		160	120
7	225	160	139	17	222	164	134	27		160	
8	219		139	18	222	162	132	28	210	157	
9	225		143	19	225	160	137	29	204	152	
10	231		148	20	237	156	139	30	188	150	
								31	174	------	

NOTE.—No gage-height record Oct. 1, 2, 12, 13, 22–27, Nov. 5–10, 20, 30, Dec. 1–4, and 11–13; stage discharge relation affected by ice Dec. 23–31; discharge for these periods estimated by comparison with flow at other stations in Walker River Basin. No daily discharge computed January to July. No flow in August and September. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Walker River near Wabuska, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	290	174	228	14,000
November	172	145	160	9,520
December			135	8,300
January			[a] 125	7,690
February			[a] 150	8,630
March			[a] 50	3,070
April			[b] 10	595
May			[b] 6	369
June			[b] 5	298
July			[b] 2	123
August			0	0
September			0	0
The year	290	0		52,600

[a] Estimated by comparison with flow at other Walker River Basin stations.
[b] Estimated from current-meter measurements and fragmentary gage-height records.

WALKER RIVER AT SCHURZ, NEV.

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

DRAINAGE AREA.—2,850 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 2, 1913, to September 30, 1924.

GAGE.—Inclined staff gage on right bank 50 feet below Southern Pacific Railroad bridge; read by Irving Clark.

DISCHARGE MEASUREMENTS.—Made by wading or from flume half a mile below gage.

CHANNEL AND CONTROL.—Bed composed of loose sand; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 2.75 feet at 5.25 a. m. October 1 (discharge, 301 second-feet); river dry July 1 to September 30.

1913–1924: Maximum stage recorded, 11.0 feet June 8 and 9, 1914 (discharge, 2,530 second-feet); no flow during periods in 1913, 1920, 1921, 1922, and 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Below all diversions.

REGULATION.—Flow affected by Bridgeport and Topaz Lake Reservoirs; also by irrigation diversions.

ACCURACY.—Stage-discharge relation not permanent. Rating curve poorly defined owing to insufficient number of measurements. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table using shifting-control method October 1 to April 15. Records poor.

The following discharge measurements were made:
October 14, 1923: Gage height, 2.36 feet; discharge, 208 second-feet.
April 16, 1924: Gage height, 0.86 foot; discharge, 1.41 second-feet.
June 18, 1924: Gage height, 0.75 foot; discharge estimated, 0.5 second-foot.

Daily discharge, in second-feet, of Walker River at Schurz, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	293	151	126	110	176	57	15	3	
2	282	142	142	105	182	63	17	2	
3	262	143	142	78	182	64	15	2	
4	251	148	134	79	178	98	12	5	
5	244	148	132	83	184	90	12	4	1
6	244	145	137	111	198	77	12	7	
7	239	140	138	131	198	85	9	4	
8	222	138	140	132	198	84	7	2	
9	207	137	137	125	194	88	3	2	
10	200	138	124	137	174	103	6	1	
11	207	169	72	145	174	83	4	1	
12	196	184	105	145	161	59	5	1	
13	200	174	124	132	151	54	6	1	
14	202	167	161	128	140	57	5	2	
15	217	158	136	119	136	63	3	10	
16	217	153	145	126	131	57	1	6	
17	213	151	132	130	134	48	1	5	
18	215	148	130	134	136	36	6	2	
19	215	145	165	128	134	40	7		
20	222	145	156	134	128	34	3		
21	226	143	132	126	125	29	1		.5
22	222	142	98	121	117	14	2		
23	204	143	84	115	122	11	2		
24	202	142	69	121	104	14	2		
25	194	138	98	124	98	13	2	1	
26	190	142	134	125	92	14	2		
27	188	140	101	130	89	17	4		
28	190	138	115	137	57	15	1		
29	192	138	132	156	51	11	2		
30	180	136	124	174	-------	14	2		
31	167	-------	107	174	-------	10	-------		-------

NOTE.—Braced figures show mean discharge for periods indicated. No flow July 1 to Sept. 30.

Monthly discharge of Walker River at Schurz, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	293	167	216	13,300
November	184	136	148	8,810
December	165	69	125	7,690
January	174	78	126	7,750
February	198	51	143	8,220
March	103	10	48.5	2,980
April	17	1	5.6	333
May	10	----------	2.4	148
June	----------	----------	.7	42
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
The year	293	0	67.8	49,300

WEST WALKER RIVER NEAR COLEVILLE, CALIF.

LOCATION.—In SE. ¼ NE. ¼ sec. 28, T. 8 N., R. 23 E., at mouth of Ross Canyon, at head of Antelope Valley, 400 feet east of State highway, 1,100 feet above Terry Canal heading, 1.4 miles above Terry ranch house, 5 miles southeast of Coleville, Mono County, and 40 miles southeast of Gardnerville, Nev.

DRAINAGE AREA.—245 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 18, 1915, to September 30, 1924, at present site; October 5, 1902, to July 31, 1908, at a site half a mile upstream.

GAGE.—Stevens continuous water-stage recorder on left bank, installed May 5, 1922; inspected by T. F. Hardy.

DISCHARGE MEASUREMENTS.—Made from cable 1,000 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of large boulders, sand, and gravel; fairly permanent. Control composed of large boulders and some loose gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage, 3.92 feet at midnight May 9 (discharge, 856 second-feet); minimum stage, 1.35 feet for several days during July, August, and September (discharge, 14 second-feet).

1915–1924: Maximum stage recorded, 5.74 feet at 3 a. m. June 12, 1921 (discharge, 2,710 second-feet); minimum discharge, 14 second-feet March 2, 1916, and for several days during July, August, and September, 1924.

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—Station is above all diversions, except one small canal 1½ miles upstream which diverts a maximum of 3 second-feet.

REGULATION.—A small reservoir at Poor Lake, 17 miles upstream, capacity unknown, stores water from spring floods and releases it in summer. Regulation is very slight.

ACCURACY.—Stage-discharge relation changed during October; affected by clogged intake October 16 to November 17 and by ice January 2–5 and 14–19. Rating curves well defined. Water-stage recorder operated satisfactorily, except as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for estimated periods for which they are fair.

Discharge measurements of West Walker River near Coleville, Calif., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 13	1.97	110	June 17	1.93	82.8	July 2	1.69	42.7
Jan. 21	1.80	60.2	June 19	1.88	69.7	July 5	1.66	40.6
Apr. 13	2.51	199	June 25	1.77	57.5	July 12	1.53	27.9
June 7	2.32	152	June 29	1.73	48.3	Sept. 26	1.42	17.5
June 14	2.06	94.8						

NOTE.—All except the first three measurements were made at Criss Flats, 9 miles above gage.

Daily discharge, in second-feet, of West Walker River near Coleville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113		40	41	52	48	50	472	203	45	16	14
2	120		30		48	49	53	577	217	46	16	14
3	122		44	45	41	43	58	582	231	49	16	14
4	115		41		46	50	53	496	219	45	16	14
5	108		45		46	40	48	359	189	42	18	14
6	102		55	48	46	48	58	375	192	38	16	14
7	108		53	44	52	48	73	496	144	36	16	14
8	104		44	45	53	42	94	582	127	35	16	14
9	99		37	44	52	45	106	711	119	32	16	14
10	99	55	30	43	41	48	121	711	110	31	25	15
11	106		64	44	38	48	155	675	106	30	30	15
12	110		55	42	46	43	179	571	103	29	29	14
13	110		53	42	49	46	217	371	103	28	23	14
14	106		53		50	48	217	399	99	26	19	15
15	102		48		49	49	155	554	92	25	17	17
16			44	42	46	40	123	640	85	24	14	20
17			43		48	46	123	699	80	23	14	19
18		58	49		46	46	129	657	76	23	15	18
19		62	46		48	48	162	616	73	22	16	17
20		61	44	41	49	50	200	527	67	22	16	16
21		57	34	40	48	48	228	477	61	21	16	18
22		55	31	38	42	48	281	434	62	20	16	18
23		61	42	36	48	46	290	367	62	16	20	16
24	75	62	50	36	41	48	225	367	61	14	19	16
25		55	48	37	45	49	189	340	58	14	17	17
26		52	38	38	48	53	184	329	54	15	16	19
27		41	30	41	46	53	187	281	52	16	15	19
28		45	61	42	48	46	171	243	49	18	14	19
29		57	52	38	48	46	234	243	48	17	14	18
30		48	36	41	-------	46	344	203	48	16	14	18
31		-------	41	45	-------	52	-------	200	-------	16	14	-------

NOTE.—Intake clogged; discharge estimated Oct. 16 to Nov. 17. Gage heights affected by ice; discharge interpolated Jan. 2–5 and 14–19. No gage heights; discharge interpolated July 10, 11, 26, and 27. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of West Walker River near Coleville, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	122	----------	90.8	5,580
November	----------	----------	55.0	3,270
December	64	30	44.5	2,740
January	----------	----------	41.9	2,580
February	53	38	46.9	2,700
March	53	40	47.1	2,900
April	344	48	157	9,340
May	711	200	469	28,800
June	231	48	106	6,310
July	49	14	26.9	1,650
August	30	14	17.4	1,070
September	20	14	16.1	958
The year	711	14	93.6	67,900

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

LOCATION.—In SE. ¼ sec. 17, T. 10 N., R. 23 E., at Hoye Bridge, in Douglas County, 2 miles above head of Saroni Canal and 4 miles southwest of Wellington, Lyon County.

DRAINAGE AREA.—504 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 26 to August 31, 1910; March 9 to September 30, 1924. Record obtained 3¼ miles below in sec. 10, T. 10 N., R. 23 E., December 20, 1917, to May 11, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by employees of Walker River Irrigation District.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Banks not subject to overflow. Rock control at bridge fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage for period of record in 1924, 5.77 feet at 2 p. m. May 11 (discharge, 666 second-feet); minimum stage, 2.61 feet at 7 p. m. March 10 (discharge, 14 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Station is below all diversions and return water in Antelope Valley and above all diversions in Smith Valley.

REGULATION.—Flow partly regulated by Poor Lake and Topaz Lake Reservoirs; also by diversions in Antelope Valley.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory, except as noted in footnote to daily-discharge table. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of West Walker River at Hoye Bridge, near Wellington, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 5	2.73	22.0	May 18	5.61	622	July 29	3.15	64.6
Apr. 14	3.59	143	June 19	3.27	83.1	Aug. 7	2.97	43.0
Apr. 16	3.37	104	June 26	2.70	20.6	Aug. 20	2.82	25.3
Apr. 20	3.60	148	July 23	3.30	87.0	Sept. 27	2.68	17.8
May 9	4.94	442						

Daily discharge, in second-feet, of West Walker River at Hoye Bridge, near Wellington, Nev., for the year ending September 30, 1924

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		22	375	310	19	53	
2		19	394	314	127	49	
3		16	413	267	252	49	
4		20	458	245	250	49	
5		26	382	234	226	47	
6		21	389	224	213	46	
7		20	423	256	182	44	
8		19	428	283	159	41	
9	16	16	426	270	145	40	
10	15	20	463	261	131	39	20
11	15	37	639	254	151	38	
12	19	87	596	220	131	37	
13	19	113	545	188	111	35	
14	16	155	566	180	103	36	
15	15	151	532	173	100	36	
16	19	102	582	151	94	35	
17	18	94	615	121	96	34	
18	21	143	598	100	109	32	
19	23	141	577	86	100	30	19
20	24	141	558	78	94	29	19
21	20	163	569	76	87	29	19
22	19	178	580	47	84	29	19
23	23	205	571	23	83	29	19
24	23	234	548	21	78	28	19
25	22	175	519	19	76	26	19
26	22	155	468	19	73	25	19
27	32	139	456	19	72	24	19
28	42	188	426	18	67	22	19
29	34	190	394	18	65	22	19
30	28	217	349	18	61	22	19
31	27	------	317	------	57	22	------

NOTE.—No gage height record July 30 to Aug. 1 and Sept. 1–18; discharge estimated. Braced figures show estimated mean discharge for period indicated.

Monthly discharge of West Walker River at Hoye Bridge, near Wellington, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 9–31	42	15	22.3	1,020
April	234	16	107	6,370
May	639	317	489	30,100
June	314	18	150	8,930
July	252	19	116	7,130
August	53	22	34.7	2,130
September			19.6	1,170
The period				56,800

WEST WALKER RIVER NEAR WELLINGTON, NEV.

LOCATION.—In sec. 10, T. 10 N., R. 23 E., in canyon between Antelope and Smith Valleys, in Douglas County, three-quarters of a mile above Lyon County line, a quarter of a mile above Plymouth Canal on right and Colony or Simpson Canal on left, 1 mile below head of Saroni Canal and 1 mile above Wellington, Lyon County.

DRAINAGE AREA.—521 square miles (measured on topographic maps).

RECORDS AVAILABLE.—December 20, 1917, to May 11, 1924, when station was discontinued. Station maintained at Hoye Bridge April 26 to August 31, 1910, and March 9 to September 30, 1924.

GAGE.—Stevens 8-day water-stage recorder on right bank; inspected by J. W. Pierce.

DISCHARGE MEASUREMENTS.—Made by wading near gage or from Hoye Bridge about 2 miles upstream.

CHANNEL AND CONTROL.—One channel at all stages. Banks not subject to overflow. Stream bed composed of boulders and gravel.

EXTREMES OF DISCHARGE.—1918–1924: Maximum stage, 5.32 feet at 5 a. m. on June 6, 1922 (discharge, 2,110 second-feet); minimum stage not recorded but was probably less than 10 second-feet late in January, 1922.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Station is below all diversions and return water in Antelope Valley and above all diversions in Smith Valley, except Saroni Canal.

REGULATION.—Flow partly regulated by Poor Lake and Topaz Lake Reservoirs.

ACCURACY.—Stage-discharge relation permanent for period; affected by ice January 19. Rating curve well defined. Operation of water-stage recorder satisfactory during intermittent periods covering about one-fourth of the year; supplemented by weekly readings. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph or weekly staff gage readings. Discharge estimated for periods of no gage-height record, and when ice affected, by hydrographic comparison of other Walker River stations, and climatological data. Records fair.

The following discharge measurements were made:

October 13, 1923: Gage height, 1.50 feet; discharge, 113 second-feet.

April 14, 1924: Gage height, 1.59 feet; discharge, 131 second-feet.

Daily discharge, in second-feet, of West Walker River near Wellington, Nev., for the period October 1, 1923, to May 11, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1	220	24	18		32	16		
2	184	24	19		32	16		390
3	208	20		20	28		20	
4	208	20			28			410
5	195		15		28	16		
6	162			16	28		13	
7	132	23			28			400
8	123				28			
9			10		32	16		
10	110			18	42		30	
11		28			37			640
12		28	14		32	16		
13	114	24		20	28		98	
14	114	24			28		130	
15	114	20			28			
16	106	20	17		28	16	120	
17		20						
18		20						
19		20						
20		20	16	18	22	20	123	
21		20						
22	85	16						
23		16	16			20		
24		16			16		160	
25		16						
26		16	16			30		
27		16		16	16		123	
28	32	16		16				
29	28	17		24			200	
30	24	18	16	24		32		
31	24		16	28		30		

NOTE.—Braced figures show estimated mean discharges for periods indicated.

Monthly discharge of West Walker River near Wellington, Nev., for the period October 1, 1923, to May 11, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	220	24	108	6,640
November	28	16	20.6	1,230
December			15.4	947
January			18.9	1,160
February			25.4	1,460
March			20.6	1,270
April			97.6	5,810
May 1–11			420	9,160
The period				27,700

WEST WALKER RIVER NEAR HUDSON, NEV.

LOCATION.—In SE. ¼ sec. 13, T. 11 N., R. 24 E., half a mile above highway bridge at upper end of Wilson Canyon, 3 miles southeast of Hudson, Lyon County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 7, 1921, to September 30, 1924. Records for West Walker River at Hudson August 3, 1914, to September 30, 1921.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by Walker River Irrigation District.

DISCHARGE MEASUREMENTS.—Made by wading near gage or from bridge, half a mile below gage.

CHANNEL AND CONTROL.—Channel fairly straight. Bed of sand and fine gravel with few rocks. Control is rock riffle 200 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.33 feet at 11 p. m. May 11 (discharge, 528 second-feet); minimum stage, 0.88 foot September 27–30 (discharge, 14 second-feet).

1921–1924: Maximum stage, 6.35 feet at noon June 7, 1922 (discharge, 3,530 second-feet); minimum stage, 0.88 foot September 27–30, 1924 (discharge, 14 second-feet).

ICE.—Stage-discharge relation usually affected by ice.

DIVERSIONS.—Below all diversions in Smith Valley. Six canals divert between gage and mouth of river with total capacity of 100 second-feet.

REGULATION.—By Topaz Lake and Poor Lake Reservoirs and irrigation.

ACCURACY.—Stage-discharge relation varied between narrow limits. Standard rating curve fairly well defined up to 400 second-feet; extended above. Water-stage recorder operated successfully, except as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height, using shifting-control method. Records fair.

COOPERATION.—Gage-height record and five discharge measurements furnished by Walker River Irrigation District.

Discharge measurements of West Walker River near Hudson, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 13	1.95	144	Apr. 15	2.11	145	June 18	1.36	66.3
Mar. 5	1.27	31.5	Apr. 19	1.82	109	Sept. 27	.88	14.3
Apr. 14	1.97	120	May 2	2.73	324			

Daily discharge, in second-feet, of West Walker River near Hudson, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	287	43	31	30	34	31	31	246	151	30	40	23
2	262	44	31	30	35	30	31	350	146	28	38	23
3	241	44	30	39	37	31	30	309	128	47	38	22
4	259	43	28	46	42	31	31	365	97	128	37	22
5	238	40	28	47	43	31	31	312	81	120	37	22
6	228	39	32	31	46	}	30	223	74	108	37	22
7	175	39	30	31	48		30	312	76	88	37	22
8	161	39	30	27	44		29	318	124	74	34	22
9	157	39	30	26	62		28	321	175	64	34	}
10	153	46	30	27	59	} 30	28	292	161	54	34	
11	146	53	30	27	47		28	459	161	48	34	
12	144	42	31	25	46		31	470	161	58	33	
13	149	39	32	25	42		93	362	142	48	33	
14	144	39	29	25	43	}	116	321	116	59	32	
15	140	37	29	26	38	30	140	289	106	42	32	
16	138	34	30	25	39	32	101	298	112	38	31	
17	138	34	30	24	38	34	70	353	99	35	29	}
18	144	35	30	24	35	32	81	353	70	38	28	18
19	149	35	31	23	34	31	110	332	46	53	28	
20	140	37	31	24	34	31	105	298	38	53	28	
21	136	38	31	25	35	33	108	306	35	42	28	
22	134	34	31	26	35	34	124	318	40	35	27	
23	118	31	30	27	33	34	138	347	34	70	27	
24	112	31	30	28	32	34	177	335	33	99	27	
25	114	32	29	34	32	34	155	321	33	39	26	
26	114	32	29	34	31	33	106	251	32	38	25	}
27	116	32	25	34	31	32	106	246	32	38	24	14
28	90	32	25	34	31	31	97	233	31	39	24	14
29	59	33	26	29	31	30	126	228	30	39	24	14
30	46	31	31	29	-------	29	128	186	29	39	23	14
31	42	-------	31	30	-------	30	-------	155	-------	38	23	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated when there was no gage-height record.

Monthly discharge of West Walker River near Hudson, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	287	42	151	9,280
November	53	31	37.6	2,240
December	32	25	29.7	1,830
January	47	23	29.4	1,810
February	62	31	39.2	2,250
March	34	29	31.2	1,920
April	177	28	81.3	4,840
May	470	155	307	18,900
June	175	29	86.4	5,140
July	128	28	55.8	3,430
August	40	23	30.7	1,890
September	23	14	18.6	1,110
The year	470	14	75.2	54,600

HUMBOLDT-CARSON SINK DRAINAGE BASIN

CARSON RIVER BASIN

EAST FORK OF CARSON RIVER NEAR MARKLEEVILLE, CALIF.

LOCATION.—In NE. ¼ sec. 27, T. 10 N., R. 20 E., at Hangman's Bridge 2 miles east of Markleeville, Alpine County. Indian Creek enters 100 feet above gage and Markleeville Creek 1¼ miles below.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 13, 1910, to September 30, 1924 (not complete).

GAGE.—Vertical staff, 75 feet below bridge, bolted to rock ledge on right bank; read by W. J. Clark.

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

CHANNEL AND CONTROL.—Gravel and small boulders; appear permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.88 feet June 19 (discharge, 96 second-feet); minimum stage, 2 feet September 6 and 8 (discharge, 20 second-feet).

1910–1924: Maximum stage recorded, 7.7 feet June 7, 1911 (discharge not determined); minimum stage, 1.45 feet September 20, 1913 (discharge, 6 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—No information.

REGULATION.—Low-water flow augmented by storage developed on Silver Creek above station.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Staff gage read to hundredths occasionally except during the winter when no observer is at station. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

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

The following discharge measurement was made:

June 22, 1924: Gage height, 2.80 feet; discharge, 69 second-feet.

Daily discharge, in second-feet, of East Fork of Carson River near Markleeville, Calif., for the year ending September 30, 1924

Date	Discharge	Date	Discharge	Date	Discharge
June 16	78	June 25	72	Sept. 6	20
June 19	96	June 30	60	Sept. 8	20
June 21	78	July 21	28	Sept. 17	26
June 22	85	Aug. 18	24	Sept. 27	28
June 23	70				

CARSON RIVER NEAR FORT CHURCHILL NEV.

LOCATION.—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, Lyon County, and 10 miles below Dayton.

DRAINAGE AREA.—1,200 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 13, 1911, to September 30, 1924.

GAGE.—Inclined staff on right bank with vertical extension for high water. Gurley water-stage recorder installed on left bank about a quarter of a mile above inclined staff gage April 25, 1924.

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

CHANNEL AND CONTROL.—Bed composed of sand and gravel; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum mean daily stage during year, 3.32 feet May 11 and 12 (discharge, 390 second-feet); no flow June 28 to September 30.

1911–1924: Maximum stage, 11.5 feet January 26, 1914 (discharge, 6,150 second-feet); no flow August 27 to September 30, 1923, June 28 to September 30, 1924.

ICE.—No information.

DIVERSIONS.—Carson and Dayton Valleys are irrigated above station.

REGULATION.—Flow affected by diversions.

COOPERATION.—Discharge measurements and records of daily discharge furnished by United States Bureau of Reclamation.

Discharge measurements of Carson River near Fort Churchill, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Feb. 19	[a]4.75	160	Apr. 13	2.19	123	Apr. 30	2.05	99.9
Mar. 3	[a]4.67	138	Apr. 15	2.03	99.4	May 23	2.38	153
Mar. 5	2.22	140	Apr. 25	2.64	221	June 10	1.46	169

[a] Referred to inclined staff gage.

Daily discharge, in second-feet, of Carson River near Fort Churchill, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June
1	0	196	360				141	33
2	0	196	360				202	30
3	0	196	360		138	123	260	23
4	0	196	360				325	20
5	0	196	360		140		330	19
6	0	196	360				285	19
7	0	196	360				251	19
8	0	196	360				253	18
9	0	196	360				278	16
10	0	222	360				329	14
11	0	222	360				390	11
12	0	248	360				390	10
13	0	248	360				383	8
14	0	248	360				333	7
15	0	248	360			99	288	6
16	0	248	360				253	10
17	0	276	360				257	4
18	9	276	360				273	4
19	22	276	360	160			270	6
20	37	304	360				240	6

Daily discharge, in second-feet, of Carson River near Fort Churchill, Nev., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June
21	53	332	360				209	6
22	53	332	360				175	4
23	53	360	360				173	2
24	53	360	360				143	3
25	53	360	360			221	120	3
26	53	360	360			190	91	5
27	53	360	360			175	73	2
28	53	360	360			148	66	0
29	53	360	360			139	58	0
30	107	360	360			101	57	0
31	150		360				39	

NOTE.—Practically no flow from June 28 to Sept. 30.

Monthly discharge of Carson River near Fort Churchill, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	150	0	25.9	1,590
November	360	196	271	16,100
December	360	360	360	22,100
January			[a] 195	12,000
February			[a] 155	8,920
March			[a] 135	8,300
April			[a] 130	7,740
May	390	39	224	13,800
June	33	0	103	613
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
The year	390	0	126	91,200

[a] Estimated.

MARKLEEVILLE CREEK[5] ABOVE MARKLEEVILLE, CALIF.

LOCATION.—At highway bridge above mouth of Pleasant Valley Creek, three-fourths of a mile above Markleeville, Alpine County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 7, 1911, to September 30, 1924 (fragmentary).

GAGE.—Vertical staff in two sections on left abutment of bridge; read by W. J. Clark. Datum of gage was raised 5.71 feet August 18, 1914.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 0.85 foot November 17 (discharge, 5 second-feet); minimum stage recorded, less than 0.5 foot July 27 to September 30 (discharge, less than 1.3 second-feet).

1911–1924: Maximum stage recorded, 3.65 feet at 4.30 p. m. June 15, 1917 (discharge, 602 second-feet); minimum stage recorded, 0.45 foot September 5, 1921 (discharge, 0.05 second-foot).

ICE.—No record obtained during winter.

DIVERSIONS.—Town ditch, which heads above the gage, furnishes water for irrigation and domestic supply at Markleeville. A small ditch also diverts water for irrigation on Hot Springs ranch.

REGULATION.—No information.

[5] Known locally as Hot Springs Creek.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined. Staff gage read to hundredths occasionally except during winter when no observer was available. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

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

The following discharge measurement was made:
June 22, 1924: Gage height, 0.52 foot; discharge, 1.3 second-feet.

Daily discharge, in second-feet, of Markleeville Creek above Markleeville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	June	July	Day	Oct.	Nov.	June	July
1				1.6	16		4.5		
2					17		5	1.4	1.3
3					18				1.3
4	2.0				19				1.3
5					20				
6				1.6	21				
7				1.6	22			1.4	
8					23	3.0			
9					24	3.0			
10					25				
11					26				
12					27				
13					28				
14		3.8			29	3.0			
15		3.8		1.3	30	3.0		1.6	
					31				

NOTE.—Water was below gage July 27 to Sept. 30; discharge less than 1.3 second-feet.

MARKLEEVILLE CREEK AT MARKLEEVILLE, CALIF.

LOCATION.—In SE. ¼ sec. 21, T. 10 N., R. 20 E., at highway bridge at Markleeville, Alpine County, three-fourths of a mile below junction with Pleasant Valley Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 11, 1910, to September 30, 1924 (fragmentary).

GAGE.—Vertical staff on left abutment of highway bridge near downstream end; read by W. J. Clark.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Gravel and boulders; somewhat shifting during high water. Banks are high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.3 feet October 23 (discharge, 19 second-feet); minimum stage recorded, below 0.7 foot August 1 to September 30 (discharge, less than 3.2 second-feet).

1910–1924: Maximum stage recorded, 5.3 feet June 15, 1912 (discharge, 915 second-feet); minimum stage recorded, 0.65 foot September 6, 1920 (discharge, 2.0 second-feet). Flood of March, 1907, reached a stage of about 9 feet.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—See Markleeville Creek near Markleeville. Water is also diverted from Pleasant Valley Creek for irrigation.

REGULATION.—Diversions partly regulate flow. Some storage has been developed on Pleasant Valley Creek.

ACCURACY.—Stage-discharge relation apparently permanent during year. Rating curve fairly well defined. Staff gage read to hundredths occasionally except during winter when no observer is available. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

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

The following discharge measurement was made:
June 22, 1924: Gage height, 0.76 foot; discharge, 3.7 second-feet.

Daily discharge, in second-feet, of Markleeville Creek at Markleeville, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	June	July	Day	Oct.	Nov.	June	July
1					16		12		
2					17		12	4.5	
3					18				7
4	12				19			3.2	
5					20				
6					21			6.5	
7					22			4.0	
8					23	19		4.2	
9					24	15			
10					25			3.2	7
11					26				
12				13	27				
13					28				
14		6			29				
15		12			30	12		3.8	
					31				

NOTE.—Water below gage July 27 to Sept. 30; discharge less than 3.2 second-feet.

HUMBOLDT RIVER BASIN

HUMBOLDT RIVER AT PALISADE, NEV.

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

DRAINAGE AREA.—5,010 square miles (measured on Land Office maps).

RECORDS AVAILABLE.—November 27, 1920, to October 19, 1906; July 26, 1911, to September 30, 1924.

GAGE.—Chain gage at highway bridge since December 1, 1911; read daily by Mrs. Wendell Jones.

DISCHARGE MEASUREMENTS.—Made from railroad bridge half a mile below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. Control at low stages is gravel bar 50 to 75 feet below gage; at high stages a pile bent railroad bridge about 300 feet below gage and rock riffle a few hundred feet farther downstream become effective; both fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.65 feet April 18 (discharge, 537 second-feet); minimum stage, 1.09 feet August 24, 29, and 31 (discharge, 9 second-feet).

1903–1906; 1911–1924: Maximum stage recorded, 8.6 feet at 10 a. m. March 3, 1921 (discharge, 4,300 second-feet); minimum stage, 0.86 foot August 25 to September 18, 1919 (discharge, 9 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSION.—Some water diverted for irrigation in valley above canyon.

REGULATION.—Flow affected by irrigation diversions above.

ACCURACY.—Stage-discharge relation changed March 14–19 while bridge was being repaired. Rating curves well defined. Gage read to hundredths once daily, except December 11–14, December 28 to February 1, and March 14–19. Daily discharge ascertained by applying daily gage height to rating table. Discharge estimated for days when gage heights were not recorded. Records good except for estimated periods for which they are fair.

Discharge measurements of Humboldt River at Palisade, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 4	2.01	88.0	Apr. 21	3.55	460
Mar. 20	2.97	263	June 23	1.74	43.9

Daily discharge, in second-feet, of Humboldt River at Palisade, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	133	121		105	303	312	298	276	23	11	9
2	76	133	118		106	297	332	249	241	22	11	10
3	80	143	150		105	310	346	249	214	20	12	10
4	84	143	146		107	303	354	255	184	20	11	11
5	86	143	91		115	310	361	285	179	20	11	12
6	88	139	113		136	310	369	267	170	21	11	12
7	91	143	161		161	324	384	249	156	19	10	11
8	95	146	173		234	310	400	238	148	19	11	11
9	97	146	169		303	310	424	227	136	20	10	11
10	102	153	169		270	303	449	211	111	19	10	10
11	110	153			283	303	466	216	104	19	11	11
12	118	157			270	297	474	238	98	19	10	10
13	107	153	140		264	290	492	261	92	18	10	11
14	97	157			310		510	273	83	17	11	10
15	115	157	130		317		510	279	70	17	10	10
16	113	161	130	85	339	280	519	305	66	16	9	11
17	121	157	118		361		528	377	59	17	11	11
18	133	153	127		368		537	377	55	16	10	10
19	127	153	130		368		519	400	45	15	9	10
20	121	150	107		361	273	501	501	45	14	10	11
21	121	150	102		383	285	492	510	44	13	9	10
22	124	150	86		376	285	483	501	44	11	9	11
23	130	157	84		368	279	474	474	44	13	9	11
24	139	161	95		361	285	441	432	42	14	9	10
25	136	161	102		346	279	408	432	38	15	9	11
26	139	161			339	273	392	424	32	15	10	11
27	146	157			339	279	377	416	25	13	9	11
28	143	161			324	292	361	400	24	12	9	12
29	146	150	100		310	305	326	377	24	11	9	13
30	139	133			-------	318	326	354	23	12	9	13
31	136	-------			-------	312	-------	298	-------	12	9	-------

NOTE.—Braced figures show estimated mean discharge for periods indicated, when there was no gage-height record.

Monthly discharge of Humboldt River at Palisade, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	146	74	114	7,010
November	161	133	150	8,930
December	173	84	122	7,500
January	----------	----------	[a] 85	5,230
February	376	105	277	15,900
March	324	----------	294	18,100
April	537	312	429	25,500
May	510	211	335	20,600
June	276	23	95.7	5,690
July	23	11	16.5	1,010
August	12	9	10.0	615
September	13	9	10.8	643
The year	537	9	161	117,000

[a] Estimated.

HUMBOLDT RIVER AT BATTLE MOUNTAIN, NEV.

LOCATION.—In SE. ¼ sec. 8, T. 32 N., R. 45 E., 700 feet below Licking Dam and 1 mile northeast of Battle Mountain, Lander County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 1, 1921, to April 19, 1924, when the station was discontinued.

GAGE.—Low and high water enamel vertical staff gages on right bank; installed March 2, 1921; read by William Licking.

DISCHARGE MEASUREMENTS.—Made from highway bridge 1,600 feet above gage or by wading.

CHANNEL AND CONTROL.—Channel crooked with several sloughs carrying water around gage at high water. Bed of gravel. Control is gravel riffle 300 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 4.67 feet at 4.45 p. m. February 20 (discharge, 511 second-feet); minimum stage, 0.93 foot October 1 (discharge, 37 second-feet).

1921–1924: Maximum discharge recorded, 1,560 second-feet June 19 and 20, 1921, and May 11–13, 1922. Minimum stage, 0.37 foot at 11.40 a. m., September 30, 1921 (discharge by meter measurement, 7 second-feet).

ICE.—Stage-discharge relation usually affected by ice.

DIVERSIONS.—Extensive diversions above and below gage.

REGULATION.—By irrigation, especially by Licking Dam.

ACCURACY.—Stage-discharge relation shifting; affected by ice during January. Standard rating curve well defined. Staff gage read to hundredths once or twice a day. Daily discharge ascertained by applying mean daily gage height to normal rating table using shifting-control method. Records fair.

The following discharge measurements were made:

October 6, 1923: Gage height, 1.17 feet; discharge, 53.6 second-feet.

April 5, 1924: Gage height, 3.12 feet; discharge, 291 second-feet.

May 1, 1924: Gage height, 1.24 feet; discharge, 55.8 second-feet.

Daily discharge, in second-feet, of Humboldt River at Battle Mountain, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1	37	127	165		143	385	
2	112	130	165		148	373	290
3	77	130	163		154	367	
4	62	127	158		159	362	
5	55	130	156		170	356	291
6	55	134	152		187	348	297
7	62	136	149		214	346	291
8	77	141	147	60	231	340	285
9	78	141	143		255	334	285
10	79	143	132		273	327	285
11	72	145	123		303	322	279
12	74	147	114		338	322	273
13	75	152	116		353	315	187
14	78	154	132		382	312	487
15	81	156	125		412	309	412
16	83	158	92		420	309	382
17	87	158	81		450	305	382
18	88	158	79		480	305	327
19	94	158	79		502	303	291
20	98	158	78	50	511	303	-------
21	100	156	79		502	300	-------
22	102	158	76		487	297	-------
23	104	160	78		464	297	-------
24	106	158	79		450	297	-------
25	110	158	81		427	293	-------

Daily discharge, in second-feet, of Humboldt River at Battle Mountain, Nev., for the year ending September 30, 1924—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
26	110	160	81		412	291	--------
27	114	160	78		406	286	--------
28	116	160	78	120	400	283	--------
29	119	163	78		397	279	--------
30	123	163	74		--------	283	--------
31	125	--------	72		--------	291	--------

NOTE.—Braced figures show estimated mean discharge for periods indicated. Stage-discharge relation affected by ice during January; no gage readings Apr. 1–4.

Monthly discharge of Humboldt River at Battle Mountain, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	125	37	88.8	5,460
November	163	127	149	8,870
December	165	72	110	6,760
January	----------	----------	68.4	4,210
February	511	143	346	19,900
March	385	279	317	19,500
April 1–19	487	187	311	11,700
The period	----------	----------	----------	76,400

HUMBOLDT RIVER NEAR LOVELOCK, NEV.

LOCATION.—In NW. ¼ sec. 11, T. 25 N., R. 31 E., 1,500 feet below dam and reservoir on Big 5 ranch, the lowest diversion for irrigation on Humboldt River, and 9 miles south of Lovelock, Pershing County.

DRAINAGE AREA.—14,200 square miles (measured on General Land Office maps).

RECORDS AVAILABLE.—February 7, 1912, to September 30, 1924, fragmentary.

GAGE.—Lietz water-stage recorder on right bank since October 10, 1921; inspected by H. F. Sommer.

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

CHANNEL AND CONTROL.—Bed is composed of firm clay. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year not recorded. River dry during greater part of year.

1912–1924: Maximum stage recorded, 5.90 feet May 29 and 30, 1922 (discharge, 1,700 second-feet); stream dry for periods in nearly every year.

ICE.—Seldom affected by ice.

DIVERSIONS.—Below all irrigation diversions.

REGULATION.—Flow regulated by irrigation diversions and storage.

ACCURACY.—Stage-discharge relation assumed permanent during year. Rating curve well defined. Water-stage recorder operated successfully, as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table, mean daily gage height determined from recorder graph, or staff-gage reading. Records fair.

Station was visited and river found dry October 10, 1923, and April 10, 1924.

Daily discharge, in second-feet, of Humboldt River near Lovelock, Nev., for the year ending September 30, 1924

Day	Feb.	Mar.	Day	Feb.	Mar.	Day	Feb.	Mar.
1		270	11			21	100	
2		246	12			22	98	
3		223	13			23	86	
4		223	14	100		24	119	
5		213	15			25	184	
6		155	16			26		
7		94	17	128		27	230	
8		76	18	96		28		
9		17	19	90		29		
10	12	8	20	90		30		
						31		

NOTE.—River dry Oct. 1 to Feb. 9 and Mar. 11 to Sept. 30. Braced figures show estimated mean discharge for periods indicated when recorder was not operating. No gage-height record Mar. 1; discharge estimated.

Monthly discharge of Humboldt River near Lovelock, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February		0	87.0	5,000
March	[a] 270	0	49.2	3,030
The year		0	11.1	8,030

[a] Estimated.

NOTE.—River dry every month except in February and March.

STARR CREEK NEAR DEETH, NEV.

LOCATION.—In NE. ¼ sec. 12, T. 36 N., R. 59 E., at highway bridge 2 miles above mouth and 3 miles southeast of Deeth, Elko County; below all large tributaries, except Boulder Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 4, 1913, to September 30, 1924, when station was discontinued.

GAGE.—Vertical enamel staff nailed to upstream pile of bridge bent near right bank; read by G. R. Weathers.

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

CHANNEL AND CONTROL.—Bed composed of small gravel. Control is gravel bar; shifts occasionally. One channel, except at extremely high stages, when part of the flow passes under an auxiliary bridge.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.65 feet at 4.50 p. m. May 19 (discharge, 99 second-feet); minimum stage, 0.95 foot a number of times in August and September (discharge, 2 second-feet).

1913–1924: Maximum stage recorded, 4.65 feet June 9, 1921 (discharge, 391 second-feet); minimum stage, 0.80 foot July 8 to August 7, 1919 (discharge, 0.5 second-foot).

ICE.—Stage-discharge relation generally affected by ice.

DIVERSIONS.—Station is below practically all diversions from Starr Creek.

REGULATION.—Some variation in daily flow at times caused by diversions for irrigation.

ACCURACY.—Stage-discharge relation permanent during year; affected by ice December 11, 31, and January 1–19. Rating curve well defined below 30 second-feet; extended above. Staff gage read to half-tenths three or four times a week during low water and daily during high water. Daily discharge ascertained by applying daily gage height to rating table. Discharge interpolated for days of no gage height, except during periods of ice effect when discharge was estimated from observer's notes and temperature records. Records fair.

Discharge measurements of Starr Creek near Deeth, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 23	1.21	9.9	June 24	1.16	7.2
Apr. 22	1.48	20.1	Sept. 30	.99	3.3

Daily discharge, in second-feet, of Starr Creek near Deeth, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	9	9		6	11	10	23	24	6	4	3
2	9	9	9		8	13	11	27	21	6	4	4
3	9	9	9		8	9	9	32	19	6	4	4
4	9	9	9		6	11	15	37	17	6	4	4
5	10	9	9		8	9	15	49	17	6	4	4
6	11	9	9		13	8	15	61	15	6	4	4
7	11	9	9		21	9	19	74	13	6	4	4
8	11	9	9		21	9	20	87	11	6	4	4
9	11	9	9		17	9	21	87	9	6	4	4
10	11	9	9	6	13	9	21	83	11	6	4	4
11	11	9	9		9	9	21	87	11	6	4	4
12	11	9	9		11	8	21	91	11	6	4	4
13	9	9	9		11	8	21	89	9	6	4	4
14	9	9	8		11	8	20	87	9	6	4	4
15	9	9	7		11	8	19	83	9	6	4	2
16	9	9	6		9	9	19	83	9	6	4	2
17	9	9	6		11	9	19	83	9	5	4	2
18	9	9	6		13	9	19	91	8	5	4	2
19	9	9	6		17	9	19	99	8	4	4	2
20	9	9	6	6	9	9	19	97	8	4	4	2
21	10	9	6	9	13	9	20	95	9	4	4	2
22	11	9	6	6	17	9	20	91	9	4	4	2
23	15	9	9	9	16	9	19	87	8	4	4	2
24	13	9	9	6	14	11	19	74	8	4	4	2
25	13	9	9	6	13	13	21	62	8	4	2	2
26	14	9	9	6	9	13	19	50	8	4	2	2
27	15	9	9	6	8	9	19	43	7	4	2	2
28	13	9	9	6	9	9	19	41	6	4	2	2
29	11	9	8	6	9	9	19	38	6	4	3	3
30	9	9	7	6	------	9	19	34	6	4	3	3
31	9	------	7	9	------	10	------	31	------	4	3	------

NOTE.—Braced figure shows estimated mean discharge for period indicated when there was ice effect.

Monthly discharge of Starr Creek near Deeth, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	15	9	10.6	652
November	9	9	9.0	536
December	9	6	8.1	498
January	9		6.3	387
February	21	6	11.8	679
March	13	8	9.5	584
April	21	9	18.2	1,080
May	99	23	67.6	4,160
June	24	6	10.8	643
July	6	4	5.1	314
August	4	2	3.6	221
September	4	2	3.0	179
The year	99	2	13.7	9,930

MARYS RIVER NEAR DEETH, NEV.

LOCATION.—In NW. ¼ sec. 31, T. 40 N., R. 60 E., at bridge 300 feet east of Mala Vista ranch house of Nevada Land & Livestock Co. and 19 miles north of Deeth, Elko County.

DRAINAGE AREA.—355 square miles (measured on map of Nevada issued by General Land Office, edition of 1908).

RECORDS AVAILABLE.—November 24, 1902, to July 14, 1903; January 17, 1912, to September 30, 1924.

GAGE.—Vertical staff on right bank since April 12, 1923, read by Herbert Clayton.

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

CHANNEL AND CONTROL.—Bed composed of gravel and loose sand; banks below gage subject to caving. Rock and gravel control 25 feet below gage, slightly shifting. Point of zero flow at gage height about 1.6 feet determined September 30, 1924.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.60 feet at 4.30 p. m. April 24 (discharge, 102 second-feet); practically no flow during part of August and September.

1912–1924: Maximum stage recorded, 7.70 feet at 2 p. m. May 8, 1922 (discharge, 616 second-feet); practically no flow part of January and February, 1922, August and September, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Station is below all diversions, except one small ditch on the Mala Vista ranch, and Cross ranch diversions about 12 miles below.

REGULATION.—During low-water periods flow is affected by diversions above.

ACCURACY.—Stage-discharge relation changed slightly during winter; returned to normal in May; affected by ice December 10 to February 9. Rating curves well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table, using shifting-control method April 1 to May 23. Records fair.

Discharge measurements of Marys River near Deeth, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 22	2.50	20.6	June 24	2.23	5.0
Apr. 22	3.35	80.1	Sept. 30	1.88	0.8

Daily discharge, in second-feet, of Marys River near Deeth, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	10	11			26	25	60	14	4	1	
2	7	10	10			24	26	66	12	4	1	
3	8	11	10			24	26	77	12	3	1	
4	8	10	11			24	25	89	11	1	1	
5	8	11	13		15	22	26	98	10	1	1	
6	9	11	14			22	26	88	10	3	1	
7	10	11	10			22	29	81	10	4	1	
8	10	11	7			20	30	76	10	4	1	
9	10	10	7			20	37	71	10	3	1	
10	11	10			16	20	52	74	10	3	1	
11	12	10			16	20	67	77	10	3	1	0
12	13	10			30	22	85	76	10	3	1	
13	14	10			31	20	76	81	10	2	1	
14	14	10			26	20	67	80	10	2	1	
15	14	10			24	20	64	76	9	2	1	
16	14	10		10	24	20	60	70	9	2	1	
17	14	10			24	20	56	66	9	2		
18	12	10			29	20	56	56	8	2		
19	12	10			33	20	58	50	7	2		
20	12	10	7		38	20	60	48	6	2		
21	12	10			40	20	74	46	6	2		
22	11	11			38	20	81	42	5	2		
23	11	11			37	20	95	29	5	2		1
24	10	11			38	22	102	26	5	1	0	1
25	10	11			37	22	83	21	4	1		1
26	10	10			34	22	75	20	4	1		1
27	11	11			31	24	69	20	3	1		1
28	11	11			28	24	65	19	3	1		1
29	11	10			26	24	60	18	3	1		1
30	11	10			-------	26	57	16	3	1		1
31	10	-------			-------	26	-------	15	-------	1		-------

NOTE.—Braced figures show estimated mean discharge for periods when stage-discharge relation was affected by ice, except Aug. 17 to Sept. 22 when there was practically no flow.

Monthly discharge of Marys River near Deeth, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	14	7	10.9	670
November	11	10	10.4	619
December	14	----------	[a] 8.0	492
January	----------	----------	[a] 10	615
February	40	----------	25.3	1,460
March	26	20	21.8	1,340
April	102	25	57.1	3,400
May	98	15	55.9	3,440
June	14	3	7.9	470
July	4	1	2.1	129
August	1	0	.5	31
September	1	0	.3	18
The year	102	0	17.5	12,700

[a] Estimated.

SECRET CREEK NEAR HALLECK, NEV.

LOCATION.—In NE. ¼ NW. ¼ sec. 1, T. 34 N., R. 59 E., at Ryan's ranch 500 feet from Secret Pass highway, half a mile below mouth of Doisey Creek, 12 miles above confluence with Lamoille Creek, and 15 miles southeast of Halleck, Elko County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 28, 1917, to September 30, 1924, when station was discontinued.

GAGE.—Vertical staff on right bank, 75 feet below lower fence on Ryan's ranch; read by J. M. Ryan and R. H. White.

CHANNEL AND CONTROL.—Bed composed of sand and gravel; one channel, except at extremely high stages when water runs through shallow overflow channel on right bank. Control is coarse gravel bar; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.6 feet at 6 p. m. April 7 (discharge, 122 second-feet); minimum discharge, probably less than 1 second-foot during part of September.

1917–1924: Maximum stage recorded, 3.65 feet at 5 a. m. April 23, 1921 (discharge, 375 second-feet); minimum stage, probably no flow during August and September, 1919.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Station is below Secret Valley and Ryan's ranch diversions; the "71" ranch diverts water 4 to 6 miles below.

REGULATION.—Flow affected by irrigation diversions above.

ACCURACY.—Stage-discharge relation assumed permanent during year; affected by ice for short periods in December and January. Rating curve fairly well defined. Gage read to hundredths once or twice a day during high water and four or five times a week during low water. Daily discharge ascertained by applying mean daily gage height to rating table and interpolating or estimating for days or periods of no gage heights. Records good, estimated periods fair.

Discharge measurements of Secret Creek near Halleck, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 23	0.62	7.1	June 24	0.44	2.0
Apr. 23	1.10	47.4	Sept. 30	.40	1.3

Daily discharge, in second-feet, of Secret Creek near Halleck, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3	4	4	4	4	10	15	40	16	3		
2	3	4	4	4	4	13	20	45	12	3		
3	4	4	4	4	4	9	30	40	12	3		
4	4	4	4	4	4	9	21	29	11	3		
5	4	4	4	4	4	8	60	29	10	4		
6	5	4	4	5	5	10	60	29	9	3		
7	6	4	4	5	10	9	90	30	6	3		
8	5	5	4	5	10	6	90	31	7			
9	6	6	4	5	12	9	60	32	7			
10	6	6	4	4	10	10	54	33	6			
11	5	7	4	4	15	6	35	39	6			
12	5	6	4	4	8	6	44	35	6			
13	5	5	4	4	6	8	54	32	6			
14	5	5	4	4	10	8	35	26	5			
15	5	5	4	4	12	9	35	27	5			1
16	5	5	4	4	12	7	25	25	4		2	
17	5	5	4	4	12	6	30	24	4			
18	5	4	4	4	13	8	41	24	4			
19	5	4	4	4	12	6	30	25	3			
20	4	4	4	4	15	8	33	26	3	3		
21	4	4	4	4	14	9	35	27	3			
22	6	4	4	4	15	6	42	25	3			
23	7	4	4	4	13	7	50	27	3			
24	7	5	4	4	6	6	37	25	3			
25	6	4	4	4	8	6	35	23	2			
26	6	4	5	4	8	11	37	23	2			
27	5	4	5	3	6	10	31	22	2			
28	4	4	4	3	9	7	31	21	3			
29	4	4	4	3	10	6	34	19	2			
30	4	4	4	3	-------	5	37	17	3			1
31	4	-------	4	4	-------	10	-------	17	-------			-------

NOTE.—Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Secret Creek near Halleck, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7	3	4.9	301
November	7	4	4.5	268
December	5	4	4.1	252
January	5	3	4.0	246
February	15	4	9.3	535
March	13	5	8.0	492
April	90	[a] 15	41.0	2,440
May	45	17	28.0	1,720
June	16	2	5.6	333
July	4	----	[a] 3.0	184
August	----	----	[a] 2	123
September	----	----	[a] 1	60
The year	90	----	9.6	6,950

[a] Estimated.

SOUTH FORK OF HUMBOLDT RIVER NEAR ELKO, NEV.

LOCATION.—In sec. 19, T. 33 N., R. 55 E., at head of canyon below Cowling's ranch, 4 miles above mouth and 10 miles southwest of Elko, Elko County.

DRAINAGE AREA.—Not measured (1,150 square miles at old station 1½ miles above).

RECORDS AVAILABLE.—August 29, 1896, to December 31, 1909; September 9, 1910, to September 30, 1922; and October 1, 1923, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank 1½ miles below highway bridge since November 14, 1913; inspected by Albert Lamori. Auxiliary gages read October, 1923, to March, 1924, while recorder was out for repairs.

DISCHARGE MEASUREMENTS.—Made from cable 110 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and sand. Basalt dike a short distance below gage affords well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.10 feet from 7 to 9 p. m. May 18 (discharge, 470 second-feet); practically no flow from July 10 to September 30.

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

ICE.—Stage-discharge relation seriously affected by ice during winter.

DIVERSIONS.—Below all tributaries and all diversions except those of Hunter and Banks ranch 3 miles downstream.

REGULATION.—Flow affected by diversions above.

ACCURACY.—Stage-discharge relation permanent during year; affected by ice December to March. Rating curve well defined. Water-stage recorder operated satisfactorily from March 21 to July 9 except as indicated in footnote to daily-discharge table. Auxiliary gages read to tenths occasionally during remainder of year. Daily discharge determined by applying to rating table mean daily gage height determined from recorder graph or staff reading. For periods of no gage readings, discharge estimated from temperature charts and hydrographic comparison with Humboldt River at Palisade. Records for estimated periods fair; others good.

Discharge measurements of South Fork of Humboldt River near Elko, Nev., during the years ending September 30, 1923 and 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
1923	*Feet*	*Sec.-ft.*	1924	*Feet*	*Sec.-ft.*
Jan. 10	[a] 1.3	26.6	Mar. 21	1.28	60.1
Mar. 6	1.49	85.0	Mar. 31	1.44	79.1
May 1	1.62	91.1	Apr. 28	1.83	137
June 4	2.47	276	June 11	1.07	34.5
Sept. 26	.67	13.4	June 25	.33	2.7

[a] Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of South Fork of Humboldt River near Elko, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			30				85	139	111	1		
2		40	62				91	188	106	1		
3							92	220	106	1		
4	20	38	38				92	220		1		
5							95	194	95	2		
6							99	174		2		
7	24						108	158		1		
8			57				123	158	88	1		
9							143	170	70	1		
10						50	154	186	50			
11		40					170		30			
12							176		26			
13			35				184		24			
14	30						208	300	18			
15					35		222		13			
16			38	20			210		10		0	0
17							204		8			
18			36				190	430	6			
19		50					180		5			
20							186		3	0		
21	38					60	192	360	3			
22						57	202		3			
23			22			66	210		3			
24						61	200		3			
25		50				69	176	295	3			
26	40					72	154	288	3			
27						81	137	242	2			
28			25			85	134	220	2			
29						89	128	200	.2			
30			24		-------	80	120	182	1			
31		------	20		-------	78	-------	146	-------			-------

NOTE.—Discharge Jan. 1 to Mar. 20 estimated because of ice effect on basis of temperature records and records of flow for Humboldt River at Palisade. Braced figures for other periods and also discharge for Dec. 1, 31, May 18, 28, 29, June 9, 10, and 22-24, estimated by comparison with records for station at Palisade because no gage-height records were obtained.

Monthly discharge of South Fork of Humboldt River near Elko, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	----------	[a] 31.4	1,930
November	----------	----------	[a] 44.3	2,640
December	----------	----------	[a] 35.5	2,180
January	----------	----------	[a] 20	1,230
February	----------	----------	[a] 35	2,010
March	89	----------	[a] 58.0	3,570
April	222	85	156	9,280
May	430	139	260	16,000
June	111	1	36.0	2,140
July	2	0	.4	25
August	0	0	0	0
September	0	0	0	0
The year	430	0	56.4	41,000

[a] Estimated.

MAGGIE CREEK AT CARLIN, NEV.

LOCATION.—In sec. 26, T. 33 N., R. 52 E., 700 feet above highway bridge, half a mile above confluence with Humboldt River, and half a mile east of Carlin, Elko County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 6, 1913, to June 10, 1922; and April 1, 1923, to September 30, 1924, when station was discontinued.

GAGE.—Vertical staff on left bank midway between old and new highways; installed January 20, 1924, to new datum. Old gage was on right bank a short distance above present gage. Both gages read by Aurora Puett.

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

CHANNEL AND CONTROL.—Bed composed of sand and gravel; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.46 feet at 4.30 p. m. April 17 (discharge, 36 second-feet); no flow in September.

1913–1924: Maximum stage recorded, 4.3 feet May 7, 1922 (discharge, 800 second-feet); no flow July 22 to October 24, 1919, July 15 to September 30, and October 1–19, 1920, and September, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—No information.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent during year. Rating curves for old and new gages fairly well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of Maggie Creek at Carlin, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 4	1.10	4.4	Apr. 30	1.24	23.3	June 23	0.36	[a]0.2
Apr. 4	.96	11.7	May 5	.90	10.1	Sept. 20		0

[a] Estimated.

Daily discharge, in second-feet, of Maggie Creek at Carlin, Nev., for the year ending September 30, 1924

Day	Oct.	Feb.	Mar.	Apr.	May	Day	Oct.	Feb.	Mar.	Apr.	May
1	3		10	11	19	16	4	11	9	26	
2	3		11	11	19	17	4	10	9	36	
3	4		11	11	18	18	4	10	9	32	
4	4		10	12	17	19	4	10	10	31	
5	4	5	7	12	10	20	4	10	10	30	
6	4	13	8	13	6	21	3	11	9	27	
7	3	15	8	14	3	22	3	11	9	28	
8	4	15	8	14	3	23	3	11	9	28	
9	3	15	8	13	2	24	4	11	8	30	
10	4	13	8	13	1	25	3	11	8	28	
11	4	7	9	12	1	26	3	11	8	27	
12	4	7	9	12	1	27	3	11	8	27	
13	4	10	9	12	1	28	3	11	8	26	
14	3	11	9	14		29	3	10	9	21	
15	4	11	9	24		30	3		9	23	
						31	3		11		

NOTE.—Flow diminished from 3 second-feet Nov. 1 to no flow during ice-affected period which ended Feb. 4; also it diminished from less than 0.5 second-foot May 14 to no flow in September.

Monthly discharge of Maggie Creek at Carlin, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	4	3	3.5	215
November			[a]2	119
December			[a]1	61
January		0	[a]0	0
February	15	0	9.3	535
March	11	7	8.9	547
April	36	11	20.6	1,230
May	19		[a]3.4	209
June			[a].2	12
July			[a].2	12
August			[a].1	6
September	0	0	.0	0
The year	36	0	4.1	2,950

[a] Estimated.

ROCK CREEK NEAR BATTLE MOUNTAIN, NEV.

LOCATION.—In NE. ¼ sec. 17, T. 34 N., R. 48 E., at mouth of canyon below all tributaries, half a mile above highway bridge on Overland Trail, in Eureka County, and 25 miles northeast of Battle Mountain, Lander County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 26, 1918, to September 30, 1923, and April 5 to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank, installed March 26, 1918.

DISCHARGE MEASUREMENTS.—Made by wading near gage or from highway bridge half a mile downstream.

CHANNEL AND CONTROL.—Banks high and not subject to overflow. Stream bed composed of gravel and boulders. Principal control is rocky riffle 50 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during period of record in 1924, 1.78 feet from 5 to 6 a. m. April 15 (discharge, 60 second-feet); practically no flow June 1 to September 30.

1918–1924: Maximum stage, 5.54 feet at 1 a. m. February 11, 1921 (discharge, 2,240 second-feet); creek practically dry during parts of October, July, August, and September every year.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—There are diversions in valley above canyon. Station is above all diversions in Boulder Flat and is below all tributaries.

REGULATION.—A small reservoir in Squaw Valley about 30 miles upstream may affect run-off to small extent.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory April 5 to June 15 and June 22 to July 19. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good.

The following discharge measurements were made:

October 5, 1923: Gage height, 1.12 feet; discharge, 6.3 second-feet.

April 5, 1924: Gage height, 1.34 feet; discharge, 17.8 second-feet.

April 30, 1924: Gage height, 1.03 feet; discharge, 4.4 second-feet.

Daily discharge, in second-feet, of Rock Creek near Battle Mountain, Nev., for the year ending September 30, 1924

Day	Apr.	May	Day	Apr.	May	Day	Apr.	May
1		4	11	47	1	21	34	
2		4	12	48	1	22	28	
3		3	13	42	1	23	24	
4		2	14	41	1	24	28	
5	18	2	15	55	1	25	14	
6	14	2	16	39	1	26	11	
7	19	2	17	34	1	27	8	
8	36	2	18	37		28	6	
9	47	2	19	33		29	7	
10	47	1	20	33		30	5	
						31		

NOTE.—May 18 to June 30 discharge less than 1 second-foot; estimated mean discharge, 0.5 second-foot. July 1 to Sept. 30, practically no flow.

Monthly discharge of Rock Creek near Battle Mountain, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 5–30	55	5	29.0	1,490
May	4		1.2	74
June			.5	30
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
The period				1,590

LITTLE HUMBOLDT RIVER NEAR PARADISE VALLEY, NEV.

LOCATION.—In NE. ¼ sec. 19, T. 41 N., R. 41 E., 300 feet south of Humboldt Hot Springs, 40 miles northeast of Winnemucca, and 11 miles southeast of Paradise Valley, Humboldt County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1921, to September 30, 1923, and April 1 to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank; installed October 2, 1921; inspected by G. S. Reed.

DISCHARGE MEASUREMENTS.—Made by wading or from bridge 4 miles above gage.

CHANNEL AND CONTROL.—Bed composed of firm sand and clay. Control is shale ledge 40 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, 3.49 feet from 12 to 1 a. m. April 20 (discharge, 29 second-feet); minimum stage not recorded.

1922–1924: Maximum stage, 9.30 feet at 8 a. m. May 8, 1922 (discharge, 331 second-feet); minimum discharge recorded, 7 second-feet October 16–21, 1922.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—Above all diversions in Paradise Valley. Bull Head ranch diverts in valley above.

REGULATION.—Affected by Bull Head irrigation diversion.

ACCURACY.—Stage-discharge relation changed several times during year. Standard rating curve fairly well defined. Operation of water-stage recorder satisfactory, except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph, using shifting-control method. Records fair.

Discharge measurements of Little Humboldt River near Paradise Valley, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 8	3.05	18.7	Apr. 19	3.32	23.8	June 15	2.75	7.81
Apr. 8	2.72	8.6	May 2	2.82	11.7	Sept. 22	2.78	8.74

Daily discharge, in second-feet, of Little Humboldt River near Paradise Valley, Nev., for the year ending September 30, 1924

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

NOTE.—Braced figures show estimated mean discharge for periods indicated when there was no gage-height record.

Monthly discharge of Little Humboldt River near Paradise Valley, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	27		15.5	922
May	12		9.4	578
June	9		8.7	518
July	10	8	9.0	553
August	10		9.0	553
September	10		9.3	553
The period				3,680

MARTIN CREEK NEAR PARADISE VALLEY, NEV.

LOCATION.—In SE. ¼ NE. ¼ sec. 11, T. 42 N., R. 40 E., 1½ miles above Silver State flour mill and 8 miles northeast of Paradise Valley, Humboldt County.

DRAINAGE AREA.—Not measured.

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

GAGE.—Stevens continuous water-stage recorder on right bank; installed March 21, 1923; inspected by Edmund Recanzone.

DISCHARGE MEASUREMENTS.—Made from bridge 2½ miles below gage or by wading.

CHANNEL AND CONTROL.—Channel of rock and earth. Control is rock and gravel riffle immediately below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.65 feet at noon May 21 (discharge, 74 second-feet); minimum discharge, 6 second-feet June 23 to August 2 and August 28 to September 22.

1922–1924: Maximum stage, 6.67 feet at 10 a. m. May 19, 1922 (discharge, 275 second-feet); minimum stage, 3.54 feet parts of August 16–18, 1923 (discharge less than 5 second-feet).

ICE.—Stage-discharge relation slightly affected by ice.

REGULATION.—None.

DIVERSION.—None above gage.

ACCURACY.—Stage-discharge relation slightly changed owing to moss on control during July and August. Rating curve well defined. Water-stage recorder operated satisfactorily, except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying mean daily gage height or weekly gage reading to rating table; shifting-control method used July 19 to September 30. Discharge interpolated or estimated for days of missing gage heights. Records good; estimated periods fair.

Discharge measurements of Martin Creek near Paradise Valley, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 8	3.67	8.8	May 2	4.24	42.4	Sept. 22	3.65	6.5
Apr. 7	4.00	24.5	June 15	3.64	7.3			

Daily discharge, in second-feet, of Martin Creek near Paradise Valley, Nev., for the year ending September 30, 1924

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

NOTE.—No gage-height record and discharge estimated or interpolated Dec. 21 to Feb. 2, Feb. 4, 5, Mar. 12–22, 24–30, Apr. 1–5, Apr. 28 to May 1, May 22–24, June 9–12, Sept. 14–19, 21, 23–27, 29, and 30. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Martin Creek near Paradise Valley, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	12	8	10.2	627
November	11	9	10.2	607
December	12		9.3	572
January			7.0	430
February	45	10	15.0	863
March			12.4	762
April	43		28.3	1,680
May	40	13	25.7	1,580
June	13	6	8.6	512
July	6	6	6.0	369
August	8	6	6.9	424
September	7	6	6.3	375
The year	45		12.1	8,800

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

LOCATION.—In SW. ¼ sec. 29, T. 33 N., R. 35 E., a quarter of a mile below head of canal and 2 miles north of Mill City, Pershing County.

RECORDS AVAILABLE.—February 19, 1914, to September 30, 1924; fragmentary.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by G. L. Pitt.

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

CHANNEL AND CONTROL.—Earth section. Channel control. Stage-discharge relation is affected by growth of aquatic plants and by the wash from several small gullies below station.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—None.

REGULATION.—Flow regulated by head gates one-fourth mile above station.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve fairly well defined. Water-stage recorder operated only in October; a few auxiliary staff gage readings obtained. Discharge obtained by applying mean daily or daily gage height to rating table. Records good though meager.

Canal diverts from Humboldt River in sec. 29, T. 33 N., R. 36 E., for storage in Taylor-Pitt Reservoir near Humboldt. The 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.

Discharge measurements of Humboldt-Lovelock Irrigation, Light & Power Co.'s feeder canal near Mill City, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
1911	*Feet*	*Sec.-ft.*	1912	*Feet*	*Sec.-ft.*
Oct. 9	2.52	44.0	May 3		0
Apr. 9	1.28	8.0	June 16		0

Daily discharge, in second-feet, of Humboldt-Lovelock Irrigation, Light & Power Co.'s feeder canal near Mill City, Nev., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.
1	21						16	46					
2	21						17	48					
3	21						18	49					
4	21						19	49	146				
5	22	118	157				20	53					
6	24						21	60					
7	22						22	65					
8	31			196	24		23	67					
9	38			24		8	24	71	174				
10	49						25	74					
11	49						26	91	167				
12	47						27	101					
13	46						28						
14	46						29						
15	46						30						
							31						

NOTE.—No flow in canal from some time in April to Sept. 30.

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

LOCATION.—In SE. ¼ sec. 30, T. 32 N., R. 33 E., at outlet of lower Taylor-Pitt Reservoir, 2½ miles west of Humboldt, Pershing County.

RECORDS AVAILABLE.—February 15, 1914, to September 30, 1920; October 1, 1921, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on right bank about 100 feet above weirs; inspected by G. L. Pitt.

DISCHARGE MEASUREMENTS.—Made from footbridge one-fourth mile below gage or by wading.

CHANNEL AND CONTROL.—Two 8-foot Cippoletti weirs form a permanent control. Stage of zero flow at gage height, 0.04 foot; determined April 7, 1917.

ICE.—Gates usually closed during winter.

DIVERSIONS.—None.

REGULATION.—Flow regulated by reservoir outlet gates a few hundred feet above station.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 150 second-feet; extended above. Operation of water-stage recorder fairly satisfactory during periods when reservoir gates were open. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph. Records good; estimated discharge may be poor.

Canal conducts stored water released from Taylor-Pitt Reservoir to Humboldt River in SW. ¼ sec. 31, T. 33 N., R. 33 E., for irrigation in Lovelock Valley several miles downstream.

Discharge measurements of Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal near Humboldt, Nev., during the year ending September 30, 1924

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	0.07	a 0.5	May 4	1.82	144
Apr. 18	1.54	105	Sept. 24	.32	8.2

a Estimated.

Daily discharge, in second-feet, of Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal near Humboldt, Nev., for the year ending September 30, 1924

Day	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				14	148	165	129	105	5
2				14	148	92	144	98	4
3				14	146	79	138	62	4
4		12		21	145	55	141	37	3
5				23	170	46	154	13	6
6				23	165	45	162	28	10
7		12		23	173	51	167	16	10
8				46	178	52	154	8	11
9				63	178	52	154	8	14
10	0.5			9	178	52	165	10	10
11				39	193	52	202	14	6
12				55	225	52	221	21	6
13				86	239	49	221	21	6
14			0.5	102	234	43	234	15	6
15		12		102	220	56	243	14	6
16				103	193	76	241	20	6
17				107	178	80	238	23	6
18				107	176	80	225	23	6
19				116	173	68	216	24	6
20				127	170	38	187	21	6
21	4			132	165	42	173	21	6
22	12			148	152	48	168	20	7
23		36		157	152	50	171	17	8
24		76		159	167	53	173	9	9
25		45		154	182	63	159	8	
26	12	30		162	182	72	146	3	
27		25	10	168	182	80	138	6	8
28		23	21	165	173	91	136	8	
29			18	156	152	95	134	8	
30		.5	14	148	141	98	128	7	
31			14		152		110	5	

NOTE.—No gage-height record, discharge estimated Oct. 10 to Dec. 20, Dec. 23 to Jan. 6, Jan. 8–22, 26, 27, Jan. 29 to Mar. 26, July 9, 13, Aug. 22, 25, 29, 31, Sept. 1–4, 6, 7, 11–19, 21–23, and 25–30. Braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal near Humboldt, Nev., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October			0.5	31
November			.5	30
December			4.3	264
January	76		16.1	990
February			.5	29
March	21		2.9	178
April	168	9	91.4	5,440
May	239	141	175	10,800
June	165	38	65.8	3,920
July	243	110	173	10,600
August	105	3	22.4	1,380
September	14	3	7.2	428
The year	243		47.0	34,100

NOTE.—Discharge estimated for most of first six months. See daily-discharge table.

PYRAMID AND WINNEMUCCA LAKES BASIN

LAKE TAHOE AT TAHOE, CALIF.

LOCATION.—In SE. ¼ sec. 6, T. 15 N., R. 17 E., near outlet of lake at Tahoe, Placer County.

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

RECORDS AVAILABLE.—1900 to September 30, 1924.

GAGE.—Vertical staff fastened to piling of boat landing near outlet; read once a day by an employee of the United States Bureau of Reclamation. Datum is 6,220 feet above sea level. Mean low-water elevation of lake is 6,226.0 feet.

EXTREMES OF STAGE.—Maximum stage recorded during year, 6.35 feet October 1; minimum stage, 3.31 feet September 30.

1900–1924: Maximum stage recorded, 11.26 feet July 14, 15, 17, and 18, 1907; minimum stage, 3.31 feet September 30, 1924.

ACCURACY.—Gage read to hundredths once daily.

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

Daily gage height, in feet, of Lake Tahoe at Tahoe, Calif., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.35	5.98	5.67	5.38	5.14	5.10	4.92	4.95	4.99	4.65	4.26	3.81
2	6.34	5.98	5.66	5.38	5.14	5.09	4.91	4.96	4.99	4.65	4.23	3.80
3	6.33	5.97	5.65	5.40	5.13	5.08	4.92	4.98	4.98	4.65	4.22	3.80
4	6.32	5.96	5.64	5.38	5.13	5.08	4.94	4.96	4.98	4.64	4.22	3.81
5	6.31	5.95	5.63	5.36	5.13	5.07	4.94	4.99	4.97	4.64	4.21	3.78
6	6.33	5.93	5.59	5.36	5.14	5.07	4.92	4.98	4.96	4.62	4.20	3.76
7	6.34	5.93	5.59	5.36	5.16	5.06	4.90	4.98	4.94	4.61	4.18	3.75
8	6.33	5.91	5.58	5.37	5.18	5.06	4.89	4.99	4.92	4.60	4.15	3.73
9	6.33	5.90	5.57	5.35	5.18	5.05	4.88	4.99	4.90	4.59	4.14	3.72
10	6.32	5.90	5.56	5.34	5.18	5.04	4.88	5.00	4.88	4.59	4.11	3.71
11	6.31	5.89	5.54	5.34	5.17	5.04	4.86	5.01	4.86	4.58	4.09	3.69
12	6.29	5.88	5.52	5.33	5.17	5.02	4.86	5.01	4.85	4.56	4.06	3.67
13	6.27	5.87	5.48	5.31	5.17	5.02	4.87	5.02	4.84	4.55	4.05	3.64
14	6.25	5.86	5.46	5.30	5.17	4.99	4.88	5.03	4.83	4.53	4.04	3.62
15	6.24	5.85	5.46	5.30	5.16	5.02	4.86	5.03	4.82	4.52	4.04	3.62
16	6.23	5.83	5.45	5.29	5.16	4.98	4.86	5.04	4.81	4.50	4.03	3.61
17	6.22	5.82	5.45	5.28	5.16	4.95	4.86	5.05	4.78	4.48	4.01	3.60
18	6.21	5.81	5.42	5.27	5.15	4.97	4.86	5.06	4.76	4.47	4.00	3.58
19	6.20	5.80	5.41	5.26	5.15	4.92	4.87	5.07	4.76	4.46	3.98	3.57
20	6.18	5.79	5.40	5.26	5.13	4.92	4.88	5.08	4.75	4.45	3.95	3.53
21	6.16	5.78	5.39	5.24	5.13	4.92	4.88	5.09	4.74	4.44	3.92	3.51
22	6.16	5.77	5.38	5.20	5.13	4.92	4.88	5.09	4.73	4.43	3.92	3.49
23	6.14	5.76	5.38	5.19	5.13	5.01	4.95	5.09	4.73	4.41	3.91	3.47
24	6.12	5.75	5.36	5.18	5.12	4.98	4.96	5.10	4.72	4.39	3.90	3.44
25	6.10	5.74	5.35	5.18	5.12	4.98	4.96	5.09	4.70	4.39	3.89	3.42
26	6.08	5.73	5.35	5.21	5.10	5.00	4.95	5.07	4.68	4.39	3.88	3.39
27	6.06	5.72	5.34	5.21	5.10	5.00	4.95	5.06	4.67	4.37	3.86	3.38
28	6.04	5.71	5.33	5.18	5.10	4.99	4.95	5.05	4.67	4.34	3.85	3.37
29	6.02	5.69	5.34	5.16	5.10	4.99	4.95	5.05	4.66	4.32	3.85	3.35
30	6.01	5.67	5.35	5.16	-------	4.97	4.95	5.03	4.65	4.30	3.84	3.31
31	6.00	-------	5.37	5.15	-------	4.95	-------	5.01	-------	4.28	3.83	-------

TRUCKEE RIVER AT TAHOE, CALIF.

LOCATION.—In NW. ¼ sec. 7, T. 15 N., R. 17 E., at Tahoe, Placer County, a short distance below dam at outlet of Lake Tahoe.

DRAINAGE AREA.—519 square miles.

RECORDS AVAILABLE.—July 3, 1895, to February 29, 1896; June 17, 1900, to September 30, 1924.

GAGE.—Vertical staff fastened to a large cottonwood tree on left bank, 300 feet below dam at outlet of Lake Tahoe. Original gage, 100 feet above, was destroyed by dredging operations, July 15, 1912.

DISCHARGE MEASUREMENTS.—Made from cable 140 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel; practically permanent.

EXTREMES OF DISCHARGE.—1895–1896 and 1900–1924: Maximum mean daily discharge, 1,340 second-feet, July 13–20, 1907; river dry during parts of 1900, 1901, 1914, and 1918–1924.

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—No information.

REGULATION.—Flow regulated by operation of gates in dam at Lake Tahoe.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Gage read to hundredths at least once each day. Stage controlled by outlet gates at Lake Tahoe. Daily discharge ascertained by United States Bureau of Reclamation by applying mean daily gage height to rating table.

COOPERATION.—Daily-discharge record furnished by United States Bureau of Reclamation.

No discharge measurements were reported by the United States Bureau of Reclamation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	346	346	343	367	355	325	252	0	289	174	66	244
2	346	346	358	364	325	325	246	0	289	172	120	254
3	346	343	358	402	325	325	244	0	289	172	109	260
4	346	343	355	399	325	337	275	0	286	172	109	260
5	343	340	355	395	319	316	255	125	286	163	109	260
6	319	340	352	379	289	316	258	0	283	163	107	260
7	249	340	349	373	289	313	230	0	278	163	111	258
8	249	340	349	382	0	307	205	0	266	159	111	258
9	319	337	355	382	125	295	163	0	258	156	217	260
10	278	337	355	370	161	289	107	0	252	156	202	260
11	278	337	340	376	230	295	47	0	238	152	212	249
12	278	337	337	373	230	283	47	0	233	144	217	258
13	275	334	334	373	249	289	0	75	230	142	220	260
14	310	334	340	385	249	278	0	0	225	140	220	260
15	325	331	340	367	217	343	154	0	222	136	217	260
16	355	331	337	392	217	278	154	0	217	131	212	249
17	355	331	349	385	215	260	83	0	202	131	200	249
18	355	328	346	395	212	278	83	0	202	125	217	249
19	355	328	346	385	230	249	0	107	198	125	212	252
20	355	343	343	392	230	246	0	148	193	123	212	252
21	355	343	349	385	228	252	0	225	193	121	212	246
22	355	343	346	385	230	244	0	225	193	118	215	246
23	355	343	355	379	252	258	0	235	188	114	217	238
24	355	340	349	370	249	252	0	260	183	112	238	238
25	355	340	343	370	249	252	0	269	183	112	222	238
26	352	334	346	367	241	278	0	301	179	111	244	195
27	352	334	343	361	246	272	75	313	179	107	238	238
28	352	346	349	379	246	260	127	313	176	99	246	238
29	349	343	355	364	337	255	148	337	172	95	252	235
30	349	343	346	385	-------	260	0	301	176	88	255	235
31	349	-------	355	367	-------	255	-------	292	-------	83	252	-------

Monthly discharge of Truckee River at Tahoe, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	355	249	331	20,400
November	346	328	338	20,100
December	358	334	348	21,400
January	402	361	379	23,300
February	355	0	244	14,000
March	343	244	283	17,400
April	275	0	105	6,250
May	337	0	114	7,010
June	289	172	225	13,400
July	174	83	134	8,240
August	255	66	193	11,900
September	260	195	249	14,800
The year	402	0	245	178,000

TRUCKEE RIVER AT ICELAND, CALIF.

LOCATION.—In sec. 36, T. 18 N., R. 17 E., above dam of ice company, 400 feet northeast of Southern Pacific Railroad station at Iceland, Nevada County, and 23 miles west of Reno, Nev.

DRAINAGE AREA.—937 square miles.

RECORDS AVAILABLE.—August 1, 1912, to September 30, 1924.

GAGE.—Water-stage recorder on right bank above dam; auxiliary vertical staff fastened to gage well.

DISCHARGE MEASUREMENTS.—Made from cable 130 feet above gage.

CHANNEL AND CONTROL.—Bed consists of small boulders; fairly smooth and permanent. Left bank high; right bank subject to overflow at high stages. Dam of National Ice Co. is the control.

EXTREMES OF DISCHARGE.—1907–1924: Maximum mean daily discharge, 15,300 second-feet March 18, 1907; minimum mean daily discharge, 122 second-feet August 2, 1924.

ICE.—Stage-discharge relation somewhat affected by ice.

DIVERSIONS.—No information.

REGULATION.—See Truckee River at Tahoe.

ACCURACY.—Stage-discharge relation did not change during year. Rating curve well defined. Mean daily gage heights determined from water-stage recorder records. Daily discharge ascertained by United States Bureau of Reclamation by applying mean daily gage height to rating table.

COOPERATION.—Daily-discharge record and discharge measurement furnished by United States Bureau of Reclamation.

The following discharge measurement was made:

February 13, 1924: Gage height, 0.85 foot; discharge, 388 second-feet.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	490	396	407	418	478	459	396	490	396	208	130	272
2	447	400	389	432	478	428	407	617	396	205	122	272
3	455	418	382	470	418	451	432	617	393	208	150	249
4	425	425	393	455	425	490	414	586	376	200	152	266
5	396	418	400	459	440	459	414	451	359	192	157	281
6	502	410	407	440	510	436	425	490	343	187	152	275
7	526	407	414	443	640	436	470	490	333	180	150	275
8	518	418	432	459	767	425	572	518	324	182	148	275
9	459	425	421	459	510	425	577	572	324	180	182	278
10	407	418	410	432	359	425	542	595	317	175	233	278
11	451	418	396	428	349	425	522	631	314	170	239	278
12	410	418	414	432	407	414	502	572	311	162	244	275
13	396	421	407	432	418	403	546	474	301	157	250	278
14	393	418	414	421	432	403	538	494	295	152	244	290
15	389	403	421	425	432	410	425	490	285	150	247	293
16	372	400	410	425	396	386	470	510	279	160	244	278
17	376	393	407	432	389	389	506	490	263	162	242	278
18	372	396	403	428	386	389	459	462	247	205	236	281
19	396	386	428	428	382	389	502	396	247	213	244	278
20	396	386	410	428	389	379	462	425	237	218	242	278
21	396	389	400	428	396	372	478	470	231	213	239	275
22	400	400	389	421	382	369	518	510	228	208	242	275
23	432	400	389	425	379	376	586	490	228	197	244	382
24	425	396	410	425	382	379	502	474	218	192	247	281
25	421	400	418	428	393	379	462	466	225	185	264	272
26	418	396	418	432	400	393	425	466	218	177	247	263
27	410	393	382	447	396	400	414	474	212	170	264	266
28	403	396	389	470	403	400	447	451	209	160	261	266
29	403	396	396	462	440	393	577	443	209	150	270	275
30	403	403	436	462	-------	389	645	440	209	146	264	275
31	403	-------	414	462	-------	396	-------	425	-------	144	273	-------

Monthly discharge of Truckee River at Iceland, Calif., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	526	372	422	25,900
November	425	386	405	24,100
December	436	382	407	25,000
January	470	418	439	27,000
February	767	349	434	25,000
March	490	369	409	25,100
April	645	396	488	29,000
May	631	396	499	30,700
June	396	209	284	16,900
July	218	144	181	11,100
August	273	122	220	13,500
September	382	249	279	16,600
The year	767	122	372	270,000

MALHEUR AND HARNEY LAKES BASIN

SILVIES RIVER NEAR BURNS, OREG.

LOCATION.—In or near SE. ¼ sec. 25, T. 21 S., R. 29 E., 1 mile below dam site for proposed lower Silvies Reservoir and 15 miles northwest of Burns, Harney County.

DRAINAGE AREA.—940 square miles (measured on map prepared by United States Bureau of Reclamation).

RECORDS AVAILABLE.—May 10, 1903, to July 24, 1906; December 14, 1908, to September 30, 1924.

GAGE.—Stevens continuous water-stage recorder on left bank used since April 17, 1922. Staff gage in sec. 7, T. 22 S., R. 10 E., at Parker ranch, used during winter of 1923–24.

DISCHARGE MEASUREMENTS.—Made from cable about 1½ miles below recorder or by wading near gage.

CHANNEL AND CONTROL.—Low-water control is a gravel riffle about 200 feet below gage, fairly permanent. In times of flood river overflows its banks near both gages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.15 feet February 7 on staff gage at Parker ranch (discharge estimated because of backwater from log and ice jams, as 640 second-feet); minimum stage from recorder, 0.66 foot at 4 p. m. September 2 (discharge, 0.6 second-foot).

1903–1906 and 1909–1924: Maximum stage recorded, 17.12 feet on original datum April 15, 1904 (discharge, 4,730 second-feet); minimum discharge 0.6 second-foot September 2, 1924.

ICE.—Stage-discharge relation at staff gage affected by ice January 30 to February 13; at recorder, February 16–20.

DIVERSIONS.—A large area of land in the headwaters of Silvies River is irrigated with flood water.

REGULATION.—None at recorder; flow at lower station occasionally affected by operation of Sylvester's dam half a mile above.

ACCURACY.—Stage-discharge relation apparently permanent at both gages, except for ice effect for short periods. Rating curves fairly well defined for the year. Operation of water-stage recorder satisfactory October 31 to December 24 and February 16 to September 30. Staff gage read three times a week December 31 to January 28 and daily January 30 to February 23. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph, or daily gage reading. See footnote to table of daily discharge. Records good for November, December, and March to September; fair for October, January, and February.

The following discharge measurements were made:
April 17, 1924: Gage height, 3.61 feet;[6] discharge, 191 second-feet.
September 22, 1924: Gage height, 0.75 foot; discharge, 1.4 second-feet.

Daily discharge, in second-feet, of Silvies River near Burns, Oreg., for the year ending September 30, 1924

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		26	29	20	130	96	56	72	18	5.8	4.0	1.0
2		26	22	20	147	96	59	65	18	5.4	4.4	.7
3		26	24	20	197	96	68	62	18	5.2	4.4	.9
4		26	27	20	226	96	72	49	18	4.8	4.2	1.0
5	20	26	25	20	260	89	72	49	17	4.4	4.2	1.4
6		26	26	20	580	86	75	47	16	4.0	4.0	1.6
7		26	30	22	640	86	72	43	15	3.8	4.0	1.8
8		24	30	24	620	82	137	45	14	3.4	4.0	2.6
9	22	22	27	27	590	78	168	47	14	3.2	4.0	2.8
10		22	27	29	400	78	182	45	13	2.8	4.0	3.6
11		20	23	29	350	75	191	41	13	2.4	4.0	4.4
12		24	22	29	340	72	200	38	12	2.4	3.4	4.0
13		25	20	20	300	68	200	36	12	2.2	3.0	3.6
14		23	22	20	256	68	218	33	11	1.8	3.0	2.8
15		22	23	20	211	68	209	31	10	1.6	3.0	2.4
16		22	23	20	204	68	200	30	10	1.4	3.4	2.0
17		20	23	18	189	65	182	26	10	1.8	4.0	1.8
18		23	22	15	182	62	168	25	10	6.6	4.4	1.8
19		27	24	13	182	62	160	24	10	6.8	4.6	1.4
20	24	23	22	13	168	62	142	22	10	7.0	4.8	1.4
21		20	20	13	168	62	137	21	9.3	6.8	4.8	1.4
22		21	22	13	168	59	128	20	9.0	6.0	4.6	1.8
23		22	22	13	150	59	128	20	8.8	5.2	4.4	2.2
24		21	23	13	137	53	116	19	8.2	4.6	4.2	3.0
25		23		13	116	51	104	18	8.0	4.2	4.0	3.6
26		21		13	108	55	89	18	7.8	4.0	3.8	6.6
27		22	21	13	100	56	86	17	7.4	3.4	3.6	8.2
28		22		13	96	59	86	17	7.0	3.0	3.6	8.0
29		24		40	96	56	82	16	6.6	2.6	3.2	7.6
30		30		89	-------	59	78	17	6.4	2.4	2.4	7.0
31	25	-------	20	112	-------	56	-------	18	-------	3.8	1.8	-------

NOTE.—Stage-discharge relation at staff gage affected by ice Jan. 30 to Feb. 13 and possibly at other times. Discharge correction estimated from observer's reports, taken as 20 per cent Feb. 5–13. Stage-discharge relation at recorder affected by ice Feb. 16–20, staff gage readings unaffected and used. Braced discharges indicate estimated means for period.

Monthly discharge of Silvies River near Burns, Oreg., for the year ending September 30, 1924

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	-------	-------	22.9	1,410
November	30	20	23.5	1,400
December	30	20	23.4	1,430
January	112	13	24.6	1,510
February	640	96	252	14,500
March	96	51	70.3	4,320
April	218	56	129	7,680
May	72	16	33.3	2,050
June	18	6.4	11.6	690
July	7.0	1.4	3.96	244
August	4.8	1.8	3.85	237
September	8.2	.7	3.08	183
The year	640	.7	49.1	35,700

[6] Gage reading at Parker ranch 2.16 feet; discharge reduced to 177 second-feet by intervening diversions.

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, 1924, are listed in the following table:

Bear River Basin

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Oct. 2	Bear River	Great Salt Lake	SW. ¼ sec. 27, T. 13 S., R. 44 E., at Utah Power & Light Co.'s gaging station, 1½ miles west of Wardboro, Idaho.	22.96	495
3	do	do	SE. ¼ sec. 31, T. 12 S., R. 44 E., 2½ miles west of Montpelier, Idaho.	13.23	713
4	do	do	SW. ¼ sec. 30, T. 9 S., R. 42 E., 3 miles south of Soda Springs, Idaho.	1.85	880
7	do	do	NE. ¼ sec. 26, T. 13 S., R. 40 E., below tailrace of Utah Power & Light Co.'s Oneida plant.	3.12	724
1	Dingle inlet canal	Diverts from Bear River.	NE. ¼ sec. 14, T. 14 S., R. 44 E., below Okey-Froelich and Ream Canals, 1 mile south of Dingle, Idaho.		35
2	Rainbow inlet canal.	do	SE. ¼ sec. 34, T. 13 S., R. 44 E., at head of canal, 1 mile southwest of Wardboro, Idaho.		12
1	Utah Power & Light Co.'s outlet canal.	Diverts from Bear Lake.	SW. ¼ sec. 8, T. 14 S., R. 44 E., one-fourth mile below outlet gates at dike, 2½ miles southeast of Paris, Idaho.	14.62	216
Oct. 19	Tule Lakes outlet	Soda Creek	S. ½ sec. 27 and N. ½ sec. 34, T. 7 S., R. 42 E., at J. Staat's ranch, 11 miles northeast of Soda Springs, Idaho.		[a] 21.3
May 9	do	do	do		23.0
June 6	do	do	do		20.6
July 14	do	do	do		19.0
Sept. 20	do	do	do		18.6
Oct. 19	Formation Springs	do	SE. ¼ sec. 28, T. 8 S., R. 42 E., at Russell Panning ranch, 5½ miles northeast of Soda Springs, Idaho.		24.2
May 9	do	do	do		22.6
June 7	do	do	do		26.3
July 15	do	do	do		25.4
Sept. 20	do	do	do		27.3
Oct. 6	Last Chance Canal	Diverts from Bear River.	NW. ¼ sec. 31, T. 9 S., R. 41 E., 1,000 feet below head of canal, 3 miles northeast of Grace, Idaho.	3.58	112

Weber River Basin

Aug. 9	New Field & North Bench Canal.	Diverts from Weber River.	Sec. 15, T. 1 S., R. 6 E., at head of canal, 3 miles northeast of Oakley, Utah.		11
26	do	do	do		18
26	Francis Canal	do	SE. ¼ sec. 15, T. 1 S., R. 6 E., 500 feet below head, and 3 miles northeast of Oakley, Utah.		1
26	Marion Canal	do	NW. ¼ sec. 22, T. 1 S., R. 6 E., 500 feet below head, and 2½ miles northeast of Oakley, Utah.		15
26	Gibbon Canal	do	NE. ¼ sec. 21, T. 1 S., R. 6 E., 400 feet below head, and 2 miles northeast of Oakley, Utah.		9
26	Boulderville Canal	do	NE. ¼ sec. 21, T. 1 S., R. 6 E., 200 feet below head, and 2 miles northeast of Oakley, Utah.		9
26	South Bench Canal.	do	Line between secs. 20 and 21, T. 1 S., R. 6 E., 1 mile east of Oakley, Utah.		1.5
26	Richard Canal	do	Sec. 29, T. 1 S., R. 6 E., half a mile east of Oakley, Utah.		3.4
June 19	Chalk Creek	Weber River	SE. ¼ sec. 8, T. 2 N., R. 5 E., at Coalville, Utah.		50
13	Lost Creek	do	At former gaging station in sec. 8, T. 5 N., R. 5 E., 10 miles northeast of Croydon, Utah.	1.32	35.4

[a] Does not include flow from north outlet.

Weber River Basin—Continued

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Aug. 1	East Canyon Creek.	Weber River.	SE. ¼ sec. 15, T. 2 N., R. 3 E., below Taylor Creek, above reservoir, 9 miles southeast of Porterville, Utah.		10
1	do	do	NE. ¼ sec. 10, T. 2 N., R. 3 E., at old weir one-fourth mile below Davis & Weber Canal Co.'s reservoir, 7 miles southeast of Porterville, Utah.	1.24	130
26	do	do	do	1.16	117
1	do	do	SW. ¼ sec. 35, T. 4 N., R. 2 E., below Littleton Canal heading, 2 miles southwest of Morgan, Utah.		102
1	do	do	NW. ¼ sec. 27, T. 4. N., R. 2 E., near mouth, 3 miles northwest of Morgan, Utah.		100
1	Dan White Canal	Diverts from East Canyon Creek.	SW. ¼ sec. 5, T. 2 N., R. 3 E., at head 5 miles southeast of Porterville, Utah.		0.3
1	Sheep Creek	East Canyon Creek.	NE. ¼ sec. 6, T. 2 N., R. 3 E., at mouth 4 miles southeast of Porterville, Utah.		.5
1	East Porterville Canal.	Diverts from East Canyon Creek.	NW. ¼ sec. 31, T. 3 N., R. 3 E., at head 2½ miles southeast of Porterville, Utah.	.50	5.0
1	East Richville Canal.	do	Sec. 24, T. 3 N., R. 2 E., at head, at Porterville, Utah.	1.15	5.7
1	West Richville Canal.	do	Sec. 14, T. 3 N., R. 2 E., at head, 1 mile north of Porterville, Utah.	.50	8.4
1	Welsh Canal	do	Sec. 12, T. 3 N., R. 2 E., at head, 3 miles north of Porterville, Utah.	1.98	4.3
1	Littleton Canal	do	Sec. 35 S., T. 4 N., R 2 E., at head, 2 miles southwest of Morgan, Utah.	.49	2.8
26	Davis & Weber Counties Canal.	Diverts from Weber River.	NW. ¼ sec. 19, T. 5 N., R. 1 W., below fore bay of Riverdale power plant.	2.05	95
27	do	do	do	2.11	97
Nov. 20	Ogden River	Weber River.	SW. ¼ sec. 23, T. 6 N., R. 1 W., above heading of Ogden Bench Canal 3 miles northeast of Ogden, Utah.		17
July 28	South Fork of Ogden River.	Ogden River.	SW. ¼ sec. 13, T. 6 N., R. 2 E., above diversions, 4½ miles east of Huntsville, Utah.		48
31	do	do	do		47
Aug. 2	do	do	Sec. 15, T. 6 N., R. 2 E., below Huntsville Association canal diversion, 2 miles east of Huntsville, Utah.		16
July 29	do	do	NW. ¼ sec. 14, T. 6 N., R. 1 E., at mouth, 1 mile west of Huntsville, Utah.		17
31	do	do	do		17
31	Cooperative Farm Canal.	Diverts from South Fork of Ogden River.	Sec. 15, T. 6 N., R. 2 E., 300 feet below head, 3½ miles east of Huntsville, Utah.	.99	13
31	Bennett Creek	South Fork of Ogden River.	SW. ¼ sec. 21, T. 6 N., R. 2 E., 2½ miles southeast of Huntsville, Utah.		2.5
28	Spring Creek	Middle Fork of Ogden River.	Sec. 12, T. 6 N., R. 1 E., at mouth 1 mile northwest of Huntsville, Utah.		9.6
29	North Fork of Ogden River.	Ogden River.	Sec. 10, T. 6 N., R. 1 E., at mouth, 2 miles west of Huntsville, Utah.		3.5
29	Wheeler Canyon Creek.	do	Sec. 16, T. 6 N., R. 1 E., at mouth 3½ miles west of Huntsville, Utah.		3.4

Walker Lake Basin

Apr. 15	Walker River	Walker Lake	At former gaging station in NE. ¼ sec. 33, T. 13 N., R. 25 E., at Mason, Nev.	2.71	124
Oct. 13	Saroni Canal	Diverts from West Walker River.	At former gaging station in sec. 10, T. 10 N., R. 23 E., 1 mile below head, near Wellington, Nev.	1.64	36.2
Apr. 14	do	do	do	1.07	12.1

Humboldt-Carson Sink Basin

Date	Stream	Tributary to—	Locality	Gage height	Discharg
				Feet	*Sec.-ft.*
Oct. 6	Humboldt River	Humboldt Sink	Gaging station at Comus, Nev	1.65	32.3
Apr. 6	do	do	do	2.24	139
May 1	do	do	do	1.72	63.0
June 22	do	do	do	1.00	4.8
Sept. 21	do	do	do	.70	.4
Oct. 10	do	do	Gaging station in sec. 35, T. 29 N., R. 32 E., near Oreana, Nev.		39.3
Apr. 10	do	do	do	1.63	120
May 4	do	do	do	1.85	161
June 16	do	do	do	1.27	57.9
Sept. 24	do	do	do	.58	1.2

Warner Lakes Basin

July 31	Deep Creek	Crump Lake	Former gaging station at Big Valley, near Adel, Oreg.	0.40	0.5

Sumner Lake Basin

Sept. 20	Ana River	Summer Lake	Sec. 6, T. 30 S., R. 17 E., Oregon		130

Harney Lake Basin

Apr. 18	Silver Creek	Harney Lake	Cecil ranch, above Suntex, Oreg	2.48	59

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