Surface Water Supply of the United States 1947

Part 10. The Great Basin

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

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PREFACE

This report was prepared by the Geological Survey in cooperation with the States of California, Idaho, Nevada, Oregon, Utah, and Wyoming, and other agencies, by personnel of the Water Resources Division under the direction of:

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SURFACE WATER SUPPLY OF THE GREAT BASIN, 1947

SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1947. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 11,100 gaging stations in the 48 States and also at many in the Territories of Alaska and Hawaii. In July 1947, 5,810 gaging stations, including those in Hawaii, were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made during the water year at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged, under the heading "Cooperation," in the introductory matter that precedes the gaging-station records in each volume. In the present volume, the section on cooperation of the second kind appears on page 12.

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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

EXPLANATION OF DATA

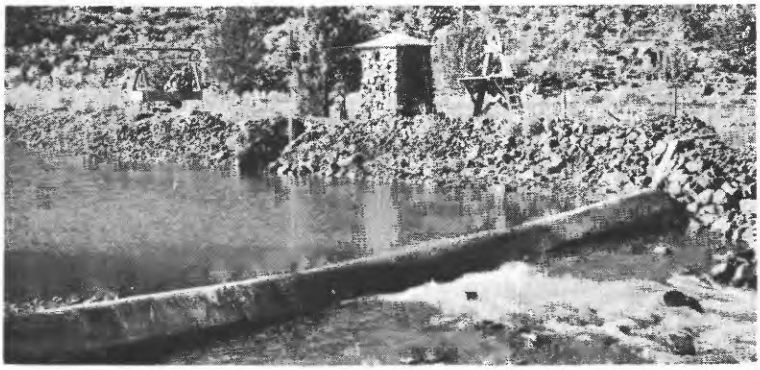
The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the records of stage and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording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

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

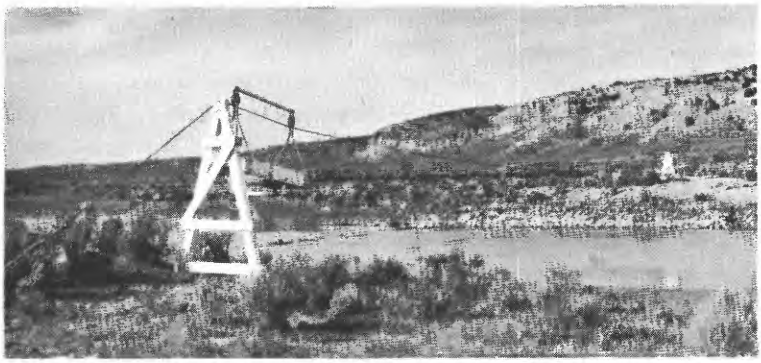
At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the "slope method," in which the slope or fall in a reach of the stream is a factor in the determination of discharge. Information requisite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

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

For most of the gaging stations on streams in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of



A. DONNER UND BLITZEN RIVER NEAR FRENCHGLEN, OREG.



B. SEVIER RIVER NEAR JUAB, UTAH.

C. BEAVER RIVER NEAR BEAVER, UTAH.

FIGURE 1.—GAGING-STATION STRUCTURES.

the stream, and a table of monthly and yearly discharge and runoff. Skeleton rating tables are published for all stations except those at which the daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

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

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

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

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

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

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

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

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

PUBLICATIONS

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

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

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

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

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

3. Sets are available for consultation in the offices of the water-resources division of the Geological Survey as follows:

East of the Mississippi River:
Albany, N. Y., 526 Federal Building.
Asheville, N. C., 220 Post Office Building.
Atlanta, Ga., 411 Grand Theater Building.
Augusta, Maine, 420 Statehouse.
Baton Rouge, La., 538 Florida Street.
Boston, Mass., 939 Post Office Building.
Champaign, Ill., 605 South Neil Street.
Charleston, W. Va., 408 Union Building.
Charlottesville, Va., Cabell Hall, University of Virginia.
Chattanooga, Tenn., 442 Post Office Building.
College Park, Md., 105 Engineering Building, University of Maryland.
Columbia, S. C., 207 Creason Building.
Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.
Harrisburg, Pa., 490 Education Building.
Hartford, Conn., 203 Federal Building.
Indianapolis, Ind., 205 Underwriters Building.
Jackson, Miss., 208 Millsaps Building.
Knoxville, Tenn., 337 Post Office Building.
Louisville, Ky., 531 Federal Building.
Madison, Wis., 666 State Office Building.
Montgomery, Ala., 507 Post Office Building.
Morgantown, W. Va., 407 Mineral Industries Building.
New Philadelphia, Ohio, Muskingum Watershed Conservancy District Building.
Ocala, Fla., 302 Post Office Building.
Pittsburgh, Pa., 515 Plaza Building.
Raleigh, N. C., 244 Educational Building.
St. Paul, Minn., 1427 New Post Office Building.
Trenton, N. J., 228 Federal Building.
Washington, D. C., Federal Works Agency Building.
Williamsburg, Ky., State Highway Building.

West of the Mississippi River:
Albuquerque, N. Mex., 723 North Second Street.
Austin, Tex., 302 West Fifteenth Street.
Bismarck, N. Dak., 7 Eltinge Building.
Boise, Idaho, 429 Federal Building.
Denver, Colo., 126 New Customhouse.
Fort Smith, Ark., 6 Post Office Building.
Helena, Mont., 408 Federal Building.
Honolulu, Hawaii, 225 Federal Building.
Idaho Falls, Idaho, 204 Federal Building.
Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.
Lincoln, Nebr., 510 Rudge-Guenzel Building.
Los Angeles, Calif., 429-F United States Post Office and Courthouse.
Oklahoma City, Okla., 203 Council Building.
Pierre, S. Dak., 301 Federal Building.
Portland, Oreg., 606 Post Office Building.
Rolla, Mo., 211 Ramsey Building.
St. Louis, Mo., 1004 New Federal Building.
Salt Lake City, Utah, 303 Federal Building.
San Francisco, Calif., 702 Appraisers Building.
Santa Fe, N. Mex., 204 United States Courthouse.
Tacoma, Wash., 207 Federal Building.
Topeka, Kans., 305 Federal Building.
Tucson, Ariz., 210 Post Office Building.

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

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

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

Stream-flow data for the years 1884-1901, in reports of the Geological Survey

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to September 1890.
12th A, pt. 2	....do.....	1884 to June 30, 1891.
13th A, pt. 3	....do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage heights, and ratings.....	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	1895.
W 11.....	Gage heights.....	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge...	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of stream west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
W 27..... ..	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.....	1898.
W 35 to 39...	Descriptions, measurements, gage heights, and ratings.....	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings.....	1900.
22d A, pt. 4.	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings.....	1901.
W 75.....	Monthly discharge.....	1901.

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

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

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

Numbers of water-supply papers containing results of stream measurements, 1899-1947 (for basins included see p. 5).

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b35, 36	36	36	36	c36, 37	37	37	d37, 38	38, e39	38, f39	38	38	38
1900 g...	47, h48	48	48, 149	49	49	49, j50	50	50	50	51	51	51	51	51
1901.....	65, 75	65, 75	65, 75	65, 75	k65, 66, 75	66, 75	k65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82	b82, 83	83	m82, 83	k83, 85	84	k83, 84	84	85	85	85	85	85	85
1903.....	97	b97, 98	98	97	k98, 99, n100	99	k98, 99	99	100	100	100	100	100	100
1904.....	o124, p125, q126	q126, 127	128	129	k128, 130	130, r131	k128, 131	132	133	133, s134	134	135	135	135
1905.....	o165, p166, q167	q167, 168	169	170	171	172	k169, 173	174	175, t177	176, *s177	177	178	178	u177, 178
1906.....	o201, p202, q203	q203, 204	205	206	207	208	k205, 209	210	211, t213	212, s213	213	214	214	214
1907-8...	241	242	243	244	245	246	247	248	249	250, s251	251	252	252	252
1909.....	261	262	263	264	265	266	267	268	269	270, s271	271	272	272	272
1910.....	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912.....	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913.....	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914.....	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915.....	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916.....	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917.....	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918.....	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20..	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921.....	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922.....	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923.....	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924.....	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925.....	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926.....	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927.....	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928.....	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929.....	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930.....	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1931.....	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1932.....	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1933.....	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1934.....	756	757	758	759	760	761	762	763	764	765	766	767	768	769
1935.....	781	782	783	784	785	786	787	788	789	790	791	792	793	794
1936.....	801	802	803	804	805	806	807	808	809	810	811	812	813	814
1937.....	821	822	823	824	825	826	827	828	829	830	831	832	833	834
1938.....	851	852	853	854	855	856	857	858	859	860	861	862	863	864
1939.....	871	872	873	874	875	876	877	878	879	880	881	882	883	884
1940.....	891	892	893	894	895	896	897	898	899	900	901	902	903	904
1941.....	921	922	923	924	925	926	927	928	929	930	931	932	933	934
1942.....	951	952	953	954	955	956	957	958	959	960	961	962	963	964
1943.....	971	972	973	974	975	976	977	978	979	980	981	982	983	984
1944.....	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014
1945.....	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044
1946.....	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064
1947.....	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Monthly discharge for 1899 in 21st Annual Report, part 4.
b James River only.
c Gallatin River.
d Green and Gunnison Rivers and Colorado River above Gunnison River.
e Mojave River only.
f Kings and Kern Rivers and south Pacific slope basins.
g Rating tables and index to Water-Supply Papers 47-52 contained in Water-Supply Paper 52. Monthly discharge for 1900 in 22d Annual Report, part 4.
h Wissahickon and Schuylkill Rivers to James River.
i Scioto River.
j Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.
k Tributaries of Mississippi River from east.
m Lake Ontario and tributaries to St. Lawrence River proper.
n Hudson Bay only.
o New England rivers only.
p Hudson River to Delaware River, inclusive.
q Susquehanna River to Yadkin River.
r Platte and Kansas Rivers.
s The Great Basin in California, except Truckee and Carson River Basins.
t Below mouth of Gila River.
u Rogue, Umpqua, and Siletz Rivers only.

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

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

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

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

State reports containing compilations of records of discharge

State	Period	Report	Issued by
Alabama	1895-1915	Bull. 17, Water powers of Alabama	Geological Survey of Alabama.
Arkansas	1857-1928	Stream-gaging Rept. 1	Arkansas Geological Survey.
Colorado	1881-1935	Water resources of Colorado, Appendix 2, Data on stream-gaging stations of Colorado.[1]	State Planning Commission, Water Conservation Board, State engineer.
Do	1881-1938	Water resources of Colorado, Appendix 3, vols. 1 and 2, Stream-flow data of Colorado.	Do.
Connecticut	1900-1927	Bull. 44, Water resources of Connecticut	State Geological and Natural History Survey.
Do	1912-33	5th biennial report	State Water Commission.
Florida	1898-1946	Bull. 31, Springs of Florida	Florida Geological Survey.
Georgia	1895-1906	Bull. 16, Water powers of Georgia	Geological Survey of Georgia.
Do	1907-19	Bull. 38, Water powers of Georgia	Do.
Illinois	1908-11	Water resources of Illinois	Rivers and Lakes Commission.
Do	1900-1934	Stream-flow data of Illinois	Division of Waterways.
Indiana	1923-27	Pub. 72, Surface water supply of Indiana	Department of Conservation.
Do	1927-30	Pub. 112, Surface water supply of Indiana	Do.
Iowa	1873-1932	Stream-flow records of Iowa	State Planning Board.
Do	1873-1940	Water-Supply Bull. 1, Summaries of yearly and flood flow relating to Iowa streams	Iowa Geological Survey.
Do	1941-42	Water-Supply Bull. 2, Surface water resources of Iowa.	Do.

[1] Contains records of yearly discharge only.

State reports containing compilations of records of discharge--Continued

State	Period	Report	Issued by
Kansas	1895-1919	Surface waters of Kansas	Kansas Water Commission.
Do	1919-24	....do	Do.
Do	1924-28	Report of Division of Water Resources	State Board of Agriculture.
Do	1928-35	Stream-flow data of Kansas	Do.
Do	1935-39	....do	Do.
Kentucky	1910-20	Surface waters of Kentucky	Kentucky Geological Survey.
Louisiana	1903-38	Geol. Bull. 16, Surface water supply of Louisiana.	Department of Conservation.
Maine	1887-1920	1st annual report	Maine Water Power Commission.
Maryland	1929-37	Flow data and draft storage curves for major streams in Maryland.	State Planning Commission and Water Resources Commission.
Do	1892-1943	Bull. 1, Summary of records of surface waters of Maryland and the Potomac River Basin.	Department of Geology, Mines, and Water Resources.
Minnesota	1909-12	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri	1857-1926	Vol. 20, 2d series, Water resources of Missouri.	Missouri Bureau of Geology and Mines.
Do	1927-39	Vol. 26, 2d series, Surface waters of Missouri.	Missouri Geological Survey and Water Resources.
Montana	1889-1911	5th biennial report	Office of the State Engineer.
Do	1881-1938	Special Rept. 10, vols. 1-4, Water resources of Montana.	Montana Agricultural Experiment Station.
Nebraska	1894-1914	1st hydrographic report	Bureau of Water Power, Irrigation, and Drainage.
Do	1914-28	2d hydrographic report	Do.
New Hampshire	1889-1922	Annual and statistical report, vol. 12	Public Service Commission.
New Jersey	1892-1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do	1928-34	Special Rept. 5, Surface water supply of New Jersey.	State Water Policy Commission.
Do	1934-40	Special Rept. 9, Surface water supply of New Jersey,	Do.
New Mexico	1888-1925	Surface water supply of New Mexico	Office of the State Engineer.
North Carolina	1889-1923	Bull. 34, Discharge records of North Carolina streams.	Department of Conservation and Development.
Do	1889-1936	Bull. 39, Discharge records of North Carolina streams.[2]	Do.
Do	1866-1945	Hydrologic Data on the Neuse River Basin.	Do.
Do	1820-1945	Hydrologic Data on the Cape Fear River Basin.	Do.
Do	1866-1945	Hydrologic Data on the Yadkin-Pee Dee River Basin.	Do.
North Dakota	1919-21	Report to Governor of North Dakota on flood control.	State chief engineer.
Do	1882-1938	Surface water in North Dakota	State Planning Board.
Do	1882-1944	Supplement B, 4th biennial report	State Water Conservation Commission.
Ohio	1898-1921	Bull. 73, Ohio stream flow, Part 1	Engineering Experiment Station, Ohio State University.
Do	1898-1944	Bull. 127, Ohio stream flow, Part 2	Do.
Do	1902-39	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Do	1898-1939	Bull. 111, Ohio stream-drainage areas and flow-duration tables.	Engineering Experiment Station, Ohio State University.
Oregon	1878-1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do	1914-24	Bull. 7, Water resources of the State of Oregon.	Do.
Do	1924-30	Bull. 8, Water resources of the State of Oregon.	Do.
Do	1930-36	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania	1890-1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do	1928-32	Stream-flow records of Pennsylvania	Department of Forests and Waters.
Rhode Island	1929-41	7th annual report	Department of Public Works.
South Carolina	1884-1946	Bull. 17, Summary of records of surface water supply of South Carolina.	South Carolina Research, Planning and Development Board.
Tennessee	1874-1924	Bull. 34, Water resources of Tennessee[3]	Department of Education.
Do	1920-30	Bull. 40, Surface waters of Tennessee	Do.
Utah	1889-1905	5th biennial report	Office of the State Engineer.
Do	1906-10	7th biennial report	Do.
Do	1911-16	10th biennial report	Do.
Virginia	1895-1927	Bull. 31, Water resources of Virginia	Virginia Geological Survey.
Do	1927-42	Bull. 4, Surface water supply of Virginia (Potomac, Rappahannock, and York River Basins).	Virginia Conservation Commission.
Do	1927-42	Bull. 5, Surface water supply of Virginia (James River Basin).	Do.
Do	1927-42	Bull. 6, Surface water supply of Virginia (Roanoke and Chowan River Basins).	Do.
Do	1927-42	Bull. 7, Surface water supply of Virginia (New, Tennessee, and Big Sandy River Basins).	Do.
Washington	1878-1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin	1888-1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do	1914-23	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

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

3 Includes records of discharge for all stations in North Carolina in the Tennessee River Basin.

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

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

Water-Supply Paper	Title
88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, Calif., January 1, 1934.
796-G	Major Texas floods of 1935.
798	The floods of March 1936, part 1, New England rivers.
799	The floods of March 1936, part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, part 3, Potomac, James, and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February, 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
844	Floods of March 1938 in southern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.
914	Texas floods of 1938 and 1939.
966	Minor floods of 1938 in North Atlantic States.
967-A	Floods of September 1939 in Colorado River Basin below Boulder (Hoover) Dam.
967-B	Flood of July 5, 1939, in eastern Kentucky.
967-C	Flood of August 21, 1939, in town of Baldwin, Maine.
994	Cloudburst floods in Utah, 1850 to 1938.
997	Floods in Colorado.
1046	Texas floods of 1940.
1066	Floods of 1940 in southeastern States.
1080	Floods of May-June 1948 in Columbia River Basin.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table contains a list of gaging stations for the area covered by this report at which records of daily discharge were collected during the water year October 1946 to September 1947 by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey except as noted in footnotes to the table. Records for many canals and ditches and occasional records for several natural streams, none of which are here listed, have also been collected, and some of them have been published in the reports of irrigation projects or of the water commissioner of the drainage basin in which the streams are situated. Records of discharge in the Bear River Basin for the period 1943 to 1947 are also published by the Geological Survey in special annual investigational reports entitled "Bear River Hydrometric Data, Tri-State Investigations." These reports contain many diversion records and miscellaneous measurements not included in the annual water-supply papers.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Centerville Creek.	Centerville, Utah, near mouth of canyon.	1937-47	Intermountain Forest & Range Experiment Station.
City Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1947a	Salt Lake City.

a Records prior to 1913 are contained in water-supply papers published by the Geological Survey; those for 1913-30, in reports published by Salt Lake City.

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

Stream	Location	Period	Collected by
Cottonwood Creek....	Salt Lake City, Utah, near mouth of canyon.	1898-1947a	Salt Lake City.
Donner Creek.....	Above Cold Creek, near Truckee, Calif.	1929-47	Federal Court Watermaster for Truckee River.
Do.....	Below Cold Creek, near Truckee, Calif.	1902-15 1928-47b	Do.
Emigration Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1947a	Salt Lake City.
Ephraim Creek.....	Near Ephraim, Utah.....	1914-47	Intermountain Forest & Range Experiment Station.
Farmington Creek.....	Near Farmington, Utah.....	1937-47	Do.
Honey Creek.....	Near Plush, Oreg.....	1909-15, 1921-22, 1930-47c	Oregon State engineer.
Little Cottonwood Creek.	Salt Lake City, Utah, near mouth of canyon.	1898-1947a	Salt Lake City.
Little Truckee River.	Above Boca Reservoir, near Boca, Calif.	1942-47	Washoe County Water Conservation District.
Do.....	Below Boca Reservoir, at Boca, Calif..	1942-46	Do.
Mill Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1946a	Salt Lake City.
Otter Creek Reservoir	Antimony, Utah, at former Geological Survey gaging station published as Otter Creek near Coyoto.	1920-47d	Sevier River water commissioner.
Parish Creek.....	Centerville, Utah, near mouth of canyon.	1937-47	Intermountain Forest & Range Experiment Station.
Parleys Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1947a	Salt Lake City.
Prosser Creek.....	Near Boca, Calif.....	1942-47	Federal Court Watermaster for Truckee River.
Sevier River.....	Delta, Utah, at former Geological Survey gaging station.	1920-47d	Sevier River water commissioner.
Truckee River.....	At Tahoe, Calif.....	1895-96 1900-47b	Federal Court Watermaster for Truckee River.
Do.....	At Farad, Calif.....	1938-47b	Truckee-Carson Irrigation District.
Do.....	At Vista, Nev.....	1899-1907e 1927-47	Federal Court Watermaster for Truckee River.
Do.....	At Derby Dam, Nev.....	1907-10e 1926-47	Do.
Do.....	At Pyramid Dam, Nev.....	1928-47	Do.

a Records prior to 1913 are contained in water-supply papers published by the Geological Survey; those for 1913-30, in reports published by Salt Lake City.
b Records prior to 1944 published in water-supply papers by the Geological Survey.
c. Records are published in bulletins of the Oregon State engineer (see p. 10, "State reports containing compilation of records of discharge") except those subsequent to 1936, which have not been published. Records prior to 1922 are also contained in water-supply papers published by the Geological Survey.
d Published in the annual reports of Sevier River water commissioner.
e Published in water-supply papers by the Geological Survey.
Note.- Records here listed other than those cited in above notes have not been published.

COOPERATION

The work in the several States was done under cooperative agreements with the organizations listed below:

California: State Department of Public Works, C. H. Purcell, director, and Edward Hyatt, State engineer; San Bernardino and Los Angeles Counties.

Idaho: State Department of Reclamation, M. R. Kulp, State reclamation engineer.

Nevada: Office of State Engineer, A. M. Smith.

Oregon: Office of State Engineer, C. E. Stricklin.

Utah: Office of State Engineer, E. H. Watson.

Wyoming: Office of State Engineer, L. C. Bishop.

Work in the Bear River Basin (exclusive of Malad Valley) was done under cooperative agreements with the State Department of Reclamation of Idaho, the Office of State Engineer of Utah, the Office of State Engineer of Wyoming, and the Bureau of Reclamation of the United States Department of the Interior.

Financial assistance was furnished by the Corps of Engineers for the operation of three gaging stations in Utah, two in California, and three in Nevada, and by the Bureau of Reclamation, United States Department of the Interior, for work in California and Utah.

Assistance in collecting records was rendered by the following organizations:

California: Walker River Irrigation District.

Idaho: Bureau of Reclamation of the United States Department of the Interior; Utah Power and Light Company.

Oregon: Fish and Wildlife Service of the United States Department of the Interior; Harney and Lake Counties.

Utah: Bureau of Reclamation of the United States Department of the Interior; Utah Power & Light Co.

DIVISION OF WORK

The stream-gaging work was conducted by the water-resources division of the Geological Survey, Carl G. Paulsen, chief hydraulic engineer, and Joseph V. B. Wells, chief of the surface-water branch. The data for the stations in the several States were collected and prepared for publication under supervision of district engineers as follows: In California (except for stations in Walker Lake, Carson River, and Truckee River Basins), H. D. McGlashan; in Idaho (except for stations in Bear River Basin operated in connection with Federal Power Commission projects), T. R. Newell; in Oregon, G. H. Canfield, the work being done in collaboration with C. E. Stricklin, State engineer; in Utah and Nevada and for stations in Walker Lake, Carson River, and Truckee River Basins in California and for stations in Bear River Basin in Idaho operated in connection with Federal Power Commission projects, M. T. Wilson; in Wyoming, Robert Follansbee.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson, chief, annual reports section.

GREAT SALT LAKE BASIN

Gages on Great Salt Lake, Utah

Location.- Water-stage recorder, lat. 40°44'15", long. 112°12'30", in NW¼ sec. 17, T. 1 S., R. 3 W., at Salt Lake County Boat Harbor, on southeast shore of lake, 17 miles west of Salt Lake City; and staff gage, lat. 41°13', long. 112°36', at Midlake, on Lucin cut-off of Southern Pacific Railroad, 30 miles west of Ogden. Datum of Boat Harbor gage is 4,186.85 feet above mean sea level; that of Midlake gage, 4,198.0 feet above mean sea level, adjustment of 1912. To reduce elevations to datum of 1929, add 0.05 foot.

Records available.- September 1875 to December 1899, March to July 1904, and October 1912 to September 1947 in reports of Geological Survey. July 1903 to December 1934 in reports of U. S. Weather Bureau. Diagram showing fluctuations of lake from 1851-1940 is published in Water-Supply Paper 880.

Extremes.- Maximum elevation during year, 4,197.25 feet May 15, June 15 at Boat Harbor gage; minimum, 4,195.2 feet Oct. 15 at Midlake gage.
1851-1947: Maximum elevation, 4,211.6 feet in 1873, computed from traditional data by E. C. La Rue (see Water-Supply Paper 880, p. 125); minimum, 4,193.65 feet Oct. 15 and Nov. 1, 1940, at Boat Harbor gage and Oct. 15, 1940, at Midlake gage.

Remarks.- Apparent inconsistencies in readings are probably due largely to the effect of wind, as the two gages are about 40 miles apart. To compensate for wind effect, elevations given for the Boat Harbor gage are taken from a mean slope line defined by several days' gage-height graph preceding and following 12:01 a.m. for the first and fifteenth of each month. Wind effects may cause substantial changes in elevations which are not shown in the published elevations.

Cooperation.- Records for Midlake gage furnished by Southern Pacific Railroad.

Gage height, in feet, of Great Salt Lake, Utah water year 1946-47

Day	Boat Harbor	Midlake
Oct. 1	8.5	-2.65
15	8.45	-2.75
Nov. 1	8.65	-2.6
15	8.75	-2.5
Dec. 1	8.95	-2.4
15	9.2	-2.1
Jan. 1	9.35	-1.85
15	9.4	-1.75
Feb. 1	9.45	-1.65
15	9.7	-1.6
Mar. 1	10.0	-1.35
15	10.1	-1.1
Apr. 1	10.1	-1.0
15	10.15	-1.0
May 1	10.3	-.9
15	10.4	-.9
June 1	10.25	-1.0
15	10.4	-1.0
July 1	10.25	-1.0
15	10.05	-1.1
Aug. 1	9.9	-1.35
15	9.7	-1.6
Sept. 1	9.45	-1.75
15	9.2	-2.0

Bear River near Utah-Wyoming State line

Location.- Water-stage recorder, lat. 40°58', long. 110°51', in SE¼ sec. 30, T. 3 N., R., IU E., just downstream from West Fork and 2.8 miles upstream from Utah-Wyoming State line.

Drainage area.- 176 square miles.

Records available.- July 1942 to September 1947.

Extremes.- Maximum discharge during year, 1,780 second-feet May 7 (gage height, 3.60 feet); minimum, 25 second-feet Apr. 7, but may have been less during periods of ice effect or no gage-height record.
1942-47: Maximum discharge, that of May 7, 1947; maximum gage height, 3.73 feet June 22, 1945; minimum discharge, 20 second-feet Apr. 2, 1944, but may have been less during period of ice effect.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. A few small diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	60					47	267	747	654	150	57
2	57	b59					48	431	815	663	144	55
3	47	b58					44	723	875	718	131	54
4	48	b56	b52				44	1,030	766	709	140	51
5	54	b56					45	1,180	766	637	131	50
6	51	b56					44	1,260	785	577	113	50
7	50	b56	51				41	1,340	1,010	577	107	48
8	48	52				42	43	1,410	1,290	552	128	45
9	47	55					43	1,230	1,290	552	165	57
10	51	b54					43	1,060	915	544	161	66
11	44	b53					40	875	855	470	157	52
12	43	b52	b50				42	738	766	416	124	48
13	45	b53					54	681	756	378	115	47
14	44	*54					84	619	747	367	104	45
15	50	b54		40	42		129	585	795	378	102	46
16	57	b53				43	138	672	955	378	94	47
17	66	b52				44	154	756	1,080	338	89	71
18	62	b52				45	167	785	975	311	80	82
19	55	52				46	148	825	1,100	280	76	102
20	57	54				48	184	885	1,380	266	73	73
21	60	b56				50	259	1,020	1,060	257	89	60
22	60	b54	45			52	231	1,070	845	243	134	54
23	60	55				54	187	1,030	756	225	96	51
24	50	b56		(*)		52	170	945	646	208	82	52
26	58	b54			(*)	*50	177	1,050	601	195	78	50
26	54	b53				47	187	1,080	690	180	73	48
27	57	b53				b47	209	1,110	766	172	71	45
28	73	b52				48	184	1,040	776	161	69	45
29	69	b52			-	47	184	805	825	154	66	45
30	69	b52	40		-	54	194	747	681	147	66	52
31	68	-			-	48	-	766	-	144	60	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,690	73	36	54.5	3,350
November	1,628	60	52	54.3	3,230
December	1,473	-	-	47.5	2,920
Calendar year 1946	63,359	1,160	-	174	125,700
January	1,240	-	-	40	2,460
February	1,176	-	-	42	2,330
March	1,405	-	-	45.3	2,790
April	3,564	259	40	119	7,070
May	28,015	1,410	267	904	55,570
June	26,314	1,380	601	877	52,190
July	11,851	718	144	382	23,510
August	3,268	165	60	105	6,480
September	1,648	102	45	54.9	3,270
Water year 1946-47	83,272	1,410	-	228	165,200

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Dec. 4-6, 13, 14, Dec. 17 to Mar. 25 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 2 discharge measurements, weather records, and records for station on Weber River near Oakley, Utah.

Bear River above Sulphur Creek, near Evanston, Wyo.

Location.- Water-stage recorder, lat. 41°09', long. 110°53', in SW¼SE¼ sec. 31, T. 14 N., R. 119 W., 1⅞ miles upstream from Myers bridge, 5.5 miles upstream from Sulphur Creek, and 9½ miles southeast from Evanston.

Drainage area.- 282 square miles.

Records available.- October 1946 to September 1947.

Extremes.- Maximum discharge during year, 1,860 second-feet May 8 (gage height, 4.61 feet); minimum daily, 23 second-feet Sept. 6.

Remarks.- Records good except those for period of ice effect, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a45						105	325	680	544	40	41
2	a65						134	550	700	532	41	37
3	a55		100				125	906	766	550	42	32
4	a55						96	1,280	732	550	42	28
5	a60						85	1,490	686	509	45	27
		90				55						
6	a58						82	1,480	636	429	39	23
7	a56						85	1,520	780	390	32	29
8	a55						92	1,640	1,140	396	32	28
9	a55						105	1,550	1,500	385	62	26
10	a60						88	1,350	1,050	429	182	32
11	a55		90			60	92	1,140	1,050	339	162	32
12	a50					65	85	946	970	283	116	29
13	a52					70	120	882	838	239	96	27
14	a52					80	176	852	838	220	83	24
15	a58					100	204	693	822	236	96	25
		*85		55	55							
16	a65					200	191	766	875	258	86	27
17	a70		(*)			400	182	868	1,070	233	78	38
18	67					600	213	868	994	204	74	62
19	58					550	171	882	1,030	174	68	77
20	62					500	194	882	1,280	157	62	67
21	68					450	243	1,000	1,450	146	63	54
22	67					440	258	1,110	986	136	99	48
23	67	80				254	230	1,070	882	125	85	43
24	62		65			139	194	930	686	109	69	44
25	60			(*)		107	179	1,030	599	96	66	44
26	62				(*)	*116	171	1,050	599	85	64	39
27	60					96	204	1,110	642	75	60	36
28	98	105				134	176	1,170	630	72	57	38
29	125				-	146	201	860	680	54	49	40
30	86				-	194	233	706	599	44	49	35
31	88	-			-	136	-	726	-	40	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	a1,996	125	45	64.4	3,960
November	2,675	-	-	89.2	5,310
December	2,465	-	-	79.5	4,890
Calendar year	-	-	-	-	-
January	1,705	-	-	55	3,380
February	1,540	-	-	55	3,050
March	5,387	600	-	174	10,680
April	4,714	258	82	157	9,350
May	31,632	1,640	325	1,020	62,740
June	26,190	1,500	599	873	51,950
July	8,039	550	40	259	15,950
August	2,185	182	32	70.5	4,330
September	1,132	77	23	37.7	2,250
Water year 1946-47	89,660	1,640	-	246	177,800

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station near Evanston.
Note.- Stage-discharge relation affected by ice Nov. 1 to Mar. 21.

Bear River near Evanston, Wyo.

Location.- Water-stage recorder, lat. 41°19', long. 111°01', in sec. 1, T. 15 N., R. 121 W., 300 feet upstream from highway bridge and 3½ miles northwest of Evanston.

Drainage area.- 715 square miles (revised).

Records available.- October 1913 to September 1947.

Average discharge.- 34 years, 231 second-feet.

Extremes.- Maximum discharge during year, 1,850 second-feet June 21 (gage height, 5.74 feet); minimum, 6.5 second-feet Oct. 1.
1913-47: Maximum discharge, 3,690 second-feet June 14, 1921 (gage height, 6.35 feet), from rating curve extended above 2,700 second-feet; no flow during some periods in 1924, 1931, 1933, 1934, 1939, 1940, 1942, 1946.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0		101				257	330	678	530	14	28
2	7.0		106				245	500	686	485	13	25
3	8.0		95				251	770	718	467	12	23
4	12		91				221	1,100	766	460	12	21
5	13		b92				168	1,340	682	428	13	19
		a90				b75						
6	16		b95				154	1,450	642	385	13	17
7	20		b95				154	1,480	698	346	11	13
8	23		b93				154	1,570	896	340	10	13
9	24		91		b65		184	1,690	1,380	330	13	17
10	23		b90				165	1,540	1,440	369	164	17
11	22		b90			b80	170	1,400	1,390	299	170	20
12	20		89			b85	154	1,150	1,440	224	108	20
13	20		91	b60		b90	179	1,020	1,190	187	67	16
14	21		91			b100	251	1,020	986	157	56	13
15	22		87			b150	299	856	914	165	57	12
		a85										
16	22		91			b400	290	824	892	204	61	10
17	32		79			775	266	888	982	242	56	14
18	a30		*61		b70	*960	281	896	1,030	190	50	30
19	a30		28			1,110	266	914	973	142	45	48
20	a35		50			973	266	896	1,080	99	44	57
21	44		72			802	293	978	1,650	89	48	49
22	50		66			820	350	1,040	1,350	78	51	43
23	a50	a80	72			838	362	1,030	1,050	71	67	37
24	a40		67			470	343	919	811	57	53	32
25	a50	b80	69		b75	269	269	906	682	54	43	32
26	a50	b85	72			257	239	955	618	44	40	31
27	a55	b100	74			221	251	991	622	34	36	27
28	a90	b110	64	*b65		257	266	1,090	614	35	37	25
29	a140	b100	b60		-	315	257	946	634	23	32	25
30	a120	108	56		-	411	278	718	618	18	32	27
31	108	-	b60		-	369	-	714	-	15	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,204	140	7.0	38.8	2,390
November	2,653	-	-	88.4	5,260
December	2,438	106	28	78.6	4,840
Calendar year 1946	71,823	1,320	0	197	142,600
January	1,890	-	-	61.0	3,750
February	1,925	-	-	68.8	3,820
March	10,502	1,110	-	339	20,830
April	7,283	362	154	243	14,450
May	31,921	1,690	330	1,030	63,310
June	28,112	1,650	614	937	55,760
July	6,567	530	15	212	13,030
August	1,458	170	10	47.0	2,890
September	761	57	10	25.4	1,510
Water year 1946-47	96,714	1,690	7.0	265	191,800

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of discharge measurement made Nov. 18, recorded range in stage, and records for Weber River near Oakley, Utah.
b Stage-discharge relation affected by ice.

Bear River near Woodruff, Utah

Location.- Water-stage recorder, lat. 41°31'25", long. 111°01'00", in SW¼ sec. 20, T. 18 N., R. 120 W., in Wyoming, 2.8 miles upstream from Wyoming-Utah State line and 7.6 miles east of Woodruff.

Drainage area.- 870 square miles.

Records available.- April 1942 to September 1947.

Extremes.- Maximum discharge during year, 1,940 second-feet Mar. 18 (gage height, 4.37 feet); no flow Oct. 1-4.
1942-47: Maximum discharge, that of Mar. 18, 1947; no flow at times in each year.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation, including Chapman Canal which carries some water over a low divide for storage in Neponset Reservoir for irrigation in Saleratus Basin.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	55					346	290	609	a450	18	27
2	0	57					283	390	591	a400	16	26
3	0	51					261	580	597	a350	16	19
4	0	55					258	862	673	a300	14	14
5	1.5	66					244	1,090	603	a275	14	14
6	3.5	77	100			60	210	1,310	563	a250	12	12
7	5.2	88					187	1,380	530	a235	13	11
8	6.4	73			70		178	1,440	627	a225	13	8.8
9	8.4	75					a170	1,530	1,260	a250	19	9.2
10	7.0	64					a170	1,670	1,500	a300	52	8.4
11	8.4	48				65	a190	1,620	1,450	330	146	10
12	8.1	55				70	a180	1,440	1,490	240	135	10
13	7.8	50		65		80	a180	1,130	1,450	187	92	12
14	8.1	70				90	a170	998	1,020	157	64	11
15	8.4	90	95			150	a200	878	878	146	54	11
16	7.8	80				500	a270	730	782	163	54	10
17	14	80				1,000	a270	752	782	193	57	22
18	16	*80			75	1,250	a270	806	1,030	212	52	17
19	18	80				1,370	a270	814	896	175	47	20
20	18	75				*1,230	a270	814	904	132	44	35
21	18	70				998	a270	806	1,270	106	71	44
22	17	70				870	a300	912	1,690	95	66	42
23	19	70	75		80	862	346	946	1,420	78	49	35
24	20	70			(*)	730	318	904	1,030	69	62	32
25	20	70				472	272	752	775	54	51	27
26	21	80			60	338	233	798	627	47	43	26
27	23	90				302	216	830	585	39	40	25
28	36	100		70		264	244	946	580	33	39	24
29	57	100			-	290	250	980	568	30	36	22
30	82	100	70		-	330	264	694	a500	25	33	21
31	60	-			-	372	-	627	-	20	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	519.6	82	0	16.8	1,030
November	2,189	100	48	73.0	4,340
December	2,700	-	-	87.1	5,360
Calendar year 1946	66,512.7	1,260	0	182	131,900
January	2,045	-	-	66.0	4,060
February	1,985	-	-	70.9	3,940
March	12,233	1,370	-	395	24,260
April	7,290	346	170	243	14,460
May	29,719	1,670	290	959	58,950
June	27,280	1,690	500	909	54,110
July	5,566	450	20	180	11,040
August	1,451	146	12	46.8	2,880
September	605.4	44	8.4	20.2	1,200
Water year 1946-47	93,583.0	1,690	0	256	185,600

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations near Evanston, Wyo., and near Randolph, Utah.
Note.- Stage-discharge relation affected by ice Nov. 12 to Mar. 17.

Bear River near Randolph, Utah

Location.- Water-stage recorder, lat. 41°48', long. 111°06', in SE¼NE¼ sec. 7, T. 12 N., R. 8 E., 4.2 miles upstream from Twin Creek, 5.5 miles upstream from Utah-Wyoming State line, and 11 miles northeast of Randolph.

Drainage area.- 1,640 square miles.

Records available.- December 1943 to September 1947.

Extremes.- Maximum discharge during year, 1,600 second-feet June 14 (gage height, 7.85 feet); minimum, 31 second-feet Oct. 1.
1943-47: Maximum discharge, that of June 14, 1947, minimum daily, 23 second-feet Oct. 21, 25, 27-29, 1944.

Remarks.- Records good except those for periods of ice effect, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	49				90	387	170	521	438	67	54
2	33	50				90	365	180	610	435	68	52
3	34	48				90	313	198	618	398	67	51
4	34	50				90	283	263	586	350	59	48
5	35	50				90	277	387	567	309	50	48
6	36	51			75	90	275	565	552	273	51	47
7	37	50				90	246	673	504	261	51	45
8	38	53				90	229	703	459	234	51	44
9	37	56				90	221	754	524	220	64	45
10	37	60	110			90	229	812	655	216	122	44
11	37	45				100	242	909	912	200	88	44
12	37	50			80	130	242	1,040	1,230	229	67	43
13	38	45		70	85	150	236	1,130	1,470	220	88	42
14	37	50			90	200	242	1,210	1,570	187	106	41
15	37	60			95	300	229	1,070	1,510	159	102	41
16	38	80			100	450	238	848	1,340	142	87	41
17	41	75			*105	600	254	664	1,070	130	86	46
18	43	70			110	*776	259	524	882	127	79	72
19	45	*70			110	943	250	491	865	137	70	56
20	43	70			110	995	240	412	899	138	74	50
21	43	65			110	1,120	250	394	892	127	80	48
22	42	65			110	1,240	269	359	964	115	81	46
23	41	65	80	(*)	105	1,190	289	361	1,110	113	79	47
24	40	65			100	1,030	301	389	1,270	108	80	51
25	40	65			95	957	301	403	1,380	100	70	55
26	40	70			90	731	283	385	1,270	93	67	54
27	42	80			90	506	246	380	902	88	66	52
28	53	90			90	426	229	440	596	78	66	51
29	57	100		75	-	392	154	506	511	77	61	51
30	53	100	75		-	389	180	552	455	75	57	50
31	50	-			-	396	-	575	-	70	55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,252	57	33	40.4	2,480
November	1,897	100	45	63.2	3,760
December	2,975	-	-	96.0	5,900
Calendar year 1946	76,099	1,170	26	208	150,900
January	2,200	-	-	71.0	4,360
February	2,500	110	-	89.3	4,960
March	13,921	1,240	90	449	27,610
April	7,759	387	154	259	15,390
May	17,747	1,210	170	572	35,200
June	26,694	1,570	455	890	52,950
July	5,847	438	70	189	11,600
August	2,259	122	50	72.9	4,480
September	1,459	72	41	48.6	2,890
Water year 1946-47	86,510	1,570	33	237	171,600

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 2-5, Nov. 10 to Mar. 17.

Bear River at Border, Wyo.

Location.- Water-stage recorder, lat. 42°11', long. 111°03', in NE¼NE¼ sec. 15, T. 14 S., R. 46 E., in Idaho, a quarter of a mile west of Wyoming State line and half a mile west of Border. Datum of gage is 6,051.63 feet above mean sea level, unadjusted.

Drainage area.- 2,490 square miles.

Records available.- October 1937 to September 1947.

Average.- 10 years, 363 second-feet.

Extremes.- Maximum discharge during year, 2,040 second-feet June 18 (gage height, 6.89 feet); minimum daily, 140 second-feet Jan. 11, 12.
1943-47: Maximum discharge, 2,040 second-feet Apr. 8, 1942, June 18, 1947 (gage height, 6.89 feet); maximum gage height, 7.04 feet May 1, 1946; minimum daily discharge, 30 second-feet Aug. 18-22, 1940.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	173	215	215	160	170	270	a900	806	1,120	1,120	247	234
2	180	193	220	160	160	270	a850	859	1,140	1,020	238	223
3	184	188	210	160	170	*220	a800	931	1,110	966	240	217
4	173	180	220	150	170	220	a750	958	1,180	915	245	203
5	174	189	240	150	180	240	a700	1,040	1,170	852	265	203
6	180	201	260	150	180	230	a650	1,220	1,160	771	251	207
7	176	203	260	150	*180	240	a600	1,400	1,140	717	242	207
8	178	199	234	150	180	230	534	1,500	1,120	678	256	207
9	191	193	240	150	180	230	515	1,580	1,210	665	267	213
10	195	178	250	150	180	240	504	1,590	1,270	652	278	217
11	195	165	270	140	180	260	488	1,740	1,360	606	368	215
12	193	176	290	140	180	280	480	1,860	1,590	556	388	219
13	195	160	300	150	180	290	470	1,940	1,740	523	340	234
14	193	200	300	150	190	300	494	2,000	1,870	523	313	225
15	191	199	300	160	190	400	540	1,980	1,920	504	323	223
16	186	180	250	160	190	500	551	1,900	1,980	475	323	223
17	186	180	200	160	200	816	551	1,780	1,990	451	297	228
18	188	180	150	150	*210	1,050	571	1,650	2,020	426	281	258
19	189	203	180	150	220	1,300	579	1,460	1,960	410	269	265
20	189	203	210	*150	230	a1,600	594	1,300	1,750	406	260	258
21	186	160	200	150	250	a1,700	649	1,200	1,700	388	269	236
22	184	160	200	150	260	a1,750	724	1,110	1,700	364	294	223
23	188	180	220	160	270	a1,850	704	1,070	1,690	356	278	213
24	189	180	210	160	280	a1,800	678	1,060	1,640	325	265	213
25	184	*150	210	160	280	a1,700	678	1,040	1,630	306	262	209
26	186	190	230	170	280	a1,300	681	1,020	1,710	299	253	211
27	191	220	230	170	300	a1,350	700	919	1,760	285	247	209
28	225	201	210	170	300	a1,200	720	1,000	1,720	276	251	209
29	232	207	170	170	-	a1,000	768	1,040	1,490	265	251	205
30	232	213	150	170	-	a1,000	778	1,020	1,260	260	247	203
31	223	-	160	170	-	a950	-	1,060	-	253	247	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,929	232	173	191	11,760
November	5,645	220	150	188	11,200
December	6,989	300	150	225	13,860
Calendar year 1946	172,892	2,000	142	474	342,900
January	4,840	170	140	156	9,600
February	5,940	300	160	212	11,780
March	24,786	1,850	220	800	49,160
April	19,201	900	470	640	38,080
May	41,033	2,000	806	1,324	81,390
June	46,100	2,020	1,110	1,537	91,440
July	16,613	1,120	253	536	32,950
August	8,555	388	238	276	16,970
September	6,610	265	203	220	13,110
Water year 1946-47	192,241	2,020	140	527	381,300

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 1 discharge measurement and combined flow of furnished records of Bear River below Stewart Dam, near Montpelier, Idaho, and Rainbow inlet canal near Dingle, Idaho.
Note.- Stage-discharge relation affected by ice Nov. 12-14, 16-18, 21-27, Dec. 2-7, Dec. 9 to Mar. 16 (no gage-height record Jan. 1-16, Feb. 8-18).

Bear River at Harer, Idaho

Location.- Water-stage recorder, lat. 42°11'50", long. 111°10'05", in NW¼ sec. 23, T. 14 S., R. 45 E., 400 feet downstream from Sheep Creek, three-quarters of a mile north of Harer siding on Oregon Short Line Railroad, and 5 miles east of Dingle.
Drainage area.- 2,780 square miles.
Records available.- June 1913 to September 1916, January 1919 to September 1947.
Average discharge.- 31 years, 505 second-feet.
Extremes.- Maximum daily discharge during year, 2,300 second-feet May 15; minimum daily, 160 second-feet Jan. 10.
1913-16, 1919-47: Maximum discharge, 3,860 second-feet June 2, 1920 (gage height, 10.51 feet); minimum daily, 26 second-feet Aug. 21-27, 1934.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation.
Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Eighteen discharge measurements were made by Geological Survey and one by watermaster, District No. 5, in addition to those made by power company.

Rating tables, water year 1946-47, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 31		Jan. 1 to Sept. 30			
2.6	156	2.5	149	3.8	510
2.9	214	2.8	204	5.0	1,000
3.4	340	3.2	306	8.4	2,310

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	218	272	265	185	205	320	992	956	1,260	1,360	334	294
2	218	265	253	190	210	295	948	1,040	1,280	1,240	334	286
3	223	246	240	185	215	280	931	1,120	1,270	1,150	331	277
4	225	241	278	170	215	*285	886	1,200	1,280	1,100	331	272
5	221	246	282	170	215	290	797	1,260	1,320	1,030	347	250
6	221	248	293	180	*215	290	733	1,460	1,350	956	340	248
7	225	248	312	180	215	290	696	1,640	1,360	890	328	250
8	225	258	318	175	210	290	667	1,780	1,330	810	328	253
9	227	255	290	165	205	300	639	1,870	1,380	797	347	253
10	238	255	300	160	215	310	615	1,930	1,460	784	357	258
11	243	236	310	165	220	310	611	2,010	1,550	733	397	258
12	241	227	318	170	225	310	a600	2,090	1,780	671	459	258
13	238	238	318	170	225	310	a600	2,150	1,940	639	428	264
14	238	*260	309	175	230	320	a600	2,240	2,060	623	390	264
15	238	262	307	170	230	430	623	2,300	2,140	607	384	264
16	236	230	312	165	240	750	659	2,280	2,180	595	390	264
17	236	205	*250	*170	240	1,050	671	2,190	2,210	564	377	266
18	238	245	190	175	*240	1,300	683	2,040	2,220	537	354	294
19	236	250	210	170	255	1,550	696	1,830	2,210	521	337	318
20	236	240	260	175	280	1,820	700	1,640	2,090	506	328	318
21	236	210	250	*185	300	1,940	776	1,490	1,910	506	325	309
22	236	205	255	185	310	*1,970	878	1,400	1,920	480	337	297
23	241	235	265	190	320	1,940	903	1,340	1,910	462	347	280
24	238	235	260	190	335	1,860	870	1,300	1,880	418	337	277
25	241	*214	250	195	345	1,750	853	1,290	1,840	407	328	272
26	238	245	260	200	360	1,630	844	1,250	1,870	390	325	266
27	241	272	260	200	345	1,480	844	1,180	1,940	377	315	266
28	255	255	245	205	335	1,270	874	1,160	1,940	367	318	264
29	285	255	190	200	-	1,090	898	1,200	1,820	354	318	264
30	282	258	170	200	-	1,050	956	1,200	1,550	350	312	264
31	282	-	180	205	-	1,040	-	1,210	-	337	306	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,396	285	218	239	14,670
November	7,311	272	205	244	14,500
December	8,200	318	170	265	16,260
Calendar year 1946	216,877	2,680	170	594	430,200
January	5,620	205	160	181	11,150
February	7,155	360	205	256	14,190
March	28,120	1,970	280	907	55,780
April	23,043	992	600	768	45,710
May	49,046	2,300	956	1,582	97,280
June	52,250	2,220	1,260	1,742	103,600
July	20,561	1,360	337	663	40,780
August	10,789	459	306	348	21,400
September	8,168	318	248	272	16,200
Water year 1946-47	227,659	2,300	160	624	451,500

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Rainbow inlet canal near Dingle, Dingle inlet canal, and Bear River below Stewart Dam, near Montpelier.
Note.- Stage-discharge relation affected by ice Nov. 16-26, 28, 29, Dec. 2, 9-11, Dec. 17 to Mar. 19.

Bear River below Stewart Dam, near Montpelier, Idaho

Location.- Staff gage, lat. 42°15'30", long. 111°17'30", in NE¼ sec. 34, T. 13 S., R. 44 E., 300 feet downstream from Stewart Dam and 4½ miles south of Montpelier.

Records available.- October 1945 to September 1947. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 25 years, 87.6 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 281 second-feet July 26; minimum daily, 6 second-feet July 21, 22.
1923-47: Maximum daily discharge, 3,050 second-feet June 3, 1923; minimum daily, 1 second-foot on several days in 1931, 1934, 1940.

Remarks.- Records fair. Many diversions above station for irrigation. Flow regulated at Stewart Dam.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. One discharge measurement made by Geological Survey in addition to those made by power company.

Rating tables, water year 1946-47 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Jan. 27 to May 24)

Oct. 1 to Dec. 31		Jan. 1 to Sept. 30					
1.2	11	1.0	5	1.5	24	2.5	102
1.3	15	1.1	8	1.7	34	2.9	155
1.4	20	1.2	11	1.9	47	3.2	206
		1.4	19	2.1	62	3.5	266

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	15	a15	a14	13	17	17	17	a24	19	84	a27
2	18	16	15	14	a13	a16	17	18	25	17	89	26
3	18	a16	15	14	13	16	17	19	25	15	a89	26
4	18	15	15	14	13	16	17	a20	26	a14	89	26
5	a17	15	15	a14	13	16	16	20	26	14	89	25
6	a17	15	15	13	14	16	a16	21	26	a13	a67	24
7	16	15	15	13	14	16	14	22	25	12	36	a23
8	16	15	a16	13	14	16	17	23	a26	11	36	22
9	16	15	16	13	a14	a16	16	22	26	11	35	21
10	16	a14	16	13	13	16	16	24	26	10	a35	21
11	16	14	16	13	13	16	16	a23	26*	9	35	21
12	16	14	16	a13	13	13	17	22	26	9	35	21
13	a16	14	16	13	13	15	a17	23	27	a8	39	20
14	16	14	16	12	14	16	17	23	27	7	35	a20
15	16	15	a16	12	14	17	16	24	a27	7	34	20
16	16	15	16	12	a14	a17	17	23	27	7	34	20
17	16	a14	15	12	15	17	17	22	27	7	a34	a20
18	16	14	14	11	15	17	16	a22	27	7	34	21
19	16	15	14	a11	15	21	16	22	27	7	34	21
20	a16	15	15	11	16	22	a16	23	27	a7	34	21
21	16	14	14	10	16	20	17	23	26	6	34	a20
22	16	15	a14	10	a16	19	17	24	a26	6	33	20
23	16	15	15	11	a17	a19	18	24	27	7	32	20
24	16	a15	15	11	17	19	18	24	26	a70	a32	20
25	16	15	a15	11	17	18	18	a24	26	223	31	19
26	16	15	15	a12	17	17	18	23	26	a277	31	20
27	a16	15	15	13	16	a16	a18	24	26	107	30	20
28	15	a15	15	13	17	16	17	25	26	102	29	a20
29	15	15	a14	13	-	16	18	25	a25	100	28	19
30	15	15	14	13	-	a16	18	a24	24	95	28	18
31	15	-	14	13	-	16	-	24	-	108	a27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	502	18	15	16.2	996
Novsmber	444	16	14	14.8	881
Decsmber	467	16	14	15.1	926
Calendar year 1946	5,517	24	7	15.1	10,940
January	385	14	10	12.4	764
February	409	17	13	14.6	811
March	524	22	13	16.9	1,040
April	505	18	14	16.8	1,000
May	697	25	17	22.5	1,380
June	781	27	24	26.0	1,550
July	1,312	277	6	42.3	2,600
August	1,332	89	27	43.0	2,640
September	642	27	18	21.4	1,270
Water year 1946-47	8,000	277	6	21.9	15,858

a No gage-height record; discharge interpolated.

Bear River at Pescadero, Idaho

Location.- Water-stage recorder, lat. 42°24'30", long. 111°21'30", in SE¼ sec. 6, T. 12 S., R. 44 E., at Pescadero, 400 feet downstream from road bridge, 2 miles downstream from Bennington Creek, and 6½ miles northwest of Montpelier.

Records available.- October 1945 to September 1947. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 25 years, 485 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 1,500 second-feet July 26; minimum daily, 80 second-feet Jan. 27.
1922-47: Maximum daily discharge, 3,840 second-feet June 10, 1923; minimum daily, 23 second-feet Mar. 14-17, 1936.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation. Flow regulated by Bear Lake.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Twelve discharge measurements were by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	445	214	178	470	315	110	255	254	300	1,030	1,450	1,080
2	457	132	163	470	305	110	260	257	316	1,050	1,450	1,080
3	441	281	368	490	300	110	280	252	620	1,050	1,450	1,180
4	350	360	515	540	295	110	270	241	743	1,020	1,450	1,200
5	183	299	528	590	*181	110	240	263	767	989	1,440	1,220
6	121	299	414	630	110	*112	210	460	772	1,020	1,220	1,250
7	114	302	257	650	90	125	200	378	642	1,010	1,140	1,250
8	112	368	186	*727	85	130	195	312	565	1,090	748	1,220
9	106	382	172	790	85	130	190	285	616	1,100	967	1,220
10	106	410	357	800	85	130	185	300	720	1,090	1,060	1,220
11	102	382	457	800	95	130	170	392	729	1,080	1,060	1,190
12	101	368	465	800	100	130	160	495	665	1,080	1,060	1,160
13	217	374	392	780	110	140	150	556	642	1,050	1,060	887
14	284	371	249	*771	115	160	145	552	598	1,040	1,190	616
15	293	385	178	780	115	190	140	515	560	1,150	1,330	924
16	290	392	157	810	120	315	134	487	519	1,310	1,410	961
17	287	382	240	810	120	390	140	463	487	1,430	1,420	978
18	167	374	450	800	120	430	150	396	467	1,430	1,410	989
19	107	437	450	760	120	430	150	368	665	1,360	1,380	811
20	100	494	450	750	120	410	160	361	720	1,300	1,360	729
21	100	558	450	750	125	*359	210	556	616	1,290	1,360	701
22	243	625	450	740	125	310	260	586	594	1,340	1,350	692
23	334	612	445	690	125	310	300	565	616	1,390	1,340	625
24	318	457	410	440	125	305	305	527	748	1,410	1,330	590
25	318	*441	370	210	120	290	295	536	787	1,440	1,310	577
26	315	567	310	100	120	270	280	548	777	1,490	1,300	573
27	321	625	225	80	120	260	255	711	763	1,480	1,280	552
28	344	449	155	125	120	250	250	777	898	1,440	1,240	548
29	360	354	240	390	-	245	250	594	1,020	1,450	1,160	548
30	364	243	350	525	-	245	250	378	1,040	1,450	1,120	560
31	354	-	410	420	-	250	-	300	-	1,450	1,100	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,754	457	100	250	15,380
November	11,937	625	132	398	23,680
December	10,440	528	155	337	20,710
Calendar year 1946	166,606	1,210	50	456	330,500
January	18,488	810	80	596	36,670
February	3,966	315	85	142	7,870
March	6,996	430	110	226	13,880
April	6,439	305	134	215	12,770
May	13,665	777	241	441	27,100
June	19,972	1,040	300	666	39,610
July	38,309	1,490	989	1,236	75,980
August	38,945	1,450	748	1,256	77,250
September	27,131	1,250	548	904	53,810
Water year 1946-47	204,042	1,490	80	559	404,710

* Winter discharge measurement made on this day.

Note.- No gage-height record Dec. 31 to Jan. 22, Mar. 19 to Apr. 30; discharge computed on basis of 5 discharge measurements, weather records, and records for Bear River near Montpelier and at Alexander, Bear Lake Outlet Canal near Paris, and Soda Reservoir elevations. Stage-discharge relation affected by ice Dec. 17-30, Jan. 23 to Mar. 18.

Bear River at Alexander, Idaho

Location.- Water-stage recorder, lat. 42°39', long. 111°42', in NW¼ sec. 17, T. 9 S., R. 41 E., 600 feet downstream from Soda hydroelectric plant of Utah Power & Light Co., half a mile southeast of Alexander, and 5 miles downstream from Soda Creek.

Drainage area.- 3,840 square miles.

Records available.- March 1911 to September 1916, April 1919 to September 1947.

Average discharge.- 32 years (1911-16, 1919-20, 1921-47), 728 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 1,520 second-feet Aug. 19; minimum daily, 56 second-feet Mar. 16, Apr. 6.
1911-16, 1919-47: Maximum discharge, 4,590 second-feet May 9, 1922; maximum gage height, 15.95 feet Dec. 11, 1919; minimum discharge, 28 second-feet at times when reservoir gates are closed.

Remarks.- Records good. Many diversions above station for irrigation. Flow regulated by Bear Lake Reservoir and Soda hydroelectric plant.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. One discharge measurement made by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	711	688	468	e275	e360	246	746	e515	e760	1,240	e1,310	1,300
2	e525	402	653	e930	e195	120	545	e790	e790	1,250	e1,390	1,340
3	e400	311	693	e915	e445	e480	704	e525	e840	1,250	e1,120	1,400
4	336	696	679	e770	e400	e470	e700	e290	712	702	1,300	1,460
5	228	726	484	e340	e485	e680	e360	e575	688	940	1,280	1,400
6	423	790	589	e975	e360	e705	56	609	672	773	1,300	1,370
7	416	709	480	e900	e410	e730	717	734	697	1,250	1,390	1,290
8	440	e440	520	e875	e190	e160	672	802	617	1,270	1,250	1,350
9	333	e250	677	e980	e200	e145	631	643	756	1,270	1,190	1,280
10	300	e200	665	e885	e510	e645	555	436	841	1,310	e1,070	e1,220
11	301	e465	732	e815	e520	e400	602	816	993	1,300	e1,270	e1,170
12	177	e555	667	e185	406	e330	175	1,020	858	1,270	e1,400	e1,260
13	231	e750	636	e925	287	e295	101	934	762	e1,120	e1,240	e950
14	418	e810	e400	e945	257	e300	526	951	873	e1,350	e1,380	850
15	534	e880	e285	e940	189	e245	583	955	628	e1,380	e1,360	1,040
16	483	e410	e780	e900	62	e58	613	839	781	e1,360	e1,320	1,100
17	466	e625	e890	e970	358	e470	672	688	800	e1,340	e1,110	944
18	407	e740	e820	e825	369	e920	565	733	731	e1,390	1,320	1,030
19	380	e740	e800	556	344	e970	415	694	760	e1,430	1,520	796
20	361	893	e690	961	325	e805	e215	751	738	e1,280	1,500	923
21	414	835	e415	866	328	e865	e210	703	882	e1,400	1,440	664
22	543	685	e385	720	205	e755	e230	759	630	e1,450	1,450	972
23	605	725	e690	550	202	e460	e430	694	790	e1,480	1,460	934
24	598	484	e570	864	415	e855	e195	829	972	e1,430	1,190	805
25	594	793	e85	567	374	e725	e400	712	927	e1,410	1,360	703
26	218	749	e455	403	401	e730	e455	1,010	1,100	e1,400	1,410	892
27	439	764	e555	e525	400	700	292	970	996	e1,260	1,390	726
28	740	180	e395	586	480	718	503	926	996	e1,400	1,490	332
29	571	561	e405	448	-	837	539	772	799	e1,460	1,450	948
30	695	434	e900	e500	-	353	e450	664	1,160	e1,450	1,480	1,040
31	663	-	e965	e540	-	848	-	700	-	e1,450	1,400	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	13,950	740	177	450	27,670
November	18,290	893	180	610	36,280
December	18,408	965	85	594	36,510
Calendar year 1946	239,270	1,350	64	656	474,600
January	22,236	980	185	717	44,100
February	9,477	520	62	338	18,800
March	16,818	970	56	543	33,360
April	13,857	746	56	462	27,480
May	23,039	1,020	290	743	45,700
June	24,549	1,160	617	818	48,690
July	40,045	1,480	702	1,292	79,430
August	41,540	1,520	1,070	1,340	82,390
September	31,489	1,460	332	1,050	62,460
Water year 1946-47	273,698	1,520	56	750	542,900

e Discharge computed on basis of output records of Soda power plant, 600 feet upstream.

Bear River below Utah Power & Light Co.'s tailrace at Oneida, Idaho

Location.- Water-stage recorder, lat. 42°16', long. 111°45', in sec. 26, T. 13 S., R. 40 E., 200 feet below tailrace of Oneida plant and 6 miles south of Cleveland, Idaho.

Records available.- October 1945 to September 1947. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 25 years, 707 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 1,790 second-feet Sept. 13; minimum daily, 37 second-feet Dec. 25.
1922-47: Maximum daily discharge, 5,480 second-feet May 8, 1922; minimum daily, 15 second-feet May 3, 4, 1925.

Remarks.- Records excellent. Many diversions above station. Flow regulated by Bear Lake and Soda, Grace, and Oneida hydroelectric plants.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Two discharge measurements were made by Geological Survey in addition to those made by power company.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)

0.9	38	2.5	470
1.1	72	2.9	636
1.3	113	3.5	930
1.7	213	4.1	1,288
2.1	330	4.8	1,742

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	965	878	593	234	626	297	915	546	198	1,220	1,050	657
2	698	704	775	677	237	49	856	1,120	651	1,320	630	1,480
3	345	352	1,080	1,030	478	452	995	721	541	1,450	491	1,660
4	669	723	983	857	663	595	708	534	541	194	970	1,430
5	348	891	559	285	580	896	542	698	341	153	1,240	1,530
6	300	799	804	880	1,100	939	255	887	699	368	1,410	1,230
7	1,060	1,010	910	1,070	413	428	682	895	553	1,160	853	557
8	653	619	685	1,040	598	577	779	1,130	201	1,090	1,500	1,410
9	343	383	728	1,070	51	593	784	876	684	738	996	1,270
10	431	318	784	798	665	487	585	814	593	1,160	892	976
11	456	366	928	1,140	502	752	606	61	677	1,230	1,560	969
12	489	761	1,150	53	592	491	850	1,040	486	441	1,210	680
13	462	909	798	1,110	576	454	70	1,110	968	940	1,480	1,790
14	583	1,060	453	885	875	873	517	1,370	450	1,080	952	619
15	171	734	847	1,120	384	695	963	1,210	225	1,250	856	908
16	1,050	1,200	761	807	72	252	881	954	685	1,230	717	1,130
17	757	282	972	786	737	178	950	394	622	1,190	1,120	1,110
18	650	546	917	1,230	419	e980	874	134	594	1,290	1,770	906
19	342	1,110	801	720	467	e870	773	829	813	896	960	1,100
20	347	1,280	1,080	797	490	958	68	818	754	484	1,360	1,250
21	698	1,360	740	1,290	610	1,330	828	654	526	1,380	1,260	365
22	1,010	829	676	777	405	1,430	882	699	171	1,280	1,280	855
23	603	882	973	1,170	51	424	856	495	641	1,010	1,710	1,250
24	858	963	284	430	345	915	820	297	709	818	1,060	1,130
25	449	922	37	1,070	631	1,090	622	260	893	1,090	1,560	1,260
26	847	978	608	734	590	1,110	377	530	1,290	1,330	1,760	840
27	174	760	1,180	664	1,030	751	78	390	1,160	842	1,000	1,310
28	887	248	824	649	928	1,170	820	443	395	1,300	1,560	428
29	1,140	506	629	700	-	1,010	886	406	378	1,500	1,430	683
30	1,090	905	893	433	-	511	669	97	664	1,580	1,430	1,460
31	1,190	-	1,050	683	-	845	-	357	-	1,500	678	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	20,065	1,190	171	647	39,800
November	23,278	1,360	248	773	46,170
December	24,502	1,180	37	790	48,600
Calendar year 1946	285,686	2,360	35	783	566,600
January	25,189	1,290	53	813	49,960
February	15,115	1,100	51	540	29,980
March	22,400	1,430	49	723	44,430
April	20,491	995	68	683	40,640
May	20,769	1,370	61	670	41,190
June	18,103	1,290	171	603	35,910
July	32,514	1,580	153	1,049	64,490
August	36,745	1,770	491	1,185	72,880
September	32,244	1,790	365	1,075	63,960
Water year 1946-47	29,141.5	1,790	37	793	578,000

e Discharge computed on basis of output records of Oneida power plant.

Bear River near Preston, Idaho

Location.- Water-stage recorder, lat. 42°10', long. 111°51', in NW¼ sec. 36, T. 14 S., R. 39 E., 600 feet downstream from head gates of West Cache Canal, 5 miles downstream from Mink Creek, 5 miles north of Preston, and 5½ miles upstream from Battle Creek.

Drainage area.- 4,500 square miles.

Records available.- January 1944 to September 1947. October 1889 to September 1917 (gage heights only January to September 1917) at site 5 miles downstream; records comparable.

Extremes.- Maximum discharge during year, 3,200 second-feet (regulated) June 14 (gage height, 5.00 feet); minimum daily, 14 second-feet (regulated) July 5; minimum, 1.6 second-feet (regulated) June 29 (gage height, 0.68 foot).
1889-1916, 1944-47: Maximum discharge, about 8,500 second-feet June 9, 10, 1907, estimated on basis of records for station near Collinston, Utah; maximum gage height observed, 9.04 feet Jan. 17, 18, 1917 (backwater from ice), site and datum then in use; minimum discharge, 0.8 second-foot (regulated) July 5, 1945 (gage height, 0.68 foot); minimum daily, 14 second-feet (regulated) July 4, 1944, July 4, 1945, July 5, 1947.

Remarks.- Records good. Station is below all irrigation diversions from Bear River in Idaho except Cub River pumps in SE¼ Sec. 20, T. 16 S., R. 39 E. Flow regulated by storage in Bear Lake Reservoir and by power plants above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	918	1,120	689	705	694	389	887	592	272	1,090	1,080	627
2	686	711	939	617	422	137	955	1,010	610	1,150	613	1,370
3	354	475	1,220	1,140	411	414	1,080	871	510	1,320	367	1,510
4	630	865	875	947	814	599	815	684	472	266	992	1,570
5	338	895	766	660	688	955	536	863	377	14	1,090	1,470
6	266	902	991	873	1,100	917	380	1,010	631	174	1,420	1,170
7	1,080	1,130	694	1,030	543	502	797	1,050	573	957	977	517
8	679	553	1,140	1,290	441	586	782	1,220	291	1,100	1,310	1,390
9	455	511	772	1,270	192	662	863	1,100	804	664	1,210	1,210
10	463	350	960	861	659	566	635	972	860	903	852	974
11	511	473	981	1,260	564	723	651	528	951	1,220	1,640	847
12	571	759	1,230	310	698	516	685	1,030	786	433	1,190	712
13	576	1,090	889	1,080	653	551	324	1,230	1,310	773	1,540	1,570
14	660	1,060	577	954	915	891	438	1,410	605	1,080	1,000	769
15	254	764	1,030	1,220	583	673	826	881	566	1,090	809	816
16	1,140	1,110	906	892	235	360	1,030	1,590	964	1,030	744	1,080
17	877	699	945	849	799	220	982	639	851	1,180	904	1,140
18	784	670	957	1,060	476	924	912	405	848	1,220	1,710	931
19	378	1,210	978	1,030	557	812	777	891	967	814	999	1,070
20	405	1,270	1,020	901	591	891	228	1,020	910	373	1,240	1,160
21	621	1,530	869	1,200	677	1,280	780	779	717	1,170	1,240	464
22	1,150	665	920	986	505	1,810	1,040	796	230	1,140	1,240	818
23	689	916	924	1,280	191	584	1,060	566	721	1,020	1,580	1,200
24	867	1,320	523	654	332	953	938	328	585	708	1,110	982
25	562	975	295	1,010	737	1,100	764	162	745	1,020	1,540	1,350
26	652	1,160	540	860	550	1,180	321	581	1,270	1,190	1,590	827
27	448	776	1,220	772	997	831	92	357	966	798	961	1,350
28	942	397	811	832	1,040	1,190	760	439	311	1,200	1,550	492
29	1,100	557	885	737	-	1,070	896	392	338	1,320	1,420	657
30	1,120	910	1,050	516	-	703	666	31	563	1,470	1,370	1,280
31	1,070	-	891	765	-	887	-.	192	-	1,570	693	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	21,246	1,150	254	685	42,140
November	25,823	1,530	350	861	51,220
December	27,487	1,230	295	887	54,520
Calendar year 1946	305,709	2,640	130	838	606,300
January	28,561	1,290	310	921	56,650
February	17,064	1,100	191	609	33,850
March	23,876	1,310	137	770	47,360
April	21,900	1,080	92	730	43,440
May	23,599	1,590	31	761	46,810
June	20,604	1,310	230	687	40,870
July	29,457	1,570	14	950	58,430
August	35,981	1,710	367	1,161	71,370
September	31,323	1,570	464	1,044	62,130
Water year 1946-47	306,921	1,810	14	841	608,800

Bear River near Collinston, Utah

Location.- Water-stage recorder, lat. 41°50', long. 112°03', in NW¼SE¼ sec. 27, T. 13 N., R. 2 W., 800 feet downstream from Cutler plant of Utah Power & Light Co., 2,000 feet downstream from Cutler Dam, and 5½ miles north of Collinston. Datum of gage is 4,276.13 feet above mean sea level (levels by Bureau of Reclamation).

Drainage area.- 6,000 square miles.

Records available.- July 1889 to September 1947.

Extremes.- Maximum discharge during year, 3,760 second-feet (regulated) several days in June (gage height, 4.82 feet); minimum daily, 24 second-feet (regulated) July 4, 6.
1889-1947: Maximum discharge observed, 11,600 second-feet June 7-10, 1909 (gage height, 7.70 feet, site and datum then in use); practically no flow (result of regulation) at 12 p.m. Aug. 5, 1920.

Remarks.- Records good. Many canals divert above station. Flow regulated by reservoirs and power plants above station.

Cooperation.- Four discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,180	2,240	1,370	972	1,930	1,140	2,260	2,410	28	291	273	242
2	742	1,710	1,930	1,680	934	665	2,210	3,000	177	352	101	1,080
3	832	1,420	a1,290	a1,570	1,340	1,630	1,850	2,350	a530	426	198	1,230
4	1,080	2,000	a1,380	a1,080	1,340	1,790	1,850	1,580	a1,050	24	442	964
5	1,120	2,110	a1,890	a430	1,030	2,030	2,020	1,960	1,530	32	83	785
6	419	1,810	1,740	a1,750	1,170	1,580	1,020	2,270	912	24	278	550
7	849	1,770	2,390	1,560	1,660	1,340	2,030	2,970	1,190	298	1,010	101
8	787	2,110	1,950	1,510	1,700	944	1,990	2,510	1,230	528	756	888
9	1,340	1,220	2,270	1,100	1,540	1,490	1,850	2,840	1,880	107	1,350	467
10	1,520	636	1,010	1,540	2,080	1,800	1,480	2,750	2,250	259	944	329
11	1,330	979	2,150	984	1,720	1,820	1,750	2,780	2,590	429	1,130	120
12	889	1,030	2,190	1,240	a1,130	1,920	1,930	3,460	3,120	43	1,490	60
13	760	1,410	2,090	1,590	a1,490	1,980	579	3,280	3,040	70	1,610	1,100
14	1,200	1,550	1,680	1,910	1,610	1,940	1,710	3,400	3,220	257	1,700	392
15	419	a1,900	1,820	2,080	1,970	1,710	2,030	3,310	2,590	335	1,610	382
16	a1,370	a1,500	1,870	1,360	2,430	1,320	2,000	3,180	2,970	235	792	469
17	a1,540	a1,180	1,880	a1,480	2,280	1,540	2,080	3,280	1,890	222	676	629
18	1,800	a1,290	1,880	670	2,060	2,140	1,980	3,050	1,610	a360	1,220	1,740
19	1,270	1,380	1,900	701	1,970	1,540	1,720	2,130	1,870	a34	1,560	1,900
20	1,590	1,630	1,760	1,890	2,280	1,800	418	1,880	1,790	a33	1,180	2,140
21	939	1,560	1,710	1,510	2,460	2,190	2,420	1,930	1,730	a290	539	1,540
22	1,540	1,600	1,520	a880	1,920	2,010	2,260	2,150	741	368	751	1,630
23	2,020	1,980	1,860	1,400	448	1,650	2,530	1,700	1,860	157	71	1,440
24	1,620	2,540	1,580	a1,760	1,450	1,880	2,840	1,840	276	27	27	1,490
25	1,640	2,440	624	a1,750	1,600	3,020	3,100	1,110	660	231	759	1,730
26	1,370	a2,550	1,820	a1,390	1,770	2,630	2,280	1,140	696	51	830	1,760
27	822	a1,880	1,990	a1,790	2,040	2,290	2,720	179	768	71	1,050	1,470
28	1,410	1,150	1,850	a1,990	2,010	2,160	2,150	28	203	341	1,110	1,200
29	2,130	1,760	1,580	a2,140	-	2,180	1,640	29	45	483	1,160	1,460
30	1,760	1,750	1,620	a1,710	-	1,750	1,710	32	1,320	539	319	1,280
31	770	-	a2,170	a1,820	-	1,950	-	949	-	461	755	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	38,058	2,130	419	1,228	75,490
November	50,085	2,550	636	1,670	99,340
December	54,564	2,390	624	1,760	108,200
Calendar year 1946	582,582	6,530	28	1,596	1,156,000
January	45,237	2,140	430	1,459	89,730
February	47,362	2,460	448	1,692	93,940
March	55,829	3,020	665	1,801	110,700
April	58,387	3,100	418	1,946	115,800
May	65,277	3,460	28	2,106	129,500
June	43,766	3,220	28	1,459	86,810
July	7,378	539	24	238	14,630
August	25,774	1,700	27	831	51,120
September	30,568	2,140	60	1,019	60,630
Water year 1946-47	522,285	3,460	24	1,431	1,036,000

a No gage-height record; discharge computed on basis of output of power plant.

Mill Creek near Evanston, Wyo.

Location.- Water-stage recorder, lat. 41°00', long. 110°52', in NW¼ sec. 20, T. 12 N., R. 119 W., 1.8 miles downstream from Utah-Wyoming State line and 18.8 miles south of Evanston.

Drainage area.- 60.6 square miles.

Records available.- July 1942 to September 1947.

Extremes.- Maximum discharge during year, 430 second-feet May 3 (gage height, 3.35 feet), from rating curve extended above 190 second-feet; minimum, 5.1 second-feet Oct. 1, but may have been less during period of ice effect or no gage-height record.
1942-47: Maximum discharge, that of May 3, 1947; minimum, 2 second-feet Oct. 24 to Nov. 28, 1945 (field estimate), when water was diverted above station to permit construction in stream channel.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Four canals in Wyoming and four in Utah divert water above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.5						16	104	82	39	9.5	6.9
2	6.9						18	182	90	34	10	6.7
3	6.4						19	256	98	31	9.8	6.7
4	8.0						16	285	93	27	11	6.1
5	8.2						16	259	77	22	12	6.1
6	8.4				10		14	240	74	18	10	6.4
7	8.4						14	256	84	19	9.5	6.1
8	9.1						15	295	100	21	12	6.4
9	8.8					12	17	265	145	20	17	7.9
10	9.5						15	234	93	26	21	9.2
11	7.5						15	175	123	13	24	6.9
12	7.7						16	147	119	9.5	19	6.9
13	8.8						24	152	158	7.9	18	7.2
14	8.4	(*)					42	139	217	6.4	17	7.2
15	10	14	12	10			52	121	195	7.2	18	7.2
16	11					13	53	150	141	16	16	7.2
17	14					14	54	165	131	20	15	14
18	13		(*)			16	53	152	119	17	14	15
19	11					18	44	156	98	16	12	16
20	11				12	20	62	170	158	14	7.9	14
21	13					22	70	204	195	13	8.5	12
22	14					24	59	198	137	13	12	11
23	13					25	48	175	116	12	8.8	11
24	9.1			(*)		24	41	150	86	10	8.5	11
25	11				(*)	*22	41	158	73	9.8	8.8	12
26	10					20	43	147	63	9.2	7.9	12
27	11					18	50	158	57	8.8	7.9	12
28	20					20	42	182	52	8.8	8.2	12
29	18				-	22	51	118	53	8.2	8.2	13
30	14				-	24	64	105	44	8.2	7.9	15
31	13	-			-	19	-	98	-	8.8	7.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	327.7	20	5.5	10.6	650
November	420	-	-	14	833
December	372	-	-	12	738
Calendar year 1946	11,793.8	207	-	32.3	23,410
January	310	-	-	10	615
February	316	-	-	11.3	627
March	501	25	-	16.2	994
April	1,084	70	14	36.1	2,150
May	5,596	295	98	181	11,100
June	3,271	217	44	109	6,490
July	493.8	39	6.4	15.9	979
August	376.6	24	7.2	12.1	747
September	291.1	16	6.1	9.70	577
Water year 1946-47	13,359.2	295	-	36.6	26,500

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 1 to Feb. 25 (no gage-height record most of period) and no gage-height record Feb. 26 to Mar. 29 (stage-discharge relation affected by ice most of period); discharge computed on basis of 5 discharge measurements, weather records, and records for stations on nearby streams.

Sulphur Creek near Evanston, Wyo.

Location.- Water-stage recorder, lat. 41°10', long. 110°52', in SE¼ sec. 29, T. 14 N., R. 119 W., 4.8 miles upstream from mouth and 9 miles southeast of Evanston.

Drainage area.- 80.5 square miles.

Records available.- April 1942 to September 1947.

Extremes.- Maximum discharge during year, 514 second-feet Mar. 18 (gage height, 2.72 feet); minimum, 0.4 second-foot Sept. 8, but may have been less during period of ice effect.

1942-47: Maximum discharge, 740 second-feet Apr. 20, 1945 (gage height, 3.50 feet); minimum daily, 0.2 second-foot Sept. 14-17, 19, 20, 1943.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	8.2				3.5	41	34	32	21	a8.0	1.0
2	2.2	4.6				3.0	36	55	32	16	a9.0	.9
3	1.6	3.3				2.7	36	89	40	12	a8.0	.7
4	2.3	2.3				2.5	28	123	60	7.4	a10	.7
5	3.8	2.5				2.5	18	134	35	6.7	a14	.7
6	3.0	3.3			2.0	2.5	16	94	30	6.0	12	.7
7	2.8	4.0				2.5	16	89	26	7.1	9.7	.5
8	4.3	4.0				2.0	20	113	27	7.4	14	.4
9	4.6	4.0	4.0			2.0	26	100	289	14	47	.6
10	3.5	3.5				2.5	a24	85	118	22	200	.7
11	4.0	3.5				2.5	3.5	a23	87	223	17	66	.7
12	3.0	3.5				3.5	5.1	24	80	316	14	23	.7
13	3.3	4.0				4.5	8.6	40	78	172	12	14	.7
14	3.0	4.8				6.0	13	44	84	134	11	13	.5
15	2.8	*5.1				7.0	26	41	53	81	30	15	.5
16	3.0	4.0	3.5		2.0	8.5	138	36	48	41	64	9.7	.6
17	4.8	3.8	3.0			10	353	45	42	41	87	7.1	2.3
18	5.1	4.3	*2.0			9.0	395	33	45	53	32	4.3	4.0
19	4.6	5.1	2.8			8.0	*263	30	38	37	21	3.3	5.1
20	4.8	5.3	3.0			7.0	193	25	32	107	15	2.5	3.8
21	4.6	4.0	3.5			5.5	172	28	31	323	13	2.2	3.3
22	4.0	4.5	2.8			4.5	190	49	27	167	18	a10	3.3
23	4.6	5.0	3.3			5.1	184	56	24	140	16	a5.0	2.8
24	3.5	4.5	3.3	(*)		5.3	84	48	20	92	12	a3.0	2.8
25	4.6	4.0	3.8			*4.0	37	25	18	64	7.8	a2.0	2.3
26	3.8	4.0	4.0			4.0	27	20	18	39	6.0	a2.0	2.0
27	4.0	4.5	4.0			3.8	28	24	17	30	7.8	a1.5	1.8
28	16	4.5	3.5			3.8	37	26	53	25	5.6	a1.5	1.6
29	22	4.5	3.0			-	55	20	34	26	5.6	1.3	1.5
30	14	4.5	3.0			-	85	23	25	27	5.3	1.2	2.0
31	14	-	3.0			-	71	-	32	-	6.7	1.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	162.9	22	1.3	5.25	323
November	127.1	8.2	2.3	4.24	252
December	111.5	-	-	3.60	221
Calendar year 1946	7,146.2	229	.4	19.6	14,180
January	62	-	-	2.0	123
February	122.0	10	-	4.36	242
March	2,393.9	395	2.0	77.2	4,750
April	921	56	16	30.7	1,830
May	1,802	134	17	58.1	3,570
June	2,827	323	25	94.2	5,610
July	526.4	87	5.3	17.0	1,040
August	520.4	200	1.1	16.8	1,030
September	49.2	5.1	.4	1.64	98
Water year 1946-47	9,625.4	395	-	26.4	19,090

* Winter discharge measurement made on this day.

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

Note.- Stage-discharge relation affected by ice Nov. 9-13, Nov. 21 to Dec. 17, Dec. 26 to Feb. 22 (no gage-height record Jan. 14 to Feb. 20); discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

Chapman Canal at State line, near Evanston, Wyo.

Location.- Water-stage recorder, lat. 41°24', long. 111°02', in SE¼ sec. 36, T. 17 N., R. 121 W., at highway bridge, 6½ miles downstream from head gates and 10 miles northwest of Evanston. Staff gage at same site and datum prior to Oct. 11.

Records available.- October 1945 to September 1947. April to September 1942, May to September 1943 in Upper Bear River Water Commissioner's reports, Utah; April 1944 to September 1947 in Upper Bear River Water Commissioner's reports, Utah, and Bear River Hydrometric Data reports.

Extremes.- Maximum daily discharge during year, 127 second-feet June 12; no flow on many days.

1942-47: Maximum daily discharge observed, 129 second-feet Apr. 14, 1946; no flow at times in each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Canal diverts water from Bear River in Wyoming in NE¼ sec. 36, T. 16 N., R. 121 W. Many diversions above station for irrigation in Wyoming. Flow at station is for storage in Neponset Reservoir, Utah, and irrigation in Saleratus Basin, Utah.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a0.2	22			0	a23	24	6.5	61		0	0
2	h.4	a22			0	a23	23	8.3	63		0	h2.1
3	h.6	a22			0	a23	24	10	60		0	h.4
4	h1.4	a10			0	a24	22	27	67		0	h.7
5	h1.9	0			0	a24	19	78	48		0	h.4
6	h5.3	0			0	a24	18	65	47		0	h.2
7	h8.3	0			0	a24	17	a64	50		0	h.1
8	h10	0			0	a24	16	62	73		0	0
9	h12	0			0	b24	18	64	107		0	0
10	h14	0			0	24	18	54	120		0	h.1
11	7.5	0			0	24	18	47	118		0	0
12	9.1	2.9			0	*h24	17	39	127		a1.0	h.2
13	9.4	3.8			0	b23	17	69	124		h2.1	h.5
14	10	6.0			0	b22	20	118	97		h1.6	h.6
15	11	6.7			0	b20	22	97	86		1.5	0
16	8.0	4.4			0	b19	23	87	77		1.4	0
17	13	1.4			0	b17	22	90	86		1.2	0
18	h14	0			0	16	21	63	101		.7	0
19	h15	0			0	24	22	71	90		.2	1.6
20	h14	0			0	56	20	72	95		0	2.4
21	h17	0			0	47	22	74	92		1.4	2.4
22	20	0			0	45	44	79	15		3.3	2.2
23	21	0			a10	48	45	80	17		2.4	.7
24	21	0			*b23	36	42	76	16		2.1	.6
25	20	0			a23	27	35	70	17		1.5	0
26	21	0			a23	24	32	75	15		.9	0
27	22	0			a23	22	33	76	11		.8	0
28	25	0			a23	23	32	84	6.0		h.1	0
29	27	0			-	26	8.8	80	2.1		0	0
30	24	0			-	29	7.2	61	.5		0	0
31	21	-			-	30	-	60	-		0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	404.1	27	0.2	13.0	802
November	101.2	22	0	3.37	201
December	0	0	0	0	0
Calendar year 1946	5,749.9	129	0	15.8	11,400
January	0	0	0	0	0
February	125	23	0	4.5	248
March	839	56	16	27.1	1,660
April	702.0	45	7.2	23.4	1,390
May	2,006.8	118	6.5	64.7	3,980
June	1,888.6	127	.5	63.0	3,750
July	0	0	0	0	0
August	22.2	3.3	0	.72	44
September	15.2	2.4	0	.51	30
Water year 1946-47	6,104.1	127	0	16.7	12,100

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 2 discharge measurements and records for Bear River near Woodruff, Utah, and near Evanston, Wyo.

b Stage-discharge relation affected by ice.

h Computed from staff-gage reading.

Twin Creek at Sage, Wyo.

Location.- Water-stage recorder, lat. 41°49', long. 110°58', in SE¼ sec. 7, T. 21 N., R. 119 W., at Sage, 5 miles upstream from mouth.

Drainage area.- 246 square miles.

Records available.- April 1943 to September 1947.

Extremes.- Maximum discharge during year, 649 second-feet Mar. 18 (gage height, 6.08 feet); minimum, 1.0 second-foot Dec. 17, but may have been less during period of ice effect or no gage-height record.
1943-47: Maximum discharge, that of Mar. 18, 1947; minimum, that of Dec. 17, 1946.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	b10	b10			a5.5	44	25	41	17	6.7	15
2	12	b8.0	b10			a5.5	31	25	50	14	6.7	15
3	10	6.7	b10			a5.0	32	27	31	13	7.7	10
4	8.2	6.7	b10			a5.0	28	27	24	13	8.9	8.2
5	8.2	8.9	b10		a5	a5.0	22	27	20	12	9.7	8.2
6	8.9	10	b10			a5.0	20	27	18	13	9.7	7.7
7	9.7	12	b9.0			a5.0	19	25	16	11	8.2	7.2
8	9.7	13	8.9			a5.0	18	25	14	10	8.2	7.7
9	10	13	b8.0			a5.0	17	25	68	11	14	7.7
10	8.9	8.2	b8.0			a10	17	24	47	11	29	7.7
11	8.2	7.7	b8.5		a8.0	a25	19	32	37	8.2	44	7.2
12	8.2	8.9	9.7		a10	*b50	18	55	175	8.2	16	6.2
13	8.9	9.7	8.9		a15	b70	22	42	93	7.7	12	6.2
14	8.9	b11	9.7		a25	b110	44	54	43	6.7	10	6.7
15	8.9	b12	10		a40	a250	55	40	23	9.7	9.7	6.7
16	7.7	b10	5.1	a5	a70	a400	41	35	18	9.7	8.9	6.7
17	9.7	9.7	5.6		*a60	a520	37	32	17	9.7	8.9	8.9
18	10	b10	8.2		a45	*563	37	29	21	8.9	7.7	37
19	10	*b11	7.7		*b30	505	32	28	19	8.2	7.2	17
20	9.7	b12	8.2		b20	338	30	27	21	6.7	8.9	16
21	9.7	8.2	8.2		b10	249	30	26	43	7.7	13	16
22	8.9	b10	b8.5		b8.0	219	33	23	44	8.9	22	17
23	8.9	b12	b8.5	(*)	b10	163	31	19	36	9.7	13	16
24	8.2	b10	b8.5		b9.0	92	29	17	28	10	10	16
25	8.9	b8.0	b8.5		a8.0	40	23	16	24	8.9	9.7	16
26	8.2	b8.0	b8.0		a7.0	37	22	14	21	7.7	9.7	13
27	9.7	b9.0	b7.0		a6.5	28	22	16	20	7.7	8.9	11
28	17	b10	b6.0		a6.0	35	28	30	18	7.7	10	9.7
29	22	b10	a5.0		-	55	32	28	17	7.7	11	8.2
30	16	b10	a5.0		-	61	28	21	19	6.2	11	7.7
31	12	-	a5.0		-	62	-	24	-	6.2	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	312.5	22	7.2	10.1	620
November	293.7	13	6.7	9.79	583
December	253.7	10	5.0	8.19	503
Calendar year 1946	8,050.6	201	-	22.1	15,970
January	155	-	-	5	307
February	437.5	70	-	15.6	868
March	3,928	563	5.0	127	7,790
April	861	55	17	28.7	1,710
May	865	55	14	27.9	1,720
June	1,066	175	14	35.5	2,110
July	297.1	17	6.2	9.59	589
August	373.4	44	6.7	12.0	741
September	343.6	37	6.2	11.5	682
Water year 1946-47	9,186.5	563	-	25.2	18,220

* Winter discharge measurement made on this day.
a Nc gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for Sulphur Creek near Evanston.
b Stage-discharge relation affected by ice.

Smiths Fork near Border, Wyo.

Location.- Water-stage recorder, lat. 42°17', long. 110°52', in SW¼ sec. 33, T. 27 N., R. 118 W., 3½ miles upstream from Howland Creek, 7 miles downstream from Hobble Creek, and 11 miles northeast of Border.

Drainage area.- 165 square miles.

Records available.- May 1942 to September 1947.

Extremes.- Maximum discharge during year, 1,120 second-feet May 9 (gage height, 4.21 feet); minimum, 47 second-feet Mar. 12, but may have been less during periods of ice effect or no gage-height record.
1942-47: Maximum discharge, that of May 9, 1947; minimum, that of Mar. 12, 1947, but may have been less during period of ice effect or no gage-height record.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. One diversion above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	85	75			62	98	480	602	454	207	135
2	106	86	78			b62	103	638	597	442	207	135
3	101	85	78			60	98	819	633	437	207	133
4	98	83	78		65	60	96	923	617	425	207	131
5	103	82	78			59	91	968	597	413	204	129
6	101	81	80			59	88	982	628	405	194	127
7	100	81	78			*57	85	982	597	393	194	123
8	100	83	77			56	83	1,020	649	385	209	123
9	100	82	74		60	56	86	1,080	774	373	214	127
10	96	80	74		(*)	56	83	988	744	362	226	127
11	96	79	75	60		56	81	1,030	756	350	212	123
12	96	78	77			55	81	930	756	335	194	121
13	94	78	75			55	93	819	726	328	184	119
14	94	80	77			56	114	744	698	317	180	118
15	94	84	77		b65	57	145	714	687	310	175	118
16	96	83	75			59	162	714	692	306	173	116
17	94	82				63	173	744	709	299	168	121
18	94	80				69	177	744	704	285	164	133
19	93	76			62	72	194	744	698	275	162	121
20	91	78			b65	77	226	732	709	265	162	116
21	89	79			b64	83	259	744	682	259	175	114
22	88	75		(*)	b63	89	237	762	665	256	177	112
23	93	78	70		62	94	214	720	597	252	162	110
24	91	76			60	86	209	687	572	240	158	110
25	91	74		60	62	81	209	682	557	234	155	110
26	91	76			62	83	234	698	553	232	151	108
27	100	*78			b62	80	282	709	548	226	155	108
28	106	75			b62	85	335	720	520	223	155	106
29	100	75		65	-	94	409	649	502	217	147	105
30	94	78	65		-	105	417	607	497	212	143	105
31	89	-			-	101	-	612	-	207	139	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,977	106	88	96.0	5,900
November	2,390	86	74	79.7	4,740
December	2,261	80	-	72.9	4,480
Calendar year 1946	72,058	794	-	197	142,900
January	1,885	-	-	60.8	3,740
February	1,774	-	-	63.4	3,520
March	2,187	105	55	70.6	4,340
April	5,162	417	81	172	10,240
May	24,385	1,080	480	787	48,370
June	19,266	774	497	642	38,210
July	9,717	454	207	313	19,270
August	5,560	226	139	179	11,030
September	3,584	135	105	119	7,110
Water year 1946-47	81,148	1,080	-	222	161,000

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Nov. 3 to 26, Dec. 17 to Jan. 22, Jan. 27 to Feb. 10; discharge computed on basis of 2 discharge measurements and weather records.

Smiths Fork at Cokeville, Wyo.

Location.- Water-stage recorder, lat. 42°06', long. 110°57', in NW¼ sec. 4, T. 24 N., R. 119 W., 1 mile northeast of Cokeville and 2 miles upstream from mouth.

Drainage area.- 275 square miles.

Records available.- April 1942 to September 1947.

Extremes.- Maximum discharge during year, 1,090 second-feet May 12 (gage height, 5.53 feet); minimum not determined, occurred during period of no gage-height record.
1942-47: Maximum discharge, that of May 12, 1947; minimum daily, 32 second-feet Aug. 18, 24, 25, Sept. 2, 3, 1942.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	104	89			a84	152	555	633	352	111	107
2	102	94	91			a84	173	693	604	328	113	106
3	97	86	b92			a83	167	829	604	320	116	104
4	91	b86	94		a85	*a83	147	898	614	312	115	104
5	92	b86	94			a83	135	968	587	307	122	106
6	96	b87	97			a82	131	1,020	610	296	113	106
7	92	97	a95			a81	a128	1,040	587	289	111	109
8	106	97	a94		a80	a80	126	1,050	594	274	124	115
9	116	94	a92			a79	130	1,060	713	272	128	120
10	116	88	91			a79	124	1,070	733	267	156	120
11	111	b87	91			a78	124	1,060	713	257	164	118
12	109	b86	94			a78	122	1,080	774	245	143	120
13	111	b88	94	a80		a80	139	1,000	696	234	130	120
14	111	b90	92			a90	189	940	666	232	130	118
15	107	92	92			a110	227	870	637	227	118	118
16	107	86	88			a140	236	836	597	222	118	118
17	107	b86			a85	*a180	250	829	597	222	118	120
18	107	b85				232	262	812	a580	218	115	137
19	106	b84				257	267	798	571	229	115	124
20	104	92	b85			260	294	815	571	229	118	115
21	102	a86				260	338	801	581	182	131	107
22	100	b86				*257	a325	798	614	a180	137	104
23	104	104				227	302	774	511	171	124	102
24	106	97				167	282	733	470	156	118	99
25	102	b93			a84	135	269	716	451	147	116	96
26	104	b98	a85			139	282	720	436	141	a115	96
27	115	*97				122	325	733	448	139	116	96
28	137	92		a85	-	145	380	a750	445	135	122	97
29	a127	91			-	191	467	696	415	128	115	97
30	a118	92	a82		-	a210	507	643	377	120	113	96
31	109	-			-	173	-	630	-	118	109	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,303	137	91	107	6,550
November	2,731	104	84	91.0	5,420
December	2,746	-	-	88.6	5,450
Calendar year 1946	71,360	979	-	196	141,600
January	2,510	-	-	81.0	4,980
February	2,353	-	-	84.0	4,670
March	4,349	260	78	140	8,630
April	7,000	507	122	233	13,880
May	26,217	1,080	555	846	52,000
June	17,429	774	377	581	34,570
July	6,949	352	118	224	13,780
August	3,794	164	109	122	7,530
September	3,295	137	96	110	6,546
Water year 1946-47	82,676	1,080	-	227	164,000

* Winter discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during most of winter months); discharge computed on basis of 2 discharge measurements, weather records, and records for station near Border, or interpolated.
b Stage-discharge relation affected by ice.

Thomas Fork near Geneva, Idaho

Location.- Water-stage recorder, lat. 42°23'30", long. 110°59'00", in NE¼ sec. 28 T. 28 N., R. 119 W., 0.8 mile upstream from Salt Creek, 3.7 miles east of Idaho-Wyoming State line, and 5.4 miles northeast of Geneva post office.

Drainage area.- 45.3 square miles.

Records available.- October 1939 to September 1947.

Extremes.- Maximum discharge during year, 279 second-feet May 3 (gage height, 3.58 feet), from rating curve extended above 140 second-feet; minimum, 2.2 second-feet Mar. 8, but may have been less during periods of ice effect or no gage-height record.
1939-47: Maximum discharge, that of May 3, 1947; maximum gage height, 4.07 feet Apr. 26, 1946; minimum daily discharge, 1.3 second-feet Nov. 13, 23, 1940.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Practically no diversion above station. No regulation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	5.1	b3.8			3.3	26	112	38	27	9.5	6.3
2	6.9	b4.8	b3.8			3.5	34	153	37	26	10	6.3
3	5.1	b4.6	b3.7		*3.5	*3.6	29	203	40	25	10	6.3
4	5.1	b4.5	3.7			2.8	17	206	37	24	10	6.0
5	6.0	b5.0	4.3			b3.0	13	179	35	23	10	6.0
6	6.9	b4.8	6.0			b3.0	12	140	40	22	9.0	6.0
7	6.6	4.5	7.2			2.8	12	117	35	22	8.0	5.4
8	6.0	4.5	5.4			2.4	12	103	35	21	12	5.4
9	5.7	4.3	4.3			2.8	14	92	48	20	16	6.3
10	5.7	b4.2	4.3			3.6	12	82	38	19	18	6.3
11	5.4	b4.2	4.3	3.0		3.4	13	105	45	18	14	6.0
12	5.4	b4.0	4.3			b3.2	16	90	50	18	10	6.0
13	5.4	b4.0	4.5			b3.0	33	75	44	17	9.0	5.7
14	5.1	4.1	5.4			3.9	56	69	42	16	8.5	5.4
15	5.1	4.3	5.7			5.4	58	63	41	16	8.0	5.4
16	5.1	b4.4	*b7.0			16	50	60	40	16	8.0	5.7
17	5.1	b4.5	b3.0		3.2	35	47	57	40	16	7.2	7.5
18	5.1	b4.3	b3.5			51	48	55	39	15	7.2	12
19	5.1	4.1	b3.5			56	51	52	38	14	7.2	7.5
20	4.8	b4.0	b3.5			55	56	51	38	14	8.0	6.3
21	4.5	*b3.8	b3.5			56	68	48	38	13	14	5.7
22	4.5	3.9	3.6			56	60	46	41	14	12	5.7
23	5.4	4.1	3.6			48	50	44	37	13	9.0	5.7
24	5.4	b4.2	b3.5			24	49	43	37	12	7.5	5.7
25	5.4	b3.9	3.2			20	50	41	35	12	7.2	5.7
26	5.1	3.9	3.6	3.5		15	56	40	33	11	6.9	5.4
27	7.2	4.1	3.6			*16	64	40	33	10	7.2	5.1
28	10	b4.1	b3.5			28	76	44	32	10	8.0	5.4
29	7.5	b4.0	b3.5		-	50	94	39	31	10	7.2	5.1
30	6.3	3.9	3.0		-	46	100	38	29	10	6.9	5.1
31	5.7	-	3.0		-	32	-	41	-	9.5	6.6	-

Month	Second-feet-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	178.3	10	4.5	5.75	354
November	128.1	5.1	3.8	4.27	254
December	128.8	7.2	3.0	4.15	255
Calendar year 1946	8,260.0	227	-	22.6	16,380
January	98.5	-	-	3.18	195
February	91.1	-	-	3.25	181
March	653.7	56	2.4	21.1	1,300
April	1,276	100	12	42.5	2,530
May	2,528	206	38	81.5	5,010
June	1,146	50	29	38.2	2,270
July	513.5	27	9.5	16.6	1,020
August	292.1	18	6.6	9.42	579
September	182.4	12	5.1	6.08	362
Water year 1946-47	7,216.5	206	-	19.8	14,310

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Dec. 30 to Mar. 2 (stage-discharge relation affected by ice Jan. 7-16); discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

Thomas Fork near Raymond, Idaho

Location.- Water-stage recorder, lat. 42°16', long. 111°05', in SE¼ sec. 28, T. 13 S., R. 46 E., at J. W. Mumford Ranch, 1½ miles southwest of Raymond.

Drainage area.- 202 square miles.

Records available.- May 1942 to September 1947.

Extremes.- Maximum discharge during year, 293 second-feet May 6 (gage height, 6.91 feet); minimum not determined, occurred during period of ice effect.
1942-47: Maximum discharge, 359 second-feet Apr. 25, 1943 (gage height, 7.66 feet); maximum gage height, 7.82 feet Apr. 27, 1946; minimum daily discharge, 1.6 second-feet Oct. 1, 1942.

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	24	22			*16	95	207	103	71	32	23
2	15	24	21			17	90	211	105	70	27	24
3	14	22	20			*17	94	234	109	69	26	24
4	15	22	20			18	86	253	110	67	34	24
5	15	22	22		19	17	74	265	106	64	39	24
6	16	22	24			16	66	288	102	61	37	24
7	16	22	26		(*)	15	62	287	102	59	35	22
8	16	24	25			16	58	280	94	58	33	22
9	16	24	24			15	56	272	104	59	33	22
10	17	23	24			16	55	265	112	59	38	20
11	16	22	23	17		17	52	261	115	61	45	20
12	16	22	24			15	50	263	127	58	53	20
13	16	20	26			16	50	269	128	59	54	20
14	17	20	28			17	58	260	121	59	50	19
15	17	24	28			23	76	245	116	59	45	18
16	17	24	28			30	89	229	109	63	43	18
17	17	24	20			38	90	221	106	72	41	19
18	18	22	22		16	68	86	216	104	71	39	21
19	17	24	25			107	82	210	102	66	37	22
20	17	24	26			147	90	204	101	60	35	24
21	19	24	26	(*)		162	106	198	102	52	37	22
22	20	*23	26			169	126	192	106	52	43	20
23	21	24	26			168	133	188	108	51	46	19
24	22	24	25			142	129	182	99	48	43	18
25	22	22	23			99	125	169	100	41	40	18
26	22	22	26	19		81	123	144	100	39	37	17
27	24	24	26			72	132	114	96	38	35	16
28	25	23	26			70	149	106	92	37	37	15
29	24	24	25		-	83	167	109	87	37	37	15
30	25	22	22		-	101	188	108	76	37	36	14
31	24	-	20		-	111	-	102	-	38	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	571	25	14	18.4	1,130
November	687	24	20	22.9	1,360
December	749	28	20	24.2	1,490
Calendar year 1946	21,536	334	-	59.0	42,700
January	549	-	-	17.7	1,090
February	469	-	-	16.8	930
March	1,899	166	15	61.3	3,770
April	2,837	188	50	94.6	5,630
May	6,550	288	102	211	12,990
June	3,142	128	76	105	6,230
July	1,735	72	37	56.0	3,440
August	1,194	54	26	38.5	2,370
September	604	24	14	20.1	1,200
Water year 1946-47	20,986	288	-	57.5	41,630

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 17-22, Dec. 27 to Mar. 2 (no gage-height record Jan. 5-20).

Salt Creek near Geneva, Idaho

Location.- Water-stage recorder, lat. 42°24'00", long. 110°59'30", in NW¼ sec. 21, T. 28 N., R. 119 W., in Wyoming, 800 feet upstream from bridge on U. S. Highway 89, 1,000 feet upstream from mouth, 3.0 miles east of Idaho-Wyoming State line, and 4¾ miles northeast of Geneva post office.

Drainage area.- 37.6 square miles.

Records available.- October 1939 to September 1947.

Extremes.- Maximum discharge during year, 309 second-feet May 4 (gage height, 4.70 feet); minimum, 1.8 second-feet Feb. 20 but may have been less during other periods of ice effect.

1939-47: Maximum discharge, that of May 4, 1947, maximum gage height, 4.78 feet Apr. 26, 1946; minimum discharge, 0.5 second-foot Aug. 18, 1940 (gage height, 1.05 feet).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Several small diversions above station for irrigation.

Rating table, water year 1946-47 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 21 to Sept. 30)

1.1	1.2	1.6	10	2.7	96
1.2	1.9	1.8	19	3.0	124
1.3	3.3	2.0	34	3.5	175
1.4	5.0	2.2	52	4.0	229
1.5	7.4	2.4	69	4.7	309

Disoharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	6.4	5.0		4.7	3.8	16	126	48	31	11	7.7
2	6.9	b6.0	b5.0		4.7	3.8	18	177	43	29	12	7.7
3	6.2	b5.8	b5.0		4.3	*b4.0	16	230	46	28	13	7.4
4	6.0	b5.5	5.0		4.0	b3.8	14	249	42	28	12	7.4
5	6.7	b5.5	5.0		3.8	b3.6	13	237	40	26	12	7.4
6	7.2	b5.5	6.0		4.0	4.0	12	221	46	25	11	7.2
7	7.4	5.5	6.0	(*)	4.0	4.0	12	200	41	24	11	6.9
8	7.2	5.5	5.5		3.8	4.0	11	184	40	24	11	6.7
9	7.2	5.5	5.2		3.8	3.8	11	163	58	24	12	7.2
10	7.2	b5.5	5.2		4.2	3.8	11	142	52	23	14	7.4
11	6.7	b5.5	5.2	b4.0	4.2	4.0	11	167	58	23	13	7.4
12	6.4	b5.0	5.5		4.3	b3.8	12	144	63	22	11	7.2
13	6.4	b5.0	5.5		4.3	b3.8	15	126	59	23	9.9	6.9
14	6.2	5.2	5.5		4.3	4.0	22	114	58	23	9.6	6.7
15	6.2	5.2	5.5		4.2	4.7	27	105	56	22	9.4	6.9
16	6.2	b5.5	5.5		4.3	6.2	29	100	55	23	9.4	6.9
17	6.2	b5.5	b4.0		b4.3	8.5	30	91	55	21	8.8	8.0
18	6.7	b5.5	b4.2		b4.3	11	32	85	52	19	8.8	12
19	6.4	5.2	4.5		b4.0	13	38	79	50	17	8.8	9.4
20	6.2	b5.0	4.5		b3.7	13	44	75	50	16	9.6	a8.0
21	6.0	*b5.0	4.5		b3.7	15	58	69	48	15	13	a7.5
22	6.0	5.5	4.7		b3.8	16	54	66	51	15	13	a7.5
23	6.4	5.7	4.7	b4.5	b3.9	17	48	62	44	15	11	7.4
24	6.4	5.7	b4.5		4.0	13	47	59	41	13	9.9	7.4
25	6.7	b5.0	b4.5		4.0	12	47	55	40	13	9.4	7.4
26	6.2	5.2	4.7	4.7	3.8	11	54	52	38	13	9.1	7.2
27	7.4	5.2	4.8	4.8	3.8	*12	66	51	37	12	8.8	7.2
28	11	b5.2	b4.8	4.7	3.6	14	82	55	43	12	9.1	7.2
29	9.1	b5.2	b4.8	4.7	-	20	102	49	34	11	9.1	7.2
30	7.7	5.0	b4.0	4.5	-	20	108	45	33	11	8.2	7.2
31	6.9	-	b4.2	4.7	-	17	-	50	-	11	8.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	211.1	11	5.7	6.81	419
November	162.0	6.4	5.0	5.40	321
December	153.0	6.0	4.0	4.94	303
Calendar year 1946	9,124.6	254	-	25.0	18,100
January	130.6	-	-	4.21	259
February	113.8	4.7	3.6	4.06	226
March	277.6	20	3.6	8.95	551
April	1,060	108	11	35.3	2,100
May	3,628	249	45	117	7,200
June	1,421	63	33	47.4	2,820
July	612	31	11	19.7	1,210
August	325.9	14	8.0	10.5	646
September	225.6	12	6.7	7.52	447
Water year 1946-47	8,320.6	249	-	22.8	16,500

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Thomas Fork near Geneva and near Raymond.
b Stage-discharge relation affected by ice.

Rainbow inlet canal near Dingle, Idaho

Location.- Water-stage recorder, lat. 42°13', long. 111°17'30", in SE¼ sec. 3, T. 14 S., R. 44 E., 1½ miles west of Dingle and 1¾ miles downstream from head at Stewart Dam.

Records available.- October 1945 to September 1947, January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 2,070 second-feet May 15 (gage height, 5.49 feet); minimum daily, 41 second-feet July 26.
1945-47: Maximum discharge, 2,820 second-feet Mar. 29, 1946 (gage height, 6.75 feet); minimum, 36 second-feet July 2, 1946.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Canal diverts from Bear River at Stewart Dam in NE¼ sec. 34, T. 13 S., R. 44 E., for storage in Bear Lake. At times flow in canal is augmented by surplus water from Black Otter Slough about half a mile above station and by seepage and wastage from irrigated lands on both sides of canal.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. One discharge measurement made by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	226	223	161	a175	a270	1,000	a810	824	1,200	128	230
2	193	214	217	*164	a176	235	956	a850	856	1,060	134	230
3	190	190	199	161	176	233	930	a920	863	980	136	215
4	193	172	256	146	a180	243	896	1,010	860	941	141	204
5	193	193	286	136	a185	254	824	1,040	907	889	151	189
6	a195	202	250	*144	a185	235	755	1,180	911	845	181	171
7	a195	214	286	156	a185	246	694	1,340	874	817	207	156
8	193	217	301	*146	a180	243	663	1,480	853	759	209	151
9	199	214	259	136	a180	252	628	1,580	889	680	217	154
10	214	205	a275	*134	a175	265	608	1,640	933	635	249	154
11	220	190	a290	138	a180	265	584	1,720	1,010	608	262	164
12	220	161	298	146	181	a265	571	1,790	1,170	558	376	186
13	223	161	301	*156	186	a270	581	1,870	1,320	509	403	186
14	220	214	295	b150	191	285	575	1,930	1,490	497	370	191
15	217	214	286	b150	194	362	591	2,000	1,560	468	341	191
16	217	178	286	*b148	196	538	615	2,050	1,600	421	353	199
17	217	144	196	154	207	781	604	2,040	1,680	409	347	209
18	220	202	133	*146	212	a1,120	611	1,910	1,740	391	327	238
19	220	208	187	146	225	a1,460	604	1,720	1,720	362	307	273
20	220	205	235	144	a235	1,800	628	1,430	1,680	341	293	282
21	220	164	226	151	a255	1,840	698	1,230	1,520	341	290	268
22	217	161	232	156	a260	1,910	770	1,100	1,460	333	296	260
23	214	193	244	158	262	1,940	827	984	1,500	338	301	252
24	214	190	229	164	276	1,870	817	930	1,490	271	290	241
25	214	169	226	164	285	1,800	795	900	1,420	87	271	235
26	205	202	238	166	293	1,690	784	885	1,430	41	252	228
27	193	235	*b235	a170	a305	1,550	737	831	1,500	215	241	228
28	a205	214	b220	a170	a290	1,350	745	763	1,520	207	233	222
29	a235	211	b170	174	-	1,120	759	802	1,490	196	249	228
30	235	217	a150	174	-	1,050	a790	802	1,360	154	241	222
31	232	-	*a160	a175	-	1,030	-	799	-	220	233	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,539	235	190	211	12,970
November	5,880	235	144	196	11,660
December	7,359	301	133	237	14,600
Calendar year 1946	177,907	2,430	38	487	352,900
January	4,784	175	134	154	9,490
February	6,030	305	175	215	11,960
March	26,772	1,940	233	864	53,100
April	21,640	1,000	571	721	42,920
May	40,336	2,050	763	1,301	80,010
June	38,430	1,740	824	1,281	76,220
July	15,773	1,200	41	509	31,290
August	8,029	403	128	259	15,930
September	6,357	282	151	212	12,610
Water year 1946-47	187,929	2,050	41	515	372,800

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated between discharge measurements.
b Stage-discharge relation affected by ice.

Montpelier Creek at irrigators weir, near Montpelier, Idaho

Location.- Water-stage recorder and concrete rectangular weir, lat. 42°20', long. 111°14', in SE¼ sec. 31, T. 12 S., R. 45 E., 3½ miles downstream from South Fork and 3 miles east of Montpelier.

Drainage area.- 50.9 square miles.

Records available.- December 1942 to September 1947.

Extremes.- Maximum discharge during year, 89 second-feet May 11 (gage height, 1.55 feet); minimum recorded, 4.5 second-feet Mar. 1, but may have been less during period of no gage-height record.
1942-47: Maximum discharge, 170 second-feet Apr. 19, 1946 (gage height, 2.45 feet); minimum recorded, 1.5 second-feet Jan. 20, 1944, but may have been less during periods of ice effect.

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	12	11	a10	a7.5	8.0	27	65	46	a33	17	a11
2	16	11	11	a10	a7.5	8.4	31	73	44	a32	17	11
3	15	10	10	a10	7.6	8.4	28	80	46	31	18	11
4	14	9.6	11	a10	7.2	8.1	25	81	43	30	18	11
5	14	12	11	a10	7.4	8.1	23	80	43	30	18	11
6	14	12	12	a10	7.8	8.1	22	80	48	28	17	11
7	15	12	12	10	8.1	8.1	22	76	43	28	17	11
8	15	12	12	9.6	7.4	8.0	22	72	44	27	17	11
9	14	12	10	9.7	7.6	8.0	22	71	69	27	18	12
10	14	10	b10	9.7	9.0	8.4	22	68	56	26	18	12
11	14	a10	b11	9.6	8.5	8.5	22	33	59	26	19	12
12	13	a10	11	9.6	8.2	8.2	23	76	60	25	17	12
13	13	a10	a11	9.4	8.2	8.2	30	70	54	24	16	12
14	14	a10	a11	9.6	8.5	8.4	39	65	51	25	14	12
15	13	a10	a11	8.5	8.5	9.1	44	62	50	24	14	12
16	13	a11	a11	8.6	a8.5	11	44	59	48	24	14	12
17	13	a11	a11	8.4	a8.5	13	44	57	47	24	14	13
18	13	a11	a11	8.6	a8.5	22	44	56	46	23	13	21
19	13	a11	a11	a8.6	a8.5	27	46	54	44	22	13	16
20	13	a11	a11	a8.6	a8.5	29	52	53	44	22	13	14
21	12	a11	a11	8.6	a8.5	31	58	52	43	21	14	13
22	13	11	a11	a8.5	b8.5	35	56	51	44	21	14	13
23	13	12	a11	a8.5	h8.4	33	49	49	41	22	13	13
24	13	12	a11	a8.5	a8.4	24	48	48	40	20	13	13
25	13	11	a10	a8.5	a8.4	22	46	46	38	20	12	12
26	13	11	a10	a8.0	a8.4	21	49	46	37	19	12	12
27	13	11	a10	8.0	a8.4	21	55	46	a36	18	12	12
28	17	11	a10	a8.0	8.4	28	60	51	a35	19	13	12
29	16	11	a10	a8.0	-	35	63	46	a34	18	a13	12
30	14	11	a10	a7.5	-	34	63	43	a34	17	a12	12
31	13	-	a10	a7.5	-	30	-	46	-	17	a12	-

Month	Second-feet-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	427	17	12	13.8	847
November	329.6	12	9.6	11.0	654
December	334	12	10	10.8	662
Calendar year 1946	10,217.4	159	4.9	28.0	20,260
January	278.1	10	7.5	8.97	552
February	228.9	9.0	7.2	8.18	454
March	540.0	35	8.0	17.4	1,070
April	1,179	63	22	39.3	2,340
May	1,905	83	43	61.5	3,780
June	1,367	69	34	45.6	2,710
July	743	33	17	24.0	1,470
August	462	19	12	14.9	916
September	372	21	11	12.4	738
Water year 1946-47	8,165.6	83	7.2	22.4	16,190

a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.
h Computed from staff-gage reading.

Bear Lake at Lifton, near St. Charles, Idaho

Location.- Water-stage recorder, lat. 42°07'20", long. 111°19'20", in NE¼ sec. 16, T. 15 S., R. 44 E., in Lifton pumping plant of Utah Power & Light Co., and 3⅝ miles east of St. Charles. Datum of gage is 5,900 feet above mean sea level (levels by Utah Power & Light Co.); gage readings have been reduced to elevations above mean sea level.

Records available.- October 1945 to September 1947. January 1921 to September 1945 (elevations only) in files of Salt Lake City district office, Geological Survey. October 1903 to June 1906 (gage heights only) at different site and datum, published as Bear Lake at Fish Haven.

Extremes.- Maximum contents during year, 1,254,000 acre-feet July 3-10 (elevation, 5,921.28 feet); minimum, 926,200 acre-feet Jan. 24, 25 (elevation, 5,916.55 feet).
1921-47: Maximum contents, 1,423,000 acre-feet June 10, 1923 (elevation, 5,923.68 feet); no contents Nov. 9-19, 1935 (elevation, 5,902.00 feet).

Remarks.- Outflow regulated by gates and pumps at Bear Lake and by gates in dike at north end of Mud Lake. Inflow to lake augmented by water diverted from Bear River through Rainbow inlet canal (see p. 37) and Dingle inlet canal, which empty into Mud Lake. Water from Mud Lake reaches Bear Lake by a sluice at pumping plant or by gates in dike. Capacity, 1,421,000 acre-feet between elevations 5,902.0 feet (lower limit of pumps) and 5,923.65 feet (upper limit of storage with existing facilities). Storage water used for irrigation and power development.

Cooperation.- Elevations furnished by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Contents computed by Geological Survey from capacity table based on data furnished by Utah Power & Light Co.

Contents, in thousands of acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	950.8	945.3	938.4	953.5	929.6	958.3	1,031	1,078	1,176	1,252	1,211	1,146
2	950.1	946.0	939.1	952.8	930.3	959.7	1,035	1,080	1,178	1,253	1,209	1,144
3	949.4	946.6	939.1	952.1	931.0	960.4	1,038	1,083	1,178	1,254	1,207	1,142
4	948.0	946.6	939.8	951.5	931.6	961.7	1,040	1,084	1,180	1,254	1,204	1,140
5	947.3	946.6	940.5	950.1	932.3	963.1	1,041	1,085	1,181	1,254	1,202	1,137
6	946.6	946.6	941.8	948.7	932.3	964.5	1,042	1,088	1,182	1,254	1,200	1,134
7	945.3	946.6	943.2	946.0	933.0	965.2	1,042	1,092	1,184	1,254	1,198	1,132
8	944.6	946.6	944.6	944.6	933.0	966.5	1,043	1,097	1,187	1,254	1,196	1,129
9	943.9	946.6	946.0	942.5	933.7	967.9	1,043	1,099	1,191	1,254	1,194	1,128
10	942.5	946.6	947.3	941.8	934.4	968.6	1,044	1,102	1,194	1,254	1,193	1,124
11	941.8	947.3	947.3	940.5	934.4	969.9	1,044	1,106	1,196	1,252	1,193	1,120
12	941.2	947.3	947.3	939.8	935.0	970.6	1,045	1,113	1,203	1,251	1,192	1,117
13	941.2	945.3	948.0	939.1	936.4	971.3	1,046	1,120	1,208	1,249	1,189	1,114
14	940.5	944.6	948.0	938.4	937.1	972.7	1,047	1,126	1,210	1,248	1,187	1,110
15	940.5	944.6	949.4	937.1	937.8	974.0	1,048	1,130	1,212	1,247	1,186	1,109
16	940.5	944.6	949.4	935.7	939.1	976.1	1,049	1,134	1,216	1,246	1,182	1,106
17	940.5	944.6	949.4	934.4	939.8	977.5	1,050	1,139	1,219	1,244	1,180	1,104
18	940.5	944.6	950.1	933.7	940.5	981.0	1,051	1,145	1,223	1,241	1,178	1,108
19	940.5	943.2	950.1	933.0	941.2	984.4	1,052	1,150	1,228	1,239	1,176	1,109
20	940.5	943.2	950.1	931.6	941.8	987.8	1,054	1,153	1,229	1,237	1,173	1,107
21	941.2	943.2	950.1	929.6	943.2	989.9	1,059	1,158	1,231	1,236	1,171	1,106
22	941.2	941.2	951.5	928.9	946.0	992.0	1,062	1,161	1,236	1,235	1,170	1,104
23	941.8	940.5	951.5	928.2	948.7	994.8	1,065	1,165	1,238	1,233	1,168	1,104
24	941.8	939.8	952.1	926.2	950.8	999.6	1,067	1,168	1,241	1,231	1,165	1,103
25	941.8	939.8	952.1	926.2	952.8	1,003	1,070	1,170	1,244	1,229	1,161	1,103
26	940.5	938.4	952.1	926.8	955.5	1,009	1,072	1,170	1,245	1,226	1,159	1,102
27	939.1	938.4	952.8	927.5	956.9	1,015	1,073	1,170	1,247	1,224	1,157	1,101
28	943.9	937.8	952.8	928.2	957.6	1,016	1,074	1,173	1,249	1,222	1,154	1,100
29	943.9	937.8	952.8	928.2	-	1,018	1,076	1,173	1,251	1,218	1,152	1,100
30	943.9	937.8	953.5	928.2	-	1,022	1,077	1,173	1,252	1,215	1,150	1,099
31	944.6	-	953.5	928.2	-	1,026	-	1,175	-	1,213	1,148	1,096

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	5,916.91	950,800	-5,500
Nov. 1	5,916.83	945,300	-6,900
Dec. 1	5,916.73	938,400	+15,100
Calendar year 1946	-	-	+236,900
Jan. 1	5,916.95	953,500	-23,900
Feb. 1	5,916.60	929,600	+28,700
Mar. 1	5,917.02	958,300	+72,700
Apr. 1	5,918.07	1,031,000	+47,000
May 1	5,918.76	1,078,000	+98,000
June 1	5,920.16	1,176,000	+76,000
July 1	5,921.25	1,252,000	-41,000
Aug. 1	5,920.66	1,211,000	-65,000
Sept.1	5,919.73	1,146,000	-50,000
Oct. 1	5,919.01	1,096,000	-
Water year 1946-47	-	-	+145,200

† Mean daily elevation.

Bear Lake Outlet Canal near Paris, Idaho

Location.- Water-stage recorder, lat. 42°13', long. 111°20'30", in SW¼ sec. 8, T. 14 S., R. 44 E., 2,000 feet downstream from head (at dike) and 3 miles southeast of Paris.

Records available.- October 1945 to September 1947. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 25 years, 286 second-feet.

Extremes (regulated).- Maximum discharge during year, 1,450 second-feet Aug. 15 (gage height, 18.83 feet); minimum daily, 8 second-feet Apr. 27 to May 19.
1923-47: Maximum daily discharge, 1,870 second-feet Aug. 8, 1924; minimum daily, 1 second-foot May 1 to June 6, 1937.

Remarks.- Records good except those for periods of doubtful or no gage-height record, which are fair. Flow regulated by Bear Lake and Mud Lake.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Two discharge measurements made by Geological Survey in addition to those made by power co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	364	24	31	375	228	17	10	8	27	700	1,360	1,030
2	357	98	145	395	225	17	10	d 8	190	697	1,370	1,090
3	300	189	363	470	225	17	10	8	458	697	1,360	1,180
4	126	186	397	544	125	17	10	8	478	682	1,350	1,190
5	25	190	310	550	15	16	11	8	449	680	1,220	1,230
6	25	192	147	558	15	16	11	8	368	691	971	1,250
7	23	224	28	620	15	16	11	8	201	772	886	1,240
8	22	278	27	730	15	16	12	8	182	884	646	1,220
9	21	270	139	739	15	16	12	8	225	872	974	1,230
10	24	266	320	755	15	15	12	8	260	894	984	1,180
11	22	257	328	755	15	15	12	8	117	922	981	1,140
12	95	266	279	755	15	15	13	8	d15	922	974	964
13	198	256	192	755	15	15	13	8	d15	915	1,080	462
14	202	272	28	756	15	15	13	8	d15	992	1,230	813
15	198	285	27	775	15	15	13	8	d15	1,170	1,400	909
16	200	278	140	799	16	14	12	8	d15	1,360	1,420	897
17	120	261	305	782	16	14	12	8	d15	1,420	1,410	909
18	25	283	285	740	16	14	12	8	164	1,360	1,380	822
19	22	345	305	690	16	14	11	8	360	1,270	1,330	634
20	22	390	345	689	17	13	11	123	282	1,240	1,320	629
21	111	457	340	695	17	13	10	299	182	1,270	1,320	606
22	234	490	330	680	17	13	10	288	199	1,360	1,310	556
23	215	383	322	450	18	12	10	271	302	1,400	1,290	482
24	219	261	276	175	18	12	9	260	449	1,370	1,280	480
25	215	332	207	20	18	12	9	275	435	1,340	1,270	485
26	215	502	142	20	18	12	9	367	442	1,340	1,250	473
27	222	397	19	95	18	11	8	522	568	1,310	1,210	466
28	232	190	110	310	18	11	8	436	623	1,350	1,130	468
29	234	125	335	460	-	11	8	173	697	1,380	1,070	461
30	232	32	345	355	-	11	8	34	694	1,360	1,050	574
31	152	-	375	230	-	10	-	25	-	1,350	1,040	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,672	364	21	151	9,270
November	7,979	502	24	266	15,830
December	6,942	397	19	224	13,770
Calendar year 1946	93,161	1,140	5	269	194,700
January	16,702	799	20	539	33,130
February	1,191	228	15	42.5	2,360
March	435	17	10	14.0	863
April	320	13	8	10.7	635
May	3,225	522	8	104	6,400
June	8,442	697	15	281	16,740
July	33,970	1,420	680	1,096	67,380
August	36,846	1,420	646	1,189	73,080
September	25,070	1,250	461	836	49,730
Water year 1946-47	145,794	1,420	8	399	289,200

d Doubtful gage-height record; discharge computed on basis of 1 discharge measurement and records of head-gate change.

Note.- No gage-height record Oct. 5, Dec. 29 to May 19; discharge computed on basis of 27 discharge measurements and records of head-gate changes.

Bloomington Creek near Bloomington, Idaho

Location.- Water-stage recorder, lat. 42°11', long. 111°27', in SE¼ sec. 20, T. 14 S., R. 43 E., 2.1 miles west of Bloomington.

Drainage area.- 22.1 square miles.

Records available.- April 1943 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 137 second-feet May 7 (gage height, 2.17 feet); minimum, 14 second-feet Mar. 5 (discharge measurement), but may have been less during period of no gage-height record.
1943-47: Maximum discharge, 184 second-feet June 2, 1943 (gage height, 2.67 feet); minimum daily, 12 second-feet many days in February and March 1945.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversion above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	20	19				19	43	58	36	28	24
2	23	19	19				20	55	57	36	27	23
3	22	19	18				19	67	58	36	26	22
4	22	19	18		(*)		18	85	53	36	27	23
5	22	20	19			(*)	17	102	52	36	27	22
6	22	20	19				17	106	57	37	26	22
7	23	20	19				17	108	52	37	26	23
8	22	20	18				18	112	59	36	26	23
9	23	20	18	(*)			18	107	85	35	27	25
10	23	20	18			14	17	106	66	34	28	23
11	23	20	18		15		17	121	70	34	27	22
12	23	20	20				18	99	65	33	27	22
13	23	20	20				19	92	60	33	26	21
14	22	19	20				21	88	58	32	26	21
15	22	20	19				23	86	56	33	26	21
16	22	18	18	16			23	86	54	32	25	21
17	21	18	17				23	86	53	32	24	23
18	22	18	17			15	24	86	52	32	27	23
19	21	18	17			15	24	82	51	30	26	21
20	20	18	18			16	26	85	51	29	26	21
21	20	18	18			17	32	81	51	29	27	21
22	20	19	17			18	31	77	49	28	28	21
23	21	20	17			18	28	72	46	28	26	21
24	20	19	17			17	26	67	43	27	26	20
25	22	18	17		14	15	26	66	43	28	26	20
26	21	*19	17			15	26	63	44	28	25	21
27	23	20	17			16	28	65	44	28	25	21
28	23	20	17			17	29	70	42	28	26	20
29	21	19	16		-	19	31	60	41	27	25	20
30	21	19	16		-	21	35	58	39	28	25	20
31	21	-	16		-	20	-	59	-	27	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	677	23	20	21.8	1,340
November	577	20	18	19.2	1,140
December	554	20	16	17.9	1,100
Calendar year 1946	12,770	122	15	35.0	25,330
January	496	-	-	16	984
February	412	-	-	14.7	817
March	477	21	-	15.4	946
April	690	35	17	23.0	1,370
May	2,540	121	43	81.9	5,040
June	1,609	85	39	53.6	3,190
July	995	38	27	32.1	1,970
August	811	28	24	26.2	1,610
September	649	24	20	21.6	1,290
Water year 1946-47	10,487	121	-	28.7	20,800

* Winter discharge measurement made on this day.
Note.- No gage-height record Dec. 21 to Apr. 2, Aug. 9, 10; discharge interpolated, or computed on basis of 3 discharge measurements and records for stations on nearby streams.

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Paris Creek near Paris, Idaho

Location.- Water-stage recorder, lat. 42°13', long. 111°27', in NE¼ sec. 17, T. 14 S., R. 43 E., half a mile upstream from Utah Power & Light Co. power plant and 3 miles southwest of Paris.

Drainage area.- 18.6 square miles.

Records available.- October 1943 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 118 second-feet May 10 (gage height, 2.31 feet); minimum daily, 2.1 second-feet July 29, 30, but may have been less during periods of ice effect or no gage-height record.
1944-47: Maximum discharge, that of May 10, 1947; minimum not determined.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Two small diversions for irrigation above station. Paris power canal (see following page) diverts above station from right bank of creek in NE¼ sec. 13, T. 14 S., R. 42 E. Water returned to creek in NW¼SW¼ sec. 9, T. 14 S., R. 43 E., except for one small canal which diverts water for irrigation from power-plant forebay.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	b4.4	4.5			b3.5	9.0	7.2	25	15	5.0	3.2
2	4.3	b4.2	4.5			3.6	11	10	24	13	5.3	3.2
3	4.1	b4.0	4.5			3.6	9.0	21	24	12	5.0	3.4
4	3.9	b4.0	4.5		(*)	3.6	8.0	43	22	10	5.3	3.4
5	3.6	b4.1	4.8			*3.6	7.2	52	22	10	5.3	2.9
6	3.6	4.3	5.0			3.4	6.9	63	25	10	5.0	3.4
7	4.1	4.3	5.0			3.4	6.6	73	23	10	5.0	3.2
8	4.1	4.3	4.8			3.4	6.4	90	28	9.7	5.0	3.4
9	4.1	4.3	4.8	(*)		3.4	6.1	109	53	8.7	5.0	3.8
10	4.1	b4.0	4.8			3.6	6.1	103	42	8.0	5.3	3.6
11	4.1	b4.0	5.0			3.8	6.1	92	44	8.0	4.8	3.8
12	4.3	b4.0	5.0			b3.8	6.6	77	47	7.7	3.6	3.2
13	4.1	b4.0	5.0		b4.0	3.8	7.7	64	42	6.9	2.4	3.4
14	3.8	4.3	5.3			3.8	8.7	61	38	6.4	2.4	3.2
15	3.8	4.3	5.3	a3.5		4.3	8.7	67	36	5.8	2.9	3.2
16	3.8	b4.2				5.0	7.7	67	34	4.8	3.2	3.4
17	4.1	b4.0				5.3	7.7	69	32	5.0	3.2	4.5
18	4.1	4.1				5.8	8.0	67	30	4.8	3.2	4.8
19	4.1	4.3				6.1	8.0	60	29	4.8	3.2	3.8
20	a4.2	4.5				6.4	8.4	55	28	5.0	3.2	3.8
21	a4.3	b4.0				7.4	11	54	28	4.8	3.6	3.2
22	a4.4	4.3				8.4	11	51	27	3.8	3.4	2.7
23	4.5	4.8	a4.5			8.7	9.4	45	26	2.9	3.2	2.9
24	4.5	4.5				6.9	7.4	41	22	2.7	3.2	3.2
25	4.5	b4.5				7.2	6.9	39	21	2.7	3.2	3.2
26	4.5	*4.8				6.6	6.4	37	21	2.7	3.2	3.2
27	5.5	4.8			b3.5	6.9	6.4	36	20	2.6	3.4	3.4
28	5.5	4.8				7.7	6.6	34	19	2.4	3.2	3.6
29	5.0	4.5			-	9.7	6.9	29	18	2.1	3.4	3.6
30	4.8	4.5			-	12	7.2	26	17	2.1	3.2	a3.6
31	4.5	-			-	9.7	-	26	-	3.4	2.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	143.2	15	3.6	4.62	284
November	129.1	4.8	4.0	4.30	256
December	144.8	-	-	4.67	287
Calendar year 1946	4,934.7	98	-	13.5	9,800
January	108.5	-	-	3.5	215
February	110.5	-	-	3.95	219
March	174.4	12	3.4	5.63	348
April	233.1	11	6.1	7.77	462
May	1,668.2	109	7.2	53.8	3,310
June	867	53	17	28.9	1,720
July	197.8	15	2.1	6.38	392
August	119.2	5.3	2.4	3.85	236
September	103.2	4.8	2.7	3.44	205
Water year 1946-47	3,999.0	109	-	11.0	7,930

* Winter discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice Dec. 16-20, Jan. 9, 10); discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.
b Stage-discharge relation affected by ice (no gage-height record Feb. 1-3).

Paris power canal near Paris, Idaho

Location.- Water-stage recorder, lat. 42°12', long. 111°29', in SE¼ sec. 13, T. 14 S., R. 42 E., half a mile downstream from head gates and 4.4 miles southwest of Paris.

Records available.- October 1943 to September 1947 (discontinued).

Extremes.- Maximum daily discharge during year, 41 second-feet June 9; minimum daily, 12 second-feet Oct. 1.
1943-47: Maximum daily discharge, 50 second-feet June 1, 1944 (gage height, 2.45 feet); minimum daily, 0.3 second-foot Oct. 8, 1944.

Remarks.- Records good. One small canal diverts water for irrigation from power-plant forebay below station.

Cooperation.- Two discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	19	18	17	15	14	14	26	35	39	31	26
2	23	19	18	17	15	14	14	32	34	39	31	26
3	23	19	18	17	15	14	14	35	35	38	31	26
4	23	19	18	16	15	14	14	35	35	38	31	26
5	23	19	18	16	15	14	14	36	35	38	31	26
6	22	19	18	a16	15	14	14	37	36	38	31	25
7	22	19	18	a16	15	14	14	34	35	37	31	25
8	22	19	18	a16	14	14	14	34	35	37	31	25
9	22	19	18	16	14	14	14	34	41	36	31	24
10	22	19	18	16	14	14	14	34	39	36	30	24
11	22	19	18	16	14	14	14	34	38	37	30	24
12	22	19	18	16	14	14	14	33	40	37	30	24
13	22	19	18	16	14	14	14	35	39	36	30	24
14	22	19	18	16	14	14	14	37	39	37	30	24
15	21	19	18	16	14	14	15	38	39	38	29	24
16	21	19	18	16	14	14	15	38	38	39	28	23
17	21	19	18	16	14	14	16	35	38	38	28	23
18	21	19	18	15	14	14	16	33	38	37	28	23
19	21	19	17	16	14	14	16	32	37	37	28	22
20	21	19	17	15	14	14	17	31	37	37	28	23
21	21	19	17	15	14	14	17	31	37	36	28	22
22	21	19	17	15	14	14	18	34	37	36	28	22
23	21	19	17	15	14	14	17	34	38	34	27	21
24	20	19	17	15	14	14	17	34	39	34	27	21
25	20	19	17	15	14	14	17	34	38	34	27	21
26	20	19	17	15	14	14	17	34	38	33	27	21
27	20	19	17	15	14	14	17	34	37	33	27	21
28	19	19	17	15	14	14	18	35	37	32	27	21
29	19	19	17	15	-	14	21	36	36	32	27	21
30	19	19	17	15	-	14	23	35	37	31	26	a21
31	19	-	17	15	-	14	-	35	-	31	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	647	23	12	20.9	1,280
November	570	19	19	19.0	1,130
December	545	18	17	17.6	1,080
Calendar year 1946	8,784.2	46	4.5	24.1	17,430
January	486	17	15	15.7	964
February	399	15	14	14.2	791
March	434	14	14	14.0	861
April	473	23	14	15.8	938
May	1,059	38	26	34.2	2,100
June	1,117	41	34	37.2	2,220
July	1,115	39	31	36.0	2,210
August	695	31	26	28.9	1,780
September	699	26	21	23.3	1,390
Water year 1946-47	8,439	41	12	23.1	16,740

a Nc gage-height record; discharge interpolated.

Mill Creek above West Fork, near Liberty, Idaho

Location.- Water-stage recorder, lat. 42°19', long. 111°30', in about SE¼ sec. 2, T. 13 S., R. 42 E. (unsurveyed), a third of a mile upstream from West Fork and 3 miles west of Liberty.

Drainage area.- 27.2 square miles.

Records available.- October 1944 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 60 second-feet Apr. 15 (gage height, 2.09 feet); no flow Oct. 1 to Mar. 16.
1944-47: Maximum discharge, 80 second-feet Apr. 25, 1946; no flow during large part of each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversion above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	1.2	12	0.8	0.5	0.1	0.1
2						0	1.3	14	.6	.4	.1	.1
3						0	1.3	15	.6	.4	.1	.1
4						0	1.2	12	.4	.4	.1	.1
5						0	1.0	16	.4	.3	.1	.1
6						0	.9	21	1.4	.3	.1	.1
7						0	.7	26	.5	.2	.1	.1
8						0	.6	29	4.7	.2	.1	.1
9						0	.6	27	17	.2	.1	.1
10						0	.5	22	5.2	.2	.1	.1
11						0	.5	28	8.4	.2	.1	.1
12						0	.6	15	7.5	.2	.1	.1
13						0	.8	14	4.6	.2	.1	.1
14						0	2.0	16	3.3	.2	.1	.1
15						0	16	15	2.7	.2	.1	.1
16						0	14	16	2.4	.2	.1	.1
17						.2	11	16	2.3	.2	.1	.3
18						.4	10	15	2.2	.1	.1	.3
19						.6	11	12	2.1	.1	.1	.2
20						.7	13	12	2.0	.1	.1	.1
21						.9	11	11	1.7	.1	.1	.1
22						1.0	8.6	8.6	1.7	.1	.1	.1
23						1.0	7.7	6.6	1.3	.1	.1	.1
24						.9	7.7	5.0	1.2	.1	.1	.1
25						.8	8.6	3.8	1.0	.1	.1	.1
26						.7	11	2.8	1.1	.1	.1	.1
27						.6	12	2.4	1.1	.1	.1	.1
28						.6	15	2.0	.8	.1	.1	.1
29						.8	15	.9	.6	.1	.1	h.1
30						1.1	13	.7	.6	.1	.1	h.1
31						1.2	-	1.1	-	.1	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1946	1,012.8	49	0	2.77	2,000
January	0	0	0	0	0
February	0	0	0	0	0
March	11.5	1.2	0	.37	23
April	197.8	16	.5	6.59	392
May	397.9	29	.7	12.8	789
June	80.2	17	.4	2.67	159
July	5.9	.5	.1	.19	12
August	3.1	.1	.1	.10	6.1
September	3.5	.3	.1	.12	6.9
Water year 1946-47	699.9	29	0	1.92	1,390

h Computed from staff-gage reading.

Note.- No gage-height record Mar. 17 to Apr. 1, Sept. 13-28; discharge computed on basis of recorded range in stage, weather records, and records for station near Liberty.

Mill Creek near Liberty, Idaho

Location.- Water-stage recorder, lat. 42°20', long. 111°29', in SE¼ sec. 36, T. 12 S., R. 42 E., 2 miles northwest of Liberty and 3½ miles upstream from North Creek.

Drainage area.- 18.4 square miles.

Records available.- April 1943 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 141 second-feet May 8 (gage height, 2.45 feet); minimum not determined, occurred during period of ice effect or no gage-height record.
1943-47: Maximum discharge, 150 second-feet May 31, 1945, May 6, 1946; maximum gage height, 2.93 feet May 6, 1946; minimum discharge not determined, occurred during period of ice effect or no gage-height record.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. One diversion above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	6.7	5.7		a4.3	b4.2	10	49	24	14	7.3	6.1
2	6.7	6.7	5.7		a4.3	4.5	11	57	20	13	8.0	6.4
3	6.7	b6.0	5.7		a4.3	4.5	9.8	67	22	10	8.6	6.4
4	6.7	6.4	6.4		a4.3	5.0	a9.0	72	20	10	8.0	6.4
5	6.7	6.0	7.0		a4.3	4.5	a8.0	75	18	10	7.7	6.4
6	6.7	6.4	7.3		*4.3	*4.1	a7.5	94	25	11	7.7	6.4
7	7.0	6.4	7.3		4.3	4.1	a7.0	106	20	12	8.6	6.4
8	7.0	6.7	7.3	(*)	4.3	4.1	a6.8	120	24	12	9.8	6.4
9	6.7	7.0	7.0		b4.0	3.9	a6.5	114	62	12	9.8	6.0
10	6.7	b6.0	7.0		4.5	4.1	a6.5	99	30	10	10	5.7
11	6.7	5.7	7.3		4.3	4.3	a7.0	99	32	9.2	9.8	5.7
12	7.3	b5.7	9.2		4.3	4.1	7.7	82	32	9.2	9.8	5.7
13	7.7	5.7	7.3		4.3	4.3	9.2	75	27	9.2	9.8	5.7
14	7.7	6.4	9.2		4.3	5.4	12	72	24	9.2	9.8	5.4
15	8.0	6.7	8.6		4.3	4.7	18	64	22	9.2	9.8	5.4
16	8.6	6.4	8.0	a4	4.5	4.5	25	66	20	8.0	9.8	5.0
17	8.6	6.7	b5.0		4.5	5.0	26	67	19	8.0	8.0	6.4
18	8.6	6.7	b5.0		5.0	5.7	28	61	19	8.0	7.7	6.4
19	8.6	6.4	b6.0		4.7	6.4	30	56	18	8.0	7.7	5.0
20	8.6	b6.0	b6.0		4.3	7.0	35	52	19	8.0	7.7	5.0
21	9.2	b5.0	b5.5		4.3	8.0	39	52	19	8.6	8.6	4.7
22	7.7	5.4	b5.5		4.3	8.6	34	46	19	8.6	8.6	4.7
23	7.0	5.4	4.5		4.5	8.6	31	38	18	8.0	8.0	4.7
24	6.4	4.1	4.5		4.5	7.3	30	36	18	7.3	8.0	4.5
25	6.4	4.5	5.4		b4.5	7.0	30	34	15	6.7	8.0	4.5
26	6.4	*4.7	7.0		b4.2	7.0	33	34	13	6.4	7.7	4.1
27	6.7	5.7	7.3		b4.0	6.7	37	34	14	6.4	8.0	4.3
28	7.0	5.7	b6.0		b4.0	6.4	42	31	14	6.4	8.0	4.1
29	7.0	5.7	b5.0		-	7.3	47	26	13	6.0	7.7	4.3
30	6.7	5.4	b5.0		-	9.8	46	24	14	7.0	5.0	4.3
31	6.7	-	b5.0		-	10	-	26	-	7.7	5.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	225.2	9.2	6.4	7.26	447
November	178.3	7.0	4.1	5.94	354
December	198.7	9.2	4.5	6.41	394
Calendar year 1946	6,692.4	141	-	18.3	13,280
January	124.0	-	-	4	246
February	121.7	5.0	4.0	4.35	241
March	181.1	10	3.9	5.84	359
April	649.0	47	6.5	21.6	1,290
May	1,928	120	24	62.2	3,820
June	654	62	13	21.8	1,300
July	279.1	14	6.0	9.00	554
August	258.7	10	5.0	8.35	513
September	162.8	6.4	4.1	5.43	323
Water year 1946-47	4,960.6	120	-	13.6	9,840

* Winter discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice Jan. 1-4, 9-11); discharge computed on basis of weather records and records for stations on nearby streams.
b Stage-discharge relation affected by ice.

North Creek below Emigration Creek, near Liberty, Idaho

Location.- Water-stage recorder, lat. 42°21', long. 111°28', in NE¼ sec. 30, T. 12 S., R. 43 E., 1,000 feet downstream from Emigration Creek and 3 miles northwest of Liberty. Prior to Oct. 23, 1946, staff gage at same site and datum.

Drainage area.- 26.5 square miles.

Records available.- May 1946 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 109 second-feet June 8 (gage height, 2.50 feet); minimum, 1.8 second-feet Nov. 10, but may have been less during periods of ice effect or no gage-height record.
1946-47: Maximum discharge, that of June 8, 1947; minimum, that of Nov. 10, 1946.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Two small diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	h3.3	3.3	3.6			b3.1	28	52	17	11	4.5	2.8
2	h3.6	b3.2	3.3			h3.3	31	61	16	9.9	4.5	2.8
3	h3.6	b3.1	3.3			h3.6	26	68	18	9.6	4.5	2.8
4	h3.3	b3.0	3.6			h3.6	22	73	17	8.8	7.2	2.8
5	h3.1	b3.1	4.0		(*)	*h3.3	18	75	18	8.2	a7.0	3.1
6	h4.0	3.3	4.8			3.1	18	73	23	7.2	a6.5	3.1
7	h4.5	3.3	4.8			3.1	15	70	17	7.5	6.1	3.3
8	h4.0	3.3	4.5	(*)	a2.7	3.1	13	68	37	7.5	6.1	3.3
9	h3.3	3.1	4.3			3.1	13	64	61	7.2	6.4	3.3
10	h3.1	3.1	4.3			3.3	13	62	32	7.0	7.0	3.3
11	h3.1	2.6	4.0			3.3	14	77	45	7.8	5.8	3.3
12	h3.6	b2.5	4.3			3.1	16	59	36	7.8	5.0	3.6
13	h3.3	2.5	4.3			3.1	26	58	31	7.5	4.8	3.3
14	h3.3	3.1	5.3			3.3	38	52	29	7.0	4.5	3.1
15	h3.3	2.8	5.3	a2.7		4.0	38	47	a25	6.7	4.3	3.3
16	h3.6	a2.8	4.3		a2.8	6.4	35	44	a22	6.7	4.3	3.3
17	h3.6	a3.0	b3.5		a3.0	8.2	34	40	a20	6.7	4.5	5.6
18	h3.6	3.1	4.0		a3.5	11	38	38	a20	6.1	4.3	7.0
19	h3.6	3.3	4.0		a3.7	17	37	36	a19	6.1	4.0	4.0
20	h3.1	3.6	3.3		a3.7	22	43	34	a20	5.8	4.0	3.6
21	h3.3	b3.0	3.3		3.6	28	76	32	a20	6.1	4.5	3.3
22	h3.6	3.3	3.3		3.3	35	56	29	20	5.8	4.5	3.1
23	5.0	b3.3	3.3		3.3	37	41	27	17	6.1	4.0	3.1
24	3.8	b3.0	3.1		3.6	22	36	25	16	5.6	3.8	2.8
25	4.3	b3.0	3.1		3.6	20	35	23	15	5.3	3.6	2.8
26	4.0	*3.3	3.6		h3.3	16	36	20	15	5.0	3.6	2.6
27	5.0	3.8	3.6		a3.1	16	38	20	16	4.8	3.8	2.6
28	5.8	3.8	3.3		b3.0	22	42	23	13	4.8	3.8	2.6
29	4.8	3.6	b3.0		-	38	49	20	13	4.5	3.6	2.6
30	4.0	3.8	b3.0		-	46	49	18	12	4.5	3.3	h2.6
31	3.8	-	b3.0		-	31	-	20	-	4.3	3.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	117.3	5.8	3.1	3.78	233
November	95.0	3.8	2.5	3.17	188
December	118.4	5.3	3.0	3.82	235
Calendar year	-	-	-	-	-
January	83.7	-	-	2.7	166
February	84.0	-	-	3.00	167
March	425.0	46	3.1	13.7	843
April	974	76	13	32.5	1,930
May	1,408	77	18	45.4	2,790
June	680	61	12	22.7	1,350
July	208.9	11	4.3	6.74	414
August	146.9	7.2	3.1	4.74	291
September	98.8	7.0	2.6	3.29	196
Water year 1946-47	4,440	77	-	12.2	8,800

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 3 discharge measurements, weather records, and records for stations on nearby streams.
b Stage-discharge relation affected by ice.
h Computed from staff-gage reading.

Georgetown Creek near Georgetown, Idaho

Location.- Water-stage recorder, lat. 42°30', long. 111°19', in NE¼ sec. 4, T. 11 S., R. 44 E., 150 feet downstream from Little Right Hand Fork and 3 miles northeast of Georgetown.

Drainage area.- 22.2 square miles.

Records available.- November 1939 to September 1947. October 1911 to September 1914, fragmentary records collected at site 0.7 mile downstream just below power plant (now inoperative).

Extremes.- Maximum discharge during year, 41 second-feet May 11 (gage height, 1.63 feet); minimum daily, 25 second-feet on several days February to May.
1911-14, 1939-47: Maximum discharge observed, 162 second-feet June 8, 1912; minimum daily, 18 second-feet on many days February to May 1941.

Remarks.- Records good. No diversion above station. At one time a small storage reservoir was operated about 1½ miles above station, but dam is now breached and no longer operative.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a34	33	a31	29	26	h25	26	25	39	37	33	33
2	a34	33	a31	28	26	a25	25	26	39	37	33	33
3	a34	33	a30	28	26	a25	25	26	39	37	33	33
4	a34	33	a30	28	26	a26	26	a27	39	37	33	33
5	a34	33	a29	28	26	a26	26	a29	39	37	33	33
6	a34	33	a29	28	26	26	26	a31	38	37	32	33
7	a34	33	29	28	26	26	26	a34	37	36	32	33
8	a34	33	29	28	26	25	26	37	37	36	32	32
9	a34	33	29	28	26	25	26	39	39	35	32	32
10	a34	33	30	28	26	25	26	40	39	35	32	32
11	a34	33	30	28	26	26	26	41	39	35	32	32
12	34	32	31	28	26	26	26	40	39	35	33	32
13	34	32	31	28	26	26	26	39	39	35	34	32
14	34	31	31	28	26	26	25	39	39	35	35	32
15	34	31	31	28	26	26	25	38	39	35	35	32
16	33	31	31	28	26	26	a25	37	39	35	35	31
17	33	31	31	28	26	26	25	37	39	35	35	31
18	33	31	30	28	26	26	25	37	38	35	34	30
19	33	31	30	28	26	26	26	37	38	35	33	30
20	33	32	30	28	26	26	26	38	38	35	32	30
21	34	32	30	28	26	26	26	38	38	35	32	30
22	34	32	30	28	26	26	26	39	38	35	32	30
23	34	32	30	28	a26	26	26	39	38	34	32	31
24	34	32	30	27	a26	26	26	39	38	34	32	31
25	34	32	31	27	a26	26	26	39	37	34	32	32
26	34	32	31	27	a25	26	26	39	37	34	32	32
27	34	32	31	27	a25	26	26	39	37	34	33	32
28	34	31	31	27	h25	26	25	39	37	33	33	32
29	34	31	31	26	-	26	25	39	37	33	33	32
30	34	31	30	26	-	26	25	39	37	33	33	32
31	34	-	29	26	-	26	-	39	-	33	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,049	34	33	33.8	2,080
November	962	33	31	32.1	1,910
December	937	31	29	30.2	1,860
Calendar year 1946	12,412	55	24	34.0	24,620
January	858	29	26	27.7	1,700
February	725	26	25	25.9	1,440
March	800	26	25	25.8	1,590
April	770	26	25	25.7	1,530
May	1,125	41	25	36.3	2,230
June	1,146	39	37	38.2	2,270
July	1,086	37	33	35.0	2,150
August	1,020	35	32	32.9	2,020
September	953	33	30	31.8	1,890
Water year 1946-47	11,431	41	25	31.3	22,670

a No gage-height record; discharge interpolated or computed on basis of recorded range in stage and records for stations on nearby streams.
h Computed from staff-gage reading.

Cottonwood Creek near Cleveland, Idaho

Location.- Water-stage recorder, lat. 42°20', long. 111°46', in SW¼ sec. 34, T. 12 S., R. 40 E., 500 feet upstream from Cleveland irrigation canal, 2½ miles west of Cleveland, and 4 miles downstream from proposed Cottonwood Dam.

Drainage area.- 61.7 square miles.

Records available.- November 1938 to September 1947.

Extremes.- Maximum discharge during year, 205 second-feet Mar. 21 (gage height, 2.28 feet), minimum, 2.7 second-feet Aug. 31, Sept. 1.
1938-47: Maximum discharge, 660 second-feet Apr. 16, 1946 (gage height, 3.77 feet), from rating curve extended above 450 second-feet; minimum observed, 0.5 second-foot Aug. 17, 1940 (gage height, 0.46 foot).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Several diversions for irrigation in upper valley above proposed Cottonwood Dam.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	15	14	b11	a10	17	75	124	19	9.0	6.9	2.7
2	9.7	13	14	b12	a10	15	81	137	19	8.3	6.9	2.9
3	7.9	14	14	b11	a10	16	76	146	20	7.9	6.9	2.9
4	7.2	14	15	b11	a10	15	71	137	18	7.6	6.9	2.9
5	7.2	14	19	b11	a10	15	66	121	18	7.2	4.0	2.9
6	7.6	14	23	a12	a10	15	63	104	26	7.2	3.4	3.8
7	6.9	15	22	*13	a10	14	57	92	18	6.9	3.6	3.8
8	6.6	14	19	b13	a10	15	57	82	16	6.9	4.0	4.0
9	6.1	14	*18	b13	a11	14	56	77	30	6.9	4.2	4.0
10	6.1	12	18	15	a11	16	52	92	19	6.6	6.1	4.0
11	5.8	12	17	13	a11	17	49	124	26	6.4	7.2	4.0
12	5.8	11	18	b14	*a11	15	45	121	57	6.1	7.2	3.8
13	6.1	12	19	14	a13	16	54	114	41	5.8	8.3	3.6
14	6.4	14	20	15	a18	18	70	112	35	6.4	7.6	3.4
15	6.6	13	21	b11	a20	22	93	92	33	7.2	7.6	3.4
16	11	11	15	b10	a25	40	108	78	31	7.2	8.3	3.4
17	15	12	b13	b10	a30	67	114	70	27	6.1	7.6	4.0
18	15	13	b11	b11	29	91	117	72	22	5.5	6.9	14
19	14	13	b11	b11	*24	104	117	66	19	5.2	6.9	6.9
20	14	14	12	a12	22	107	131	51	14	5.0	7.2	5.0
21	14	13	13	12	20	120	144	42	14	5.0	7.9	4.7
22	13	15	14	12	20	111	112	34	13	5.0	4.2	4.2
23	19	19	15	12	19	111	93	32	12	5.0	3.4	4.0
24	16	18	14	12	19	77	88	28	11	4.7	3.1	4.0
25	14	14	15	12	20	67	85	24	10	4.7	2.9	3.8
26	14	15	18	12	18	67	86	22	10	4.7	3.1	3.8
27	19	15	17	b12	20	61	105	22	12	4.4	3.1	3.8
28	25	15	14	12	18	72	119	22	10	4.2	3.4	3.8
29	20	15	b13	a11	-	82	131	20	9.7	4.2	3.1	3.8
30	18	15	b12	a11	-	99	122	19	9.7	4.0	2.9	4.2
31	16	-	b11	a10	-	86	-	19	-	6.4	2.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	359.4	25	5.8	11.6	713
November	418	19	11	13.9	829
December	489	23	11	15.8	970
Calendar year 1946	16,983.4	502	3.5	46.5	33,680
January	369	15	10	11.9	732
February	459	30	10	16.4	910
March	1,602	120	14	51.7	3,180
April	2,637	144	45	87.9	5,230
May	2,296	146	19	74.1	4,550
June	619.4	57	9.7	20.6	1,230
July	187.7	9.0	4.0	6.05	372
August	167.5	8.3	2.7	5.40	332
September	125.5	14	2.7	4.18	249
Water year 1946-47	9,729.5	146	2.7	26.7	19,300

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated, or computed on basis of 1 winter discharge measurement, weather records, and records for stations on nearby streams.
b Stage-discharge relation affected by ice.

Mink Creek below Dry Fork, near Mink Creek, Idaho

Location.- Water-stage recorder, lat. 42°15'30", long. 111°40'30", in NE¼NW¼ sec. 33, T. 13 S., R. 41 E., 500 feet downstream from Dry Fork and 3 miles northeast of Mink Creek post office.

Drainage area.- 19.3 square miles.

Records available.- April to September 1947.

Extremes.- Maximum discharge during period, 415 second-feet May 8 (gage height, 3.25 feet); minimum, 37 second-feet Sept. 28, 29.

Remarks.- Records good. Two diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							a58	122	190	120	62	48
2							a58	167	185	118	59	49
3							59	223	182	117	58	49
4							58	274	180	109	62	48
5							57	285	175	102	62	47
6							56	316	172	102	63	46
7							54	359	170	100	65	42
8				†37	†34		54	379	180	a98	62	45
9							53	385	207	a95	61	46
10							52	372	a235	a92	63	45
11			†39				49	347	a270	a87	58	44
12						†35	48	340	a260	a82	54	43
13							48	316	a250	a83	a54	42
14							53	311	a240	a83	a54	41
15							63	316	a230	82	a53	42
16							69	334	a220	82	a53	43
17							75	366	210	a82	a53	45
18							79	372	198	84	a53	44
19							82	366	193	82	53	42
20							89	340	188	76	52	42
21							104	340	180	73	53	41
22							109	340	170	72	52	40
23							106	305	160	68	50	41
24							102	279	151	66	50	40
25							99	265	145	66	49	38
26							99	257	141	66	49	38
27							102	257	136	65	49	38
28							106	241	132	a65	48	37
29							109	220	128	a66	48	37
30							117	204	122	65	47	38
31							-	198	-	65	47	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October					
November					
December					
Calendar year					
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April	2,267	117	48	75.6	4,500
May	9,196	385	122	297	18,240
June	5,600	270	122	187	11,110
July	2,613	120	65	84.3	5,180
August	1,696	65	47	54.7	3,360
September	1,281	49	37	42.7	2,540
The period	-	-	-	-	44,930

† Result of discharge measurement.
a No gage-height record; discharge computed on basis of combined flow for Mink Creek near Mink Creek, Twin Lakes Canal near Mink Creek, and Preston-Riverdale & Mink Creek Canal near Mink Creek, also Cub River near Preston.

Mink Creek near Mink Creek, Idaho

Location.- Water-stage recorder, lat. 42°12', long. 111°46', in SE¼ sec. 15, T. 14 S., R. 40 E., 300 feet upstream from Bear Hollow, 1 mile upstream from mouth, and 3 miles southwest of town of Mink Creek. Prior to Oct. 1, 1946, recorder at site 1.5 miles upstream at different datum.

Drainage area.- 58.7 square miles.

Records available.- April 1943 to September 1947.

Extremes.- Maximum daily discharge during year, 283 second-feet June 11; minimum daily, 2.1 second-feet Sept. 14-16.
1943-47: Maximum daily discharge, 413 second-feet June 2, 1943 (gage height, 2.74 feet, site and datum then in use); minimum daily, 0.7 second-foot on many days in August and September 1944.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Twin Lakes Canal and Preston-Riverdale & Mink Creek Canal divert water from creek above station in SE¼ sec. 1, T. 14 S., R. 40 E., for irrigation below station. Many other small diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	10	53	b45	39	4.2	6.8	41	56	6.4	7.8	3.3
2	32	10	52	46	39	4.0	9.6	77	51	6.1	8.4	3.3
3	27	11	52	b45	39	4.0	9.0	131	49	5.8	7.5	3.1
4	27	11	51	b45	40	4.2	11	195	41	6.4	6.1	2.6
5	27	10	53	b45	41	4.2	9.0	209	41	5.1	6.1	2.6
6	28	10	56	b46	41	4.2	23	219	45	5.4	9.0	2.6
7	27	10	64	47	41	4.0	44	224	53	16	13	2.4
8	27	10	59	48	41	4.0	7.5	243	75	a12	19	2.4
9	27	10	56	45	43	4.2	6.8	253	214	a9.5	30	3.1
10	27	9.6	54	45	43	14	6.1	250	258	7.1	37	2.9
11	27	12	53	45	43	9.0	5.8	250	283	6.1	36	3.1
12	27	14	53	45	43	6.4	5.4	248	276	5.4	39	2.6
13	27	14	54	43	62	5.4	5.1	233	258	7.8	6.1	2.2
14	27	37	53	43	59	6.1	5.1	214	248	11	5.1	2.1
15	27	49	53	b40	60	7.5	7.5	212	229	8.4	4.7	2.1
16	18	49	52	b38	65	12	14	209	219	6.8	3.7	2.1
17	7.8	49	48	b38	75	17	11	214	202	6.4	3.7	14
18	7.8	49	53	b39	68	23	16	217	186	6.8	3.5	38
19	6.4	49	49	b40	62	16	15	212	172	6.4	3.1	30
20	5.8	49	49	b41	60	15	18	202	156	6.4	2.6	23
21	5.8	48	49	41	58	17	65	190	147	5.8	14	17
22	6.4	47	51	41	54	18	72	177	90	5.4	9.0	11
23	8.4	60	51	39	58	23	56	163	60	5.4	3.5	12
24	6.4	58	49	38	45	14	46	134	43	6.8	3.7	11
25	6.1	52	48	38	15	10	35	119	32	5.1	4.7	11
26	6.1	52	56	48	5.1	10	29	110	20	4.7	4.7	10
27	9.6	56	58	40	4.4	7.8	30	106	11	7.1	3.7	9.0
28	a14	54	52	39	4.2	6.1	35	96	9.0	7.8	2.9	9.0
29	a12	53	49	39	-	6.1	36	73	5.4	7.5	2.6	7.8
30	a11	53	47	38	-	7.1	37	56	6.1	7.8	3.1	8.4
31	10	-	b45	38	-	7.5	-	62	-	7.1	3.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	550.6	32	5.8	17.8	1,090
November	1,005.6	60	9.6	33.5	1,990
December	1,622	64	45	52.3	3,220
Calendar year 1946	23,553.3	348	1.6	64.5	46,720
January	1,308	48	38	42.2	2,590
February	1,247.7	75	4.2	44.6	2,470
March	295.0	23	4.0	9.52	585
April	676.7	72	5.1	22.6	1,340
May	5,339	253	41	172	10,590
June	3,535.5	283	5.4	118	7,010
July	221.8	16	4.7	7.15	440
August	306.6	39	2.6	9.89	608
September	253.7	38	2.1	8.45	503
Water year 1946-47	16,362.2	283	2.1	44.8	32,440

a No gage-height record; discharge computed on basis of weather records and records for Twin Lakes Canal near Mink Creek, Preston-Riverdale & Mink Creek Canal near Mink Creek, and Cottonwood Creek near Cleveland.
b Stage-discharge relation affected by ice.

Twin Lakes Canal near Mink Creek, Idaho

Location.- Water-stage recorder and concrete Parshall flume, lat. 42°14', long. 111°44', in SE¼ sec. 1, T. 14 S., R. 40 E., 200 feet downstream from head gates on Mink Creek and 1 mile west of Mink Creek post office.

Records available.- April 1943 to September 1947.

Extremes.- Maximum daily discharge during year, 157 second-feet May 28; no flow Nov. 15 to Feb. 23.
1943-47: Maximum daily discharge, that of May 28, 1947; no flow at times in each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Canal diverts from west side of Mink Creek, 200 feet above station, for storage in Twin Lakes Reservoir and irrigation on west side of Bear River in vicinity of Preston.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	38			0	43	81	132	151	101	29	a22
2	20	38			0	45	84	136	148	a90	28	a21
3	20	38			0	45	84	137	146	a85	32	a21
4	20	38			0	45	84	136	144	a80	33	a21
5	20	38			0	44	82	137	140	a75	33	21
6	20	38			0	43	59	136	138	a70	33	21
7	20	38			0	43	56	138	129	a60	30	20
8	20	38			0	43	84	146	120	a58	26	22
9	19	36			0	43	78	142	a60	56	30	23
10	19	36			0	54	76	136	a50	56	43	33
11	19	35			0	51	74	127	a48	53	32	22
12	19	35			0	49	71	115	a45	49	30	22
13	20	35			0	49	73	110	a40	49	30	21
14	20	20			0	50	77	107	a36	47	30	21
15	20	0			0	54	83	112	a34	47	29	20
16	36	0			0	61	90	119	33	47	29	19
17	43	0			0	67	97	128	36	47	28	19
18	43	0			0	73	102	131	38	46	27	19
19	43	0			0	82	102	131	37	46	28	19
20	42	0			0	84	113	129	38	44	26	27
21	a42	0			0	84	113	131	41	42	28	36
22	a40	0			0	87	111	133	88	40	26	35
23	a46	0			0	87	110	132	103	40	25	34
24	a44	0			12	84	110	137	102	33	26	33
25	a42	0			34	77	115	141	109	34	25	33
26	a41	0			43	74	118	143	122	34	25	33
27	a45	0			44	70	120	147	124	32	26	33
28	a48	0			43	71	121	157	122	32	27	33
29	a45	0			0	72	127	154	115	33	26	34
30	a41	0			-	81	130	154	111	30	23	37
31	38	-			-	83	-	155	-	29	a24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	975	48	19	31.4	1,930
November	501	36	0	16.7	994
December	0	0	0	0	0
Calendar year 1946	16,257	128	0	45.7	32,240
January	0	0	0	0	0
February	176	44	0	6.3	349
March	1,938	87	43	62.5	3,840
April	2,825	130	56	94.2	5,600
May	4,169	157	107	134	8,270
June	2,648	151	33	88.3	5,250
July	1,585	101	29	51.2	3,140
August	887	43	23	28.6	1,760
September	765	37	19	25.5	1,520
Water year 1946-47	16,469	157	0	45.1	32,650

a No gage-height record; discharge computed on basis of recorded range in stage and records for Mink Creek near Mink Creek, Preston-Riverdale & Mink Creek Canal near Mink Creek, and Mink Creek below Dry Fork, near Mink Creek.

Preston-Riverdale & Mink Creek Canal near Mink Creek, Idaho

Location.- Water-stage recorder, lat. 42°12', long. 111°44', in NW¼ sec. 12, T. 14 S., R. 40 E., half a mile downstream from head gates and 1 mile southwest of Mink Creek post office.

Records available.- April 1943 to September 1947.

Extremes.- Maximum daily discharge during year, 40 second-feet Aug. 7-9; no flow Nov. 12 to May 7.
1943-47: Maximum daily discharge, 46 second-feet June 28-30, July 2, 1943; no flow at times in each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Canal diverts from east side of Mink Creek for irrigation in vicinity of Mink Creek, Riverdale, and Preston.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a14	4.3						0	26	35	38	29
2	a7.3	4.1						0	25	36	37	30
3	7.3	4.3						0	26	39	35	30
4	6.4	4.3						0	26	38	38	30
5	6.5	4.3						0	26	35	39	29
6	6.9	4.3						0	27	37	39	27
7	6.9	4.3						0	26	34	40	26
8	6.9	4.3						a10	26	38	40	28
9	6.7	4.3						21	20	34	40	28
10	6.7	4.3						20	14	36	38	27
11	6.4	1.6						20	11	36	9.3	27
12	6.4	0						18	4.1	34	11	27
13	6.5	0						19	3.8	39	36	26
14	6.5	0						21	3.3	39	36	26
15	6.5	0						22	3.0	37	36	26
16	6.9	0						22	2.8	37	36	26
17	6.5	0						22	6.4	36	34	28
18	6.4	0						23	9.4	36	32	10
19	6.4	0						24	14	35	31	7.9
20	6.4	0						23	18	38	31	4.4
21	5.8	0						28	17	38	30	a3.0
22	5.4	0						35	a16	38	30	11
23	5.4	0						36	16	37	32	11
24	7.3	0						36	16	38	32	11
25	a7.3	0						37	14	36	a32	11
26	a7.3	0						37	17	36	32	11
27	a4.3	0						39	26	36	32	11
28	a4.3	0						36	30	36	32	11
29	a4.3	0						35	29	37	31	11
30	a4.3	0						35	32	36	29	a12
31	4.3	-						32	-	38	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	200.5	14	4.3	6.47	398
November	44.4	4.3	0	1.43	88
December	0	0	0	0	0
Calendar year 1946	5,192.2	44	0	14.2	10,300
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	651	39	0	21.0	1,290
June	530.8	32	2.8	17.7	1,050
July	1,135	39	34	36.6	2,250
August	1,015.3	40	9.3	32.8	2,010
September	595.3	30	3.0	19.8	1,180
Water year 1946-47	4,172.3	40	0	11.4	8,270

a No gage-height record; discharge computed on basis of records for Mink Creek near Mink Creek, Twin Lakes Canal near Mink Creek, and Mink Creek below Dry Fork, near Mink Creek.

Cub River near Preston, Idaho

Location.- Water-stage recorder, lat. 42°08', long 111°41', in SW¼ sec. 5, T. 15 S., R. 41 E., 0.2 mile upstream from head gates of Cub River-Worm Creek Canal, 0.7 mile upstream from forest boundary, and 10 miles east of Preston.

Drainage area.- 19.4 square miles.

Records available.- March 1940 to September 1947.

Extremes.- Maximum discharge during year, 566 second-feet May 9 (gage height, 3.47 feet); minimum daily, 19 second-feet Jan. 16, 17.
1940-47: Maximum discharge, 705 second-feet June 2, 1943 (gage height, 3.83 feet); minimum, 14 second-feet Dec. 20, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. No diversion above station.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 8 to Sept. 30)

1.20	19	2.30	167
1.40	32	2.60	245
1.60	52	2.90	341
1.80	77	3.20	455
2.00	107	3.50	580

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	30	29	24	21	23	50	160	278	120	56	36
2	35	28	29	24	21	23	53	209	266	116	56	36
3	34	28	28	b23	21	23	51	285	269	112	53	36
4	33	28	*28	b23	21	22	51	373	260	109	54	36
5	34	28	28	b23	20	21	48	463	251	102	53	35
6	33	28	30	*24	21	21	45	483	257	99	52	35
7	33	28	31	24	*20	21	44	511	263	96	52	35
8	32	28	31	23	21	21	44	535	288	94	51	34
9	32	28	31	23	21	21	43	548	404	93	51	34
10	31	28	30	23	21	23	43	535	396	90	51	33
11	31	28	30	23	21	23	41	503	334	88	49	34
12	31	27	30	23	21	21	40	415	304	87	48	33
13	31	27	31	23	23	21	41	366	272	84	46	33
14	31	27	30	23	25	22	46	345	254	81	48	34
15	31	27	30	b21	27	24	57	370	245	80	46	34
16	31	27	29	b19	28	30	64	396	237	78	46	33
17	31	27	28	b19	33	38	69	427	231	76	45	37
18	31	27	28	b20	35	44	74	431	220	74	44	36
19	30	26	27	20	31	50	74	427	212	73	44	34
20	30	28	26	20	29	51	78	404	207	72	44	33
21	30	26	25	20	28	54	111	423	199	69	44	32
22	30	26	25	20	27	56	114	423	186	63	42	32
23	33	29	25	21	27	58	107	404	172	67	42	32
24	31	28	24	21	26	51	101	381	163	63	41	31
25	30	27	24	21	26	44	94	377	156	62	40	31
26	30	27	26	23	25	42	94	370	152	62	39	31
27	31	29	27	21	24	39	97	373	147	60	40	31
28	32	30	26	22	24	39	102	355	139	59	39	31
29	31	31	25	22	-	43	111	307	131	57	39	31
30	30	30	25	22	-	53	135	272	123	57	37	31
31	29	-	b24	24	-	53	-	275	-	58	37	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	975	35	29	31.4	1,930
November	836	31	26	27.9	1,660
December	860	31	24	27.7	1,710
Calendar year 1946	36,583	540	20	100	72,560
January	682	24	19	22.0	1,350
February	688	35	20	24.6	1,360
March	1,075	58	21	34.7	2,130
April	2,122	135	40	70.7	4,210
May	12,148	548	160	392	24,090
June	7,016	404	123	234	13,920
July	2,503	120	56	80.7	4,960
August	1,429	56	37	46.1	2,830
September	1,004	37	31	33.5	1,990
Water year 1946-47	31,336	548	19	85.9	62,140

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Cub River above Maple Creek; near Franklin, Idaho

Location.- Water-stage recorder, lat. 42°03', long. 111°47', in SW¼ sec. 9, T. 16 S., R. 40 E., 1½ miles upstream from Maple Creek and 2½ miles north of Franklin.

Drainage area.- 53.7 square miles.

Records available.- March 1940 to September 1947.

Extremes.- Maximum discharge during year, 521 second-feet May 6, 11 (gage height, 3.83 feet); minimum daily, 2.2 second-feet on several days in August and September.
1940-47: Maximum discharge, 617 second-feet June 2, 1943 (gage height, 4.34 feet); minimum observed, 0.9 second-foot Aug. 11-13, 1940.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Station is below all diversions from Cub River except Franklin-Cub River pumping station.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 16 to Sept. 30)

0.9	1.0	1.6	44	3.0	314
1.0	2.5	1.8	72	3.5	436
1.1	5.0	2.0	105	3.9	539
1.3	16	2.3	162		
1.4	24	2.6	224		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	19	32	31	29	17	57	209	105	5.0	2.2	2.2
2	5.5	22	45	28	28	17	68	231	86	4.8	2.5	2.2
3	13	15	45	24	28	17	66	280	111	4.0	2.4	2.5
4	40	6.0	44	26	25	16	64	362	144	4.0	2.5	2.2
5	41	5.5	30	27	25	16	62	441	140	4.0	2.8	2.2
6	41	5.5	28	32	25	16	66	477	154	3.8	2.5	2.2
7	41	5.5	26	32	24	15	62	449	174	3.8	2.5	2.2
8	25	5.5	26	28	24	15	60	421	257	3.8	3.0	2.2
9	4.8	5.0	25	28	22	16	57	441	396	3.8	3.0	2.4
10	4.5	5.5	24	29	25	30	56	474	404	3.8	3.5	2.4
11	4.2	5.5	23	31	25	32	50	466	371	3.5	3.2	2.5
12	4.5	6.0	23	30	24	26	45	464	324	3.2	2.8	2.4
13	7.6	5.5	24	30	28	23	47	388	273	3.2	2.8	2.2
14	12	6.4	25	29	30	23	58	350	250	3.5	2.8	2.2
15	11	6.4	25	26	26	27	78	338	244	3.2	2.8	2.4
16	12	6.4	25	21	28	35	91	302	222	3.2	2.8	2.4
17	12	6.9	20	23	35	50	93	328	210	26	2.8	9.6
18	12	11	18	23	34	70	100	338	183	11	2.8	40
19	11	15	23	25	31	85	93	321	164	2.8	2.8	32
20	10	15	22	28	27	85	105	298	142	2.5	2.8	18
21	9.8	15	22	29	24	85	235	284	133	2.5	3.2	6.9
22	9.8	15	22	29	22	88	233	268	116	2.5	3.0	6.4
23	16	26	22	28	22	93	197	244	86	2.5	3.0	6.0
24	18	42	20	28	23	70	178	209	70	2.4	2.8	5.0
25	17	36	17	28	22	56	166	180	45	2.4	2.8	4.5
26	14	40	18	34	20	49	160	152	12	2.4	2.8	4.5
27	16	44	18	23	19	40	162	146	8.4	2.4	3.0	7.4
28	28	30	18	30	18	40	164	138	7.4	2.4	2.8	17
29	27	29	14	30	-	47	170	100	6.9	2.4	2.5	37
30	24	28	15	28	-	72	188	63	6.0	2.4	2.4	22
31	21	-	27	28	-	68	-	74	-	2.4	2.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	517.7	41	4.2	16.7	1,030
November	483.6	44	5.0	16.1	959
December	766.0	45	14	24.7	1,520
Calendar year 1946	27,529.3	532	3.6	75.4	54,610
January	866.0	34	21	27.9	1,720
February	713.0	35	18	25.5	1,410
March	1,339	93	15	43.2	2,660
April	3,231	235	45	108	6,410
May	9,236	477	63	298	18,320
June	4,844.7	404	6.0	161	9,610
July	129.6	26	2.4	4.18	257
August	85.8	3.5	2.2	2.77	170
September	253.1	40	2.2	8.44	502
Water year 1946-47	22,465.5	477	2.2	61.5	44,570

Note.- No gage-height record Dec. 4-27, June 8-19; discharge computed on basis of records for Cub Creek near Preston, Cub River-Worm Creek Canal, Preston-Whitney Canal, and Cub River Canal.

Cub River-Worm Creek Canal near Preston, Idaho

Location.- Water-stage recorder, lat. 42°08', long. 111°45', in NW¼ sec. 14, T. 15 S., R. 40 E., a quarter of a mile upstream from divide between Cub River and Worm Creek Basins, 5 miles downstream from head gates, and 7 miles northeast of Preston.

Records available.- April 1943 to September 1947.

Extremes.- Maximum daily discharge during year, 71 second-feet May 30; no flow at times.
1943-47: Maximum daily discharge, 82 second-feet May 24, 1943; no flow at times each year.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Several diversions between gage and head of canal for irrigation in Cub River Basin. Records show diversion to Worm Creek Basin from Cub River except for one small diversion below gage. Canal diverts from Cub River in NW¼ sec. 8, T. 15 S., R. 41 E.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	14	10	6	22	27	3.6	56	52	13	
2		0	0	10	6	22	26	24	65	.47	13	
3		0	0	10	6	22	a26	25	68	44	13	
4		0	1.3	9	6	22	a26	25	68	43	12	
5		0	16	9	6	22	a26	31	67	42	12	
6		0	21	*8	6	21	a26	31	55	40	10	
7		0	24	8	*6	21	a26	30	26	38	11	
8		0	25	8	6	21	26	36	37	38	11	
9		0	*24	8	6	21	26	42	8.6	37	9.4	
10		0	23	8	8	24	26	52	.2	34	9.4	
11		0	22	8	10	24	25	48	.1	31	9.2	
12		0	22	8	12	22	24	25	2.0	28	9.2	
13		0	23	8	14	21	24	24	.4	26	8.7	
14		0	23	8	17	22	25	28	.1	24	7.7	
15		0	22	6	22	23	26	40	0	23	7.5	
16		0	22	5	24	28	26	40	0	22	6.9	
17		0	24	5	27	33	27	43	0	20	5.7	
18		0	28	5	*31	34	27	44	0	18	5.7	
19		0	20	5	29	32	27	44	6.3	15	4.4	
20		0	20	5	27	31	20	46	26	13	2.8	
21		0	19	5	27	31	4.8	52	36	11	3.0	
22		0	18	5	25	31	4.0	a56	42	10	2.6	
23		0	18	5	25	31	1.0	a58	46	11	2.6	
24		0	19	5	25	28	.3	a60	50	12	2.4	
25		0	22	5	25	26	.1	a60	53	16	.2	
26		0	22	*10	24	25	.1	a70	56	17	0	
27		.9	24	15	23	26	.1	a70	57	16	0	
28		22	24	8	23	25	.1	70	57	16	0	
29		24	22	6	-	25	.1	70	56	15	0	
30		23	15	6	-	27	0	71	54	13	0	
31		-	10	6	-	28	-	68	-	13	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	69.9	24	0	2.33	139
December	587.3	28	0	18.9	1,160
Calendar year 1946	5,376.1	69	0	14.7	10,660
January	227	15	5	7.3	450
February	472	31	6	18.9	936
March	791	34	21	25.5	1,570
April	522.6	27	0	17.4	1,040
May	1,386.6	71	3.6	44.7	2,750
June	992.7	68	0	33.1	1,970
July	785	52	10	25.3	1,560
August	192.4	13	0	6.21	382
September	0	0	0	0	0
Water year 1946-47	6,026.5	71	0	16.5	11,960

* Winter discharge measurement or field estimate made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, records for Cub River near Preston, Cub River above Maple Creek, near Franklin, Preston-Whitney Canal near Preston, and Cub River Canal near Preston.

Note.- Stage-discharge relation affected by ice Dec. 29 to Jan. 2, Jan. 4 to Feb. 13 (no gage-height record Jan. 17 to Feb. 13); discharge computed on basis of 2 discharge measurements, 1 field estimate, notes of watermaster giving estimates of flow and time of gage changes at head of canal, and weather records.

Preston-Whitney Canal near Preston, Idaho

Location.- Staff gage and Cippoletti weir in concrete flume, lat. 42°06', long. 111°44', in NE¼ sec. 24, T. 15 S., R. 40 E., 500 feet downstream from head gates and 7½ miles east of Preston.

Records available.- April 1946 to September 1947. April 1944 to September 1947 (irrigation seasons only) in Bear River Hydrometric Data reports.

Extremes.- Maximum daily discharge during year, 39 second-feet May 29; no flow Oct. 1 to May 3, Sept. 6-18.
1946-47: Maximum daily discharge, 42 second-feet May 9, 1946; no flow during winter months and at other times each year.

Remarks.- Records fair. Canal diverts from west side of Cub River for irrigation in vicinity of Preston.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	25	18	1.5	1.8
2								0	25	18	1.2	1.8
3								0	18	18	1.2	1.8
4								20	18	18	1.2	1.7
5								14	18	18	1.2	1.7
6								14	18	18	1.1	0
7								14	6.9	18	1.1	0
8								13	6.9	18	1.1	0
9								12	6.9	18	1.0	0
10								12	6.9	18	1.0	0
11								13	6.4	18	1.0	0
12								13	5.9	18	1.0	0
13								14	5.9	17	1.0	0
14								13	5.4	17	1.0	0
15								14	a8.0	17	1.0	0
16								14	10	16	1.0	0
17								14	10	17	1.0	0
18								14	10	17	1.1	0
19								14	7.4	17	1.1	2.8
20								14	7.4	17	1.1	2.8
21								13	8.0	17	1.2	2.8
22								20	8.0	17	1.2	2.5
23								19	8.0	12	1.1	2.5
24								19	18	12	2.2	2.5
25								19	19	a7.0	2.2	2.3
26								29	18	2.5	2.2	2.0
27								35	18	2.2	2.0	1.7
28								35	20	2.2	2.0	1.5
29								39	20	1.8	1.8	1.4
30								38	20	1.7	1.8	1.4
31								25	-	1.5	1.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	527	39	0	17.0	1,050
June	383	25	5.4	12.8	760
July	427.9	18	1.5	13.8	849
August	41.4	2.2	1.0	1.34	82
September	35.0	2.8	0	1.17	69
Water year 1946-47	1,414.3	39	0	3.87	2,810

a No gage-height record; discharge interpolated.

Cub River Canal near Preston, Idaho

Location.- Water-stage recorder in concrete flume, lat. 42°04', long. 111°47', in SE¼ sec. 4, T. 16 S., R. 40 E., 1¼ miles downstream from head and 5½ miles southeast of Preston. Staff gage at same site and datum prior to Oct. 4, 1946.

Records available.- April 1946 to September 1947. April 1944 to September 1947 (irrigation season only) in Bear River Hydrometric Data reports. Irrigation season only (fragmentary) 1927-43, in files of Cub River Irrigation Co. at Lewiston, Utah.

Extremes.- Maximum daily discharge during year, 144 second-feet May 24-27; no flow December to April and at times in October, November, May.
1946-47: Maximum daily discharge, that of May 24-27, 1947; no flow during winter months and at other times each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversion above station. Canal diverts from Cub River in SW¼ sec. 3, T. 16 S., R. 40 E., for irrigation in vicinity of Preston, Idaho, and Lewiston, Utah.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a29	26						0	118	55	45	44
2	a15	a30						0	118	56	44	42
3	a10	a36						0	89	54	44	42
4	0	a36						0	54	51	46	44
5	0	36						0	50	49	46	44
6	0	36						0	61	46	46	44
7	0	36						46	72	46	46	46
8	19	36						80	79	44	48	45
9	35	36						70	50	42	49	46
10	35	36						39	35	42	51	45
11	35	35						25	30	42	48	44
12	35	35						0	22	44	45	44
13	31	36						0	20	44	44	44
14	28	35						0	44	43	44	44
15	29	35						a35	44	a43	44	44
16	30	34						a30	30	a43	44	42
17	33	34						a25	30	a20	44	40
18	34	31						a40	30	a35	43	16
19	33	28						a80	47	a44	43	11
20	31	29						a70	56	44	45	25
21	30	30						a95	54	44	46	36
22	30	29						a97	51	44	45	36
23	35	28						a110	59	44	44	36
24	28	16						a144	48	43	44	36
25	a27	13						a144	59	43	45	38
26	a26	4.8						a144	86	42	44	35
27	a20	0						144	80	43	46	31
28	a28	0						136	74	44	45	20
29	a30	0						129	64	44	44	4.3
30	a27	0						128	58	46	44	21
31	25	-						129	-	45	43	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	768	35	0	24.8	1,520
November	796.8	36	0	26.6	1,580
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	1,940	144	0	62.6	3,850
June	1,712	118	20	57.1	3,400
July	1,369	56	20	44.2	2,720
August	1,399	51	43	45.1	2,770
September	1,087.3	46	4.3	36.2	2,160
Water year 1946-47	9,072.1	144	0	24.9	18,000

a No gage-height record; discharge computed on basis of recorded range in stage and records for Cub River-Worm Creek Canal near Preston, Preston-Whitney Canal near Preston, Cub River near Preston, and Cub River above Maple Creek, near Franklin.

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Maple Creek near Franklin, Idaho

Location.- Water-stage recorder, lat. 42°02'30", long. 111°45'00", in NW¼ sec. 14, T. 16 S., R. 40 E., 30 feet downstream from Deep Creek and 3 miles east of Franklin.

Drainage area.- 21.2 square miles.

Records available.- April 1946 to September 1947.

Extremes.- Maximum discharge during year, 160 second-feet May 4 (gage height, 2.36 feet); minimum daily, 1.4 second-feet Sept. 6, 7, 15, 16.
1946-47: Maximum discharge observed, 224 second-feet Apr. 19, 1946 (gage height, 2.40 feet), minimum daily, that of Sept. 6, 7, 15, 16, 1947.

Remarks.- Records good except those for periods of no gage-height record, which are fair. A few small diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	a4.2	9.8	8.0	a5.0	10	35	98	35	13	3.2	1.6
2	4.0	a4.0	9.8	8.0	a5.0	9.8	35	109	34	13	3.5	1.5
3	3.8	a3.9	9.8	7.2	a5.0	9.4	35	130	35	12	3.5	1.5
4	3.8	a3.8	9.8	6.2	a5.0	8.3	35	148	34	12	3.5	1.5
5	3.5	a3.8	9.8	5.8	a5.0	8.0	32	140	32	12	3.5	1.5
6	4.0	3.8	13	6.2	a5.0	8.0	31	133	33	11	3.2	1.4
7	4.5	3.8	18	6.2	5.0	7.6	29	130	32	11	3.5	1.4
8	4.5	3.8	17	5.5	5.5	6.9	28	127	38	11	3.2	1.5
9	4.5	3.8	15	5.0	6.6	6.9	29	117	76	10	3.8	1.6
10	4.5	3.5	14	5.0	7.2	11	29	101	70	9.8	4.8	1.6
11	4.5	3.5	14	4.8	7.2	11	27	100	66	9.4	3.8	a1.6
12	4.2	3.5	15	4.8	7.2	9.0	26	100	66	8.6	3.0	a1.5
13	4.0	4.0	14	4.8	9.8	9.4	27	94	65	9.0	2.8	a1.5
14	4.0	4.0	13	4.8	11	9.8	39	88	58	8.6	2.7	a1.5
15	4.0	4.0	13	4.5	13	12	53	83	50	7.6	2.8	a1.4
16	4.2	3.5	13	a3.5	16	16	59	80	44	7.6	2.7	a1.4
17	4.8	3.5	11	a3.2	19	24	61	75	42	7.6	2.7	a2.0
18	5.0	3.5	9.4	a3.5	20	37	61	70	38	6.6	2.6	a8.0
19	5.0	3.5	9.4	a3.5	19	47	56	66	33	6.6	2.6	a5.0
20	4.8	4.0	11	a3.5	17	51	59	61	32	5.8	2.6	2.1
21	4.8	3.5	11	a3.5	16	53	114	57	28	5.2	2.7	2.0
22	a5.0	4.0	10	3.5	14	54	111	56	27	5.2	2.7	1.6
23	a6.0	7.6	9.4	3.8	14	51	93	52	25	4.8	2.6	1.6
24	a5.5	6.9	9.0	3.8	14	45	82	48	22	4.5	2.4	1.6
25	a5.0	5.2	8.3	3.8	13	38	72	45	21	4.5	2.1	1.5
26	a5.0	5.5	10	5.5	12	34	69	44	21	4.5	2.1	1.5
27	a5.5	6.9	12	5.2	11	30	73	45	19	4.2	2.2	1.6
28	a7.0	8.0	9.8	5.0	11	30	74	44	17	4.0	2.2	1.6
29	a6.5	9.0	7.2	5.0	-	35	81	38	16	3.8	2.0	1.5
30	a5.5	9.4	7.2	a5.0	-	42	91	35	15	3.5	1.8	1.6
31	a5.0	-	6.2	a5.0	-	39	-	37	-	3.5	1.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	145.9	7.0	3.5	4.71	289
November	141.4	9.4	3.5	4.71	280
December	348.9	18	6.2	11.3	692
Calendar year	-	-	-	-	-
January	153.1	8.0	3.2	4.94	304
February	298.5	20	5.0	10.7	592
March	763.1	54	6.9	24.6	1,510
April	1,646	114	26	54.9	3,260
May	2,551	148	35	82.3	5,060
June	1,124	76	15	37.5	2,230
July	239.9	13	3.5	7.74	476
August	88.4	4.8	1.6	2.85	175
September	57.2	8.0	1.4	1.91	113
Water year 1946-47	7,557.4	148	1.4	20.7	14,980

a No gage-height record: discharge computed on basis of recorded range in stage, weather records, and records for High Creek near Richmond, Utah, and stations on other nearby streams.

High Creek near Richmond, Utah

Location.- Water-stage recorder, lat. 41°59', long. 111°45', in SW¼SE¼ sec. 5, T. 14 N., R. 2 E., at Forest Boundary, 2 miles downstream from North Fork and 5 miles northeast of Richmond.

Drainage area.- 16.2 square miles.

Records available.- April 1946 to September 1947. April 1944 to September 1947 (irrigation season only) in Bear River Hydrometric Data reports.

Extremes.- Maximum discharge during year, 207 second-feet May 7 (gage height, 2.26 feet); minimum not determined, occurred during period of no gage-height record.
1946-47: Maximum discharge, that of May 7, 1947; minimum not determined, occurred during period of no gage-height record.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversions above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	a14	17		a9.0	7.7	29	a85	79	a45	a18	12
2	11	a13	16		a9.0	7.2	29	104	76	a43	a17	12
3	9.9	a13	15	a7.5	a9.0	6.8	29	146	86	42	a16	12
4	9.9	a13	*14		a9.0	7.2	29	174	78	42	a16	12
5	10	a13	14		a9.0	7.7	28	176	71	39	a16	12
6	10	a13	14		a9.0	7.7	27	173	76	38	a16	12
7	10	13	14		a9.0	7.7	26	182	78	a37	a16	12
8	10	13	13		a9.0	8.1	27	191	90	a36	a16	13
9	10	12	12		a9.0	8.1	28	174	145	a36	a16	13
10	10	12	11	a7.0	*a10	9.0	28	165	124	a35	a18	13
11	10	12	11		a10	9.0	27	158	107	a34	a17	13
12	10	12	10		a10	9.0	25	152	102	34	a16	13
13	10	12	9.9		a10	9.4	28	136	96	33	a16	12
14	11	12	9.4		a11	10	34	123	91	32	a16	12
15	10	11	9.4		a14	12	a40	120	88	32	a16	12
16	11	11	9.4	a6.0	a16	14	a45	120	86	31	16	11
17	11	10	9.0		a17	20	a50	121	83	31	16	13
18	12	10	9.0		a17	26	a50	120	78	30	16	14
19	11	11	9.0		a17	32	a45	115	75	29	16	12
20	11	11	9.0		*16	32	a45	107	73	28	16	12
21	11	10	8.6		14	35	a60	107	67	28	16	11
22	11	10	8.6	(*)	13	36	a75	104	64	28	14	11
23	13	12	8.1	a8.0	12	33	a75	96	60	26	14	10
24	12	14	8.1		11	27	80	a94	58	25	14	9.9
25	12	14	7.7		10	25	57	a90	57	24	13	9.4
26	13	13	a8.5		9.4	24	56	a90	a54	23	13	9.4
27	13	14	a9.0		9.0	22	57	a92	a52	22	14	9.9
28	a17	14	a9.0		8.1	22	57	90	a50	21	14	9.9
29	a16	17	a8.5	a9.0	-	25	a60	82	a48	20	13	9.9
30	a15	17	a8.0		-	31	a70	78	a46	20	13	9.9
31	a14	-	a8.0		-	30	-	83	-	a19	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	355.8	17	9.9	11.5	706
November	376	17	10	12.5	746
December	327.2	17	7.7	10.6	649
Calendar year 1946	-	-	-	-	-
January	229.5	-	-	7.40	455
February	315.5	17	8.1	11.3	626
March	560.6	36	6.8	18.1	1,110
April	1,296	75	25	43.2	2,570
May	3,848	191	78	124	7,630
June	2,338	145	46	77.9	4,640
July	963	45	19	31.1	1,910
August	477	18	13	15.4	946
September	347.3	14	9.4	11.6	689
Water year 1946-47	11,433.9	191	-	31.3	22,680

* Winter discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice at times during winter); discharge computed on basis of 2 winter discharge measurements, recorded range in stage, weather records, and records for stations on nearby streams.

Little Bear River near Paradise, Utah

Location.- Water-stage recorder, lat. 41°35'25", long. 111°51'10", in SE¼ sec. 20, T. 10 N., R. 1 E., 1 mile upstream from backwater of Hyrum Reservoir, 2 miles northwest of Paradise, and 5 miles downstream from East Fork.

Drainage area.- 203 square miles.

Records available.- October 1938 to September 1947 in reports of Geological Survey. January 1936 to October 1939 (fragmentary) in reports of Little Bear River water commissioner.

Extremes.- Maximum discharge during year, 404 second-feet Apr. 22 (gage height, 3.00 feet); minimum, 13 second-feet Aug. 2.
1938-47: Maximum discharge, 926 second-feet Apr. 19, 1946 (gage height, 5.15 feet), from rating curve extended above 720 second-feet; minimum, 4 second-feet Aug. 14, 1940.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	70	64	b50	58	59	158	268	38	25	18	18
2	48	68	61	*b57	58	60	184	280	44	23	17	18
3	46	66	60	b55	57	61	178	308	44	20	17	18
4	44	66	60	b50	57	62	174	329	42	21	18	17
5	47	66	62	b50	58	61	157	321	42	20	18	17
6	46	68	66	b56	57	61	157	306	41	20	17	17
7	48	69	76	*60	58	60	142	296	41	21	17	17
8	50	70	74	b58	57	61	137	276	46	24	21	17
9	49	69	70	b56	55	63	155	235	85	25	23	20
10	48	68	68	b58	58	81	160	240	80	27	30	20
11	48	67	70	58	58	91	148	244	108	24	25	20
12	44	66	70	58	58	80	142	212	168	23	21	21
13	44	64	69	57	61	76	153	199	139	23	22	21
14	44	63	68	58	66	82	199	205	130	22	22	20
15	43	62	67	b50	66	102	235	182	102	21	21	20
16	45	61	64	b40	71	125	242	170	82	22	24	20
17	51	60	54	b45	78	153	233	158	84	23	24	23
18	52	60	*50	b46	76	188	235	164	72	24	22	44
19	49	60	55	b48	74	174	224	144	53	20	22	50
20	47	62	58	b52	68	168	240	121	45	21	21	48
21	44	65	58	57	64	164	276	99	42	21	20	44
22	44	70	58	*57	63	176	350	88	44	21	17	44
23	47	126	59	56	64	256	261	76	38	21	17	42
24	44	111	58	57	66	172	244	68	37	20	17	38
25	44	95	57	58	64	139	228	60	35	20	17	39
26	45	85	59	66	61	132	235	54	34	19	16	37
27	52	81	66	63	61	125	247	44	31	19	17	36
28	79	78	59	61	61	134	242	45	29	19	17	36
29	78	72	51	60	-	153	254	41	27	20	18	36
30	76	68	b48	57	-	190	266	35	27	20	18	36
31	72	-	b45	57	-	186	-	36	-	19	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,566	79	43	50.5	3,110
November	2,156	126	60	71.9	4,280
December	1,904	76	45	61.4	3,780
Calendar year 1946	42,583	848	20	117	84,460
January	1,711	66	40	55.2	3,390
February	1,753	78	55	62.6	3,480
March	3,695	256	59	119	7,330
April	6,256	350	137	209	12,410
May	5,304	329	35	171	10,520
June	1,830	168	27	61.0	3,630
July	668	27	19	21.5	1,320
August	612	30	16	19.7	1,220
September	854	50	17	28.5	1,690
Water year 1946-47	28,309	350	16	77.6	56,160

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Oct. 29 to Nov. 22, Nov. 25 to Dec. 9; discharge computed on basis of 3 discharge measurements, weather records, and records for Blacksmith Fork above Utah Power & Light Co's. dam, near Hyrum.

Hyrum Reservoir near Hyrum, Utah

Location.- Mercury indicating gage, lat. 41°37'30", long. 111°52'30", in SE¼NE¼ sec. 7, T. 10 N., R. 1 E., at Hyrum Dam on Little Bear River and 1 mile southwest of Hyrum. Datum of gage is at mean sea level.

Drainage area.- 220 square miles.

Records available.- October 1938 to September 1947.

Extremes.- Maximum contents during year, 15,470 acre-feet May 5 (elevation, 4,672.4 feet); minimum, 6,230 acre-feet Oct. 1 (elevation, 4,651.0 feet).
1938-47: Maximum contents, that of May 5, 1947; minimum, 1,130 acre-feet Oct. 5, 1940 (elevation, 4,634.7 feet).

Remarks.- Reservoir is formed by earth-fill dam; storage began in 1935. Usable capacity, 15,280 acre-feet between elevations 4,629.6 feet (sill of outlet canal) and 4,672 feet (top of spillway gates). Dead storage, 3,405 acre-feet (below elevation, 4,629.6 feet, sill of outlet canal). Figures given herein represent usable contents. Elevation of spillway crest is 4,660 feet. Water is used for irrigation on Hyrum project.

Cooperation.- Capacity table furnished by Bureau of Reclamation.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,230	8,580	10,650	10,570	10,520	10,480	12,030	15,280	14,810	14,620	10,390	7,940
2	-	-	10,650	10,570	-	-	-	15,280	14,720	14,480	10,260	7,820
3	-	-	-	-	-	-	12,260	15,330	14,720	14,340	10,140	7,740
4	6,420	8,790	-	-	10,480	10,480	12,300	15,420	14,720	14,150	10,010	7,620
5	-	-	10,570	10,570	-	-	12,300	15,470	14,720	14,010	9,920	7,500
6	-	-	-	-	-	-	12,390	15,420	14,760	13,870	9,790	7,380
7	-	9,040	10,570	-	10,520	10,480	12,530	15,420	14,810	13,680	9,710	7,260
8	6,720	-	-	10,570	-	-	12,620	15,380	14,810	13,590	9,620	7,150
9	-	-	10,570	-	-	-	12,850	15,330	14,860	13,400	9,540	7,030
10	-	9,370	-	-	10,480	10,480	12,990	15,380	14,950	13,220	9,500	6,910
11	6,910	-	10,610	-	-	-	13,130	15,420	15,230	13,130	9,500	6,800
12	-	-	10,610	10,570	-	10,520	13,310	15,420	15,420	12,940	9,460	6,720
13	-	9,790	-	-	10,480	-	13,500	15,420	15,420	12,760	9,460	6,650
14	-	-	10,650	-	-	-	13,870	15,420	15,420	12,620	9,460	6,570
15	7,180	-	-	10,570	10,480	-	14,200	15,420	15,420	12,480	9,460	6,530
16	-	10,180	-	-	-	-	14,430	15,420	15,420	12,350	9,460	6,490
17	-	-	10,610	-	-	-	14,580	15,420	15,420	12,210	9,460	6,460
18	7,420	-	-	-	-	-	14,620	15,420	15,420	12,030	9,370	6,460
19	-	10,570	10,610	10,570	10,480	-	14,720	15,420	15,420	11,900	9,290	6,490
20	-	-	-	-	-	-	14,760	15,420	15,420	11,760	9,200	6,530
21	7,620	10,700	10,570	10,520	-	11,090	14,860	15,420	15,420	11,580	9,120	6,610
22	-	-	-	-	-	11,140	14,950	15,420	15,420	11,490	9,040	6,680
23	-	-	-	-	-	11,310	15,040	15,420	15,380	11,360	8,910	6,760
24	7,820	-	10,570	-	10,480	11,360	15,140	15,420	15,330	11,220	8,790	6,840
25	-	-	-	10,480	-	11,400	15,090	15,380	15,280	11,140	8,670	6,880
26	7,940	10,740	-	-	-	11,400	15,140	15,280	15,230	11,050	8,580	6,910
27	-	-	10,570	-	-	11,400	15,190	15,230	15,190	10,960	8,460	6,990
28	-	10,700	-	10,520	10,480	-	15,190	15,140	15,000	10,870	8,380	7,070
29	-	-	10,570	-	-	-	15,230	15,040	14,900	10,740	8,300	7,110
30	-	10,700	-	-	-	11,670	15,230	14,950	14,720	10,650	8,180	7,150
31	8,500	-	10,570	10,520	-	11,900	-	14,810	-	10,520	8,060	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	51.2	6,310	-
Oct. 31	56.8	8,500	+2,190
Nov. 30	62.0	10,700	+2,200
Dec. 31	61.7	10,570	-130
Calendar year 1946	-	-	-80
Jan. 31	61.6	10,520	-50
Feb. 28	61.5	10,480	-40
Mar. 31	64.7	11,900	+1,420
Apr. 30	71.9	15,230	+3,330
May 31	71.0	14,810	-420
June 30	70.8	14,720	-90
July 31	61.6	10,520	-4,200
Aug. 31	55.7	8,060	-2,460
Sept.30	53.4	7,150	-910
Water year 1946-47	-	-	+840

Little Bear River near Hyrum, Utah

Location.- Water-stage recorder, lat. 41°38'00", long. 111°53'15", in NW¼SW¼ sec. 6, T. 10 N., R. 1 E., 800 feet upstream from road bridge, 1¼ miles downstream from Hyrum Dam, and 2 miles west of Hyrum.

Drainage area.- 222 square miles.

Records available.- October 1938 to September 1947.

Extremes (regulated).- Maximum discharge during year, 355 second-feet May 5 (gage height, 2.73 feet); minimum daily, 1.0 second-foot Aug. 1, 3-6.
1938-47: Maximum discharge, 885 second-feet Apr. 20, 1946 (gage height, 4.55 feet); minimum daily, 0.6 second-foot Nov. 23-25, 1943.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Many diversions above station for irrigation. Flow regulated by Hyrum Reservoir (see preceding page).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	2.6	83	a59	59	64	109	251	12	5.8	1.0	2.6
2	5.5	2.6	77	a59	59	65	134	283	10	6.6	1.2	2.2
3	5.5	2.4	72	a59	57	65	141	269	11	7.2	1.0	1.8
4	5.8	2.4	69	a59	57	65	166	290	10	8.3	1.0	1.6
5	5.8	2.4	68	a59	57	65	134	321	9.0	7.2	1.0	1.2
6	5.8	4.5	75	a59	57	64	111	330	6.6	6.2	1.0	1.4
7	4.5	8.6	84	59	57	61	103	309	6.9	5.5	1.2	1.8
8	2.8	10	88	59	56	62	77	304	7.6	5.2	1.8	2.2
9	2.4	11	84	57	56	64	47	226	7.6	5.0	2.0	2.4
10	2.6	11	80	55	57	65	52	103	6.9	4.8	2.8	2.0
11	3.8	10	76	56	57	75	64	230	6.9	4.2	5.0	1.6
12	4.2	10	75	57	60	79	62	234	44	4.0	4.5	1.4
13	4.0	10	70	56	60	77	51	172	159	3.2	2.6	1.2
14	3.5	10	69	56	61	77	40	162	212	2.8	2.0	2.4
15	3.0	10	69	55	62	80	78	203	88	2.4	2.0	2.0
16	3.0	10	66	53	65	90	162	181	53	2.0	1.8	2.2
17	3.0	11	64	50	69	104	172	133	88	1.8	1.6	2.6
18	2.8	11	60	50	72	121	181	129	80	1.8	1.8	4.0
19	2.6	11	59	52	73	134	205	141	45	2.0	1.8	5.5
20	2.4	11	59	54	73	143	207	126	16	2.4	1.8	3.2
21	2.4	11	59	56	72	146	218	76	11	2.6	2.4	3.0
22	2.4	11	59	56	69	152	256	20	9.4	2.4	2.2	3.0
23	2.6	61	59	55	68	164	299	9.4	8.3	2.6	2.0	3.0
24	2.4	150	60	55	66	172	280	9.4	5.8	2.4	2.8	2.8
25	2.4	138	60	54	66	146	251	8.6	5.2	2.0	2.4	2.8
26	2.4	126	61	59	66	124	199	9.0	5.2	1.8	1.4	2.6
27	2.6	109	68	61	65	124	179	11	5.0	2.0	2.0	2.6
28	3.2	96	69	64	65	126	199	9.9	4.8	1.2	2.2	2.4
29	3.0	92	a67	64	-	108	201	9.4	5.8	1.4	2.2	2.2
30	3.0	88	a64	61	-	76	203	9.0	5.8	1.2	3.2	2.0
31	2.6	-	a60	60	-	83	-	9.4	-	1.2	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	105.5	5.8	2.4	3.40	209
November	1,043.5	150	2.4	34.8	2,070
December	2,133	88	59	68.8	4,230
Calendar year 1946	34,464.7	849	1.8	94.4	68,360
January	1,768	64	50	57.0	3,510
February	1,761	73	56	62.9	3,490
March	3,041	172	61	98.1	6,030
April	4,581	299	40	153	9,090
May	4,578.1	330	8.6	148	9,080
June	945.8	212	4.8	31.5	1,880
July	109.2	8.3	1.2	3.52	217
August	64.5	5.0	1.0	2.08	128
September	71.7	5.5	1.2	2.39	142
Water year 1946-47	20,202.3	330	1.0	55.3	40,080

a No gage-height record; discharge computed on basis of recorded range in stage and indicated recession trend.

East Fork Little Bear River near Avon, Utah

Location.- Water-stage recorder, lat. 41°31', long. 111°45', in NE¼ sec. 17, T. 9 N., R. 2 E., 0.2 mile downstream from Porcupine Creek, 0.4 mile upstream from Pole Creek, and 4 miles east of Avon.

Drainage area.- 50 square miles.

Records available.- January 1938 to September 1947. April 1927 to September 1930 at site 2 miles downstream, records not equivalent.

Extremes.- Maximum discharge during year, 225 second-feet Apr. 15 (gage height, 3.58 feet); minimum, 11 second-feet Jan. 31.
1938-47: Maximum discharge, 960 second-feet Apr. 18, 1946 (gage height, 5.30 feet), from rating curve extended above 360 second-feet by logarithmic plotting; minimum recorded, 5.1 second-feet Dec. 5, 8, 11, 12, 16, 1940.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	15	14	a13	12	13	59	149	41	26	16	12
2	15	15	14	a13	12	13	63	162	43	26	16	12
3	15	15	14	a12	12	13	70	179	41	25	16	12
4	15	15	14	a12	12	13	57	176	39	24	16	12
5	15	15	15	a12	12	13	50	165	36	23	16	12
6	15	15	15	12	12	13	45	147	34	23	16	12
7	15	15	16	12	12	12	42	137	33	23	16	12
8	15	15	16	12	12	12	42	130	35	22	16	12
9	15	15	16	12	12	12	48	116	52	22	17	12
10	15	15	16	12	13	13	45	112	44	22	18	12
11	15	14	16	12	13	14	44	118	44	21	16	12
12	15	14	15	12	13	14	46	110	54	21	15	12
13	15	14	15	12	13	14	63	101	50	20	14	12
14	15	14	15	12	13	14	105	95	45	20	14	12
15	14	14	15	12	13	16	139	86	43	20	14	12
16	15	14	15	12	14	17	142	80	41	19	14	12
17	16	14	14	a12	14	20	130	77	39	19	14	14
18	16	14	14	a12	14	24	122	72	38	19	14	16
19	16	14	14	a12	14	30	125	68	36	18	14	14
20	16	14	14	a12	14	35	142	65	36	18	13	14
21	15	14	14	12	14	42	152	61	37	18	14	13
22	15	14	13	12	14	50	142	58	37	18	14	13
23	16	15	13	12	14	61	112	54	35	18	13	13
24	15	16	13	12	13	50	107	52	34	18	13	12
25	15	15	14	12	13	42	110	49	32	18	13	12
26	15	15	14	13	14	38	125	46	31	17	13	12
27	15	15	14	12	13	34	130	45	30	17	13	13
28	18	15	14	12	13	38	127	46	30	17	13	13
29	18	15	14	12	-	51	139	44	29	16	13	13
30	17	15	13	12	-	72	147	42	28	16	13	13
31	16	-	13	12	-	70	-	41	-	16	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	478	18	14	15.4	948
November	439	16	14	14.6	871
Decembsr	446	16	13	14.4	885
Calendar year 1946	20,221	658	13	55.4	40,100
Jannary	375	13	12	12.1	744
February	364	14	12	13.0	722
March	873	72	12	28.2	1,730
April	2,870	152	42	95.7	5,690
May	2,863	179	41	93.0	5,720
June	1,147	54	28	38.2	2,280
July	620	26	16	20.0	1,230
August	449	18	12	14.5	891
September	377	16	12	12.6	748
Water year 1946-47	11,321	179	12	31.0	22,460

a No gage-height record; discharge interpolated.

Logan River above State dam, near Logan, Utah

Location.- Water-stage recorder and concrete control, lat. 41°44'40", long. 111°47'00", in NE¼ sec. 36, T. 12 N., R. 1 E., at Logan plant of Utah Power & Light Co., 125 feet upstream from tailrace, half a mile upstream from State dam, and 2½ miles east of Logan.
Drainage area.- 218 square miles.
Records available.- May 1913 to September 1947. June 1896 to December 1912 at site a quarter of a mile downstream; flow at present site plus that of tailrace equivalent to flow at former site.
Average discharge.- 34 years (1913-47), 108 second-feet.
Extremes.- Maximum discharge during year, 752 second-feet May 11 (gage height, 3.13 feet); minimum daily, 11 second-feet on several days during October and November.
1913-47: Maximum discharge, 2,000 second-feet Mar. 21, 1916 (gage height, 5.6 feet, datum then in use), from rating curve extended above 1,000 second-feet; minimum daily, 6 second-feet Nov. 7, 1940.
Remarks.- Records excellent above 100 second-feet and fair below. Water diverted from river and springs above station for power, irrigation, and municipal supply. Flow regulated by power plants above station.
Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Fourteen discharge measurements made by Geological Survey in addition to those made by power company.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)

0.9	11	1.3	63	2.5	442
1.0	20	1.5	106	3.0	676
1.1	32	1.7	158	3.1	733
1.2	47	2.0	253		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	14	12	22	15	16	16	164	274	161	75	38
2	15	13	12	18	14	16	20	253	236	136	79	38
3	14	12	12	14	14	16	19	370	299	142	77	38
4	14	12	12	14	14	16	17	498	320	136	75	h38
5	14	13	12	16	14	16	17	553	253	128	81	h45
6	15	12	14	17	15	16	16	567	250	128	73	h35
7	14	13	14	16	14	16	16	634	253	128	65	h32
8	12	13	14	15	15	16	16	650	302	131	69	h31
9	47	12	15	16	13	16	16	619	438	128	71	h33
10	50	11	14	16	14	17	16	650	385	121	77	h68
11	13	12	14	18	15	19	16	687	378	118	81	h65
12	11	11	12	a17	14	16	16	610	401	116	71	h69
13	11	12	12	a16	14	16	16	548	343	108	60	31
14	11	12	13	a15	14	20	18	508	324	111	56	30
15	11	13	12	14	14	17	31	521	310	111	53	h67
16	12	12	12	16	14	17	36	530	299	116	53	h68
17	12	11	13	16	14	27	42	530	288	111	51	h74
18	12	12	13	16	16	43	48	512	270	111	51	73
19	12	12	13	16	15	51	39	a490	250	108	49	h90
20	12	13	13	19	16	39	54	464	250	99	48	51
21	12	12	13	15	16	25	85	468	243	101	49	51
22	12	12	13	15	15	25	92	451	223	106	51	h82
23	12	13	13	15	15	25	79	a430	191	101	46	h70
24	18	13	13	16	15	18	54	385	207	97	48	h60
25	12	12	13	15	15	17	46	358	207	92	45	h64
26	16	12	13	16	15	17	51	354	191	92	45	h65
27	13	12	13	15	15	17	61	354	182	85	48	h40
28	16	12	14	15	16	19	75	351	164	85	53	h33
29	14	13	15	14	-	18	92	281	155	81	46	h50
30	13	12	19	14	-	20	121	243	144	79	42	h50
31	14	-	13	15	-	15	-	267	-	77	38	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	479	50	11	15.5	950
November	368	14	11	12.3	730
December	410	19	12	13.2	813
Calendar year 1946	44,399	803	11	122	88,060
January	492	22	14	15.9	976
February	410	16	13	14.6	813
March	642	51	15	20.7	1,270
April	1,241	121	16	41.4	2,460
May	14,300	687	164	461	28,360
June	8,030	438	144	268	15,930
July	3,444	161	77	111	6,830
August	1,826	81	38	58.9	3,620
September	1,579	90	30	52.6	3,130
Water year 1946-47	33,221	687	11	91.0	65,880

a No gage-height record; discharge interpolated.
h Computed from staff-gage readings.

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

Location.- Water-stage recorder and timber control, lat. 41°44'40", long. 111°47'00", in NE¼ sec. 36, T. 12 N., R. 1 E., 100 feet downstream from powerhouse of Utah Power & Light Co. and 2½ miles east of Logan.
Records available.- May 1913 to September 1947.
Average discharge.- 34 years, 106 second-feet.
Extremes.- Maximum daily discharge during year, 198 second-feet Apr. 28-30; minimum daily, 55 second-feet Sept. 16.
1914-47: Maximum daily discharge, that of Apr. 28-30; no flow for periods during several years.
Remarks.- Records excellent except those for periods of no gage-height record, which are fair. Flow regulated by power plant above gage. Power canal diverts water from right bank of Logan River in SE¼SW¼ sec. 29, T. 12 N., R. 2 E. Water returned to river 125 feet below gaging station on Logan River above State dam.
Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Ten discharge measurements made by Geological Survey in addition to those made by power company.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 31)

1.5	48	2.2	127
1.6	57	2.6	184
1.8	78	2.7	201

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	144	120	96	101	94	152	191	182	68	96	97
2	145	132	119	98	97	91	168	192	184	94	96	97
3	141	134	122	86	98	92	164	191	184	94	96	96
4	143	136	119	84	94	94	150	194	184	94	96	96
5	141	140	119	79	95	89	a144	192	184	94	95	85
6	137	136	130	96	94	90	a139	189	184	92	94	96
7	149	136	124	97	94	90	135	187	184	92	96	100
8	159	139	124	96	94	91	135	187	184	92	95	101
9	88	137	120	95	91	91	137	191	186	92	95	101
10	96	130	115	95	98	90	137	192	186	92	96	58
11	152	134	117	98	97	96	132	191	184	92	96	a59
12	149	134	118	96	96	91	130	189	184	92	96	a57
13	150	128	118	98	97	89	144	189	184	92	96	97
14	150	128	118	98	97	89	171	189	184	92	97	96
15	149	130	119	86	97	96	191	189	184	92	98	a58
16	149	130	117	78	97	101	192	189	182	92	98	55
17	152	126	109	a88	98	102	196	187	182	92	98	a61
18	153	126	95	a94	101	102	196	187	182	92	98	98
19	152	127	120	a99	95	102	196	187	181	94	98	58
20	146	130	115	a99	97	137	198	187	184	95	97	98
21	146	124	114	95	96	a140	196	187	184	95	96	98
22	146	128	111	95	95	150	196	186	184	95	97	56
23	148	128	117	98	94	170	194	184	179	95	97	75
24	137	132	110	97	95	141	194	184	128	95	97	76
25	141	123	111	97	94	127	196	184	95	95	97	74
26	141	126	113	104	96	127	194	184	94	95	97	75
27	150	123	117	97	91	123	196	184	94	95	97	100
28	154	126	108	101	94	132	198	182	94	95	98	100
29	152	128	94	101	-	150	198	181	94	96	97	75
30	145	123	95	95	-	184	198	181	94	96	97	75
31	143	-	83	92	-	173	-	182	-	96	97	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,447	159	88	143	8,820
November	3,918	144	123	131	7,770
December	3,531	130	83	114	7,000
Calendar year 1946	52,832	194	45	145	104,800
January	2,928	104	78	94.5	5,810
February	2,683	101	91	95.8	5,320
March	3,534	184	89	114	7,010
April	5,167	198	130	172	10,250
May	5,809	194	181	187	11,520
June	4,913	186	94	164	9,740
July	2,877	96	68	92.8	5,710
August	2,994	98	94	96.6	5,940
September	2,468	101	55	82.3	4,900
Water year 1946-47	45,269	198	55	124	89,790

a No gage-height record; discharge computed on basis of power-plant operation records.

Logan, Hyde Park & Smithfield Canal near Logan, Utah

Location.- Water-stage recorder and concrete flume, lat. 41°44'45", long. 111°47'05", in SE¼ sec. 25, T. 12 N., R. 1 E., 1¼ miles downstream from head of canal and 2½ miles east of Logan.

Records available.- June 1904 to December 1907, January 1909 to September 1947.

Average discharge.- 24 years (1923-47), 28.6 second-feet.

Extremes.- Maximum daily discharge during year, 127 second-feet June 29, 30; no flow at times.

1906, 1924-47: Maximum daily discharge, 136 second-feet May 30, 31, 1930; no flow at times during most years.

Remarks.- Records excellent except those for periods of no gage-height record or those below 10 second-feet, which are good. No diversion above station. Flow regulated by head gates at diversion works. Canal diverts from Logan River in NE¼NE¼ sec. 31, T. 12 N., R. 2 E., for irrigation and domestic supply north of Logan.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	a7.0	5.6	4.4	4.1	4.8	2.3	22	116	126	53	a38
2	22	a6.9	5.6	4.4	4.1	4.8	.4	22	123	120	53	a37
3	21	a6.8	5.6	4.4	3.9	4.8	.4	21	88	110	55	37
4	21	a6.8	5.6	4.4	3.9	4.8	.4	19	60	110	53	36
5	20	6.7	6.0	4.4	3.9	4.4	.2	32	86	109	53	36
6	22	a6.5	7.1	4.4	3.9	4.4	.2	51	86	108	52	35
7	14	a6.4	7.1	4.4	3.9	4.4	.2	33	87	102	52	34
8	7.9	a6.2	6.4	4.4	4.1	4.4	0	69	80	95	52	34
9	19	6.0	6.7	4.8	4.8	4.4	0	95	76	92	52	36
10	9.7	5.6	6.7	4.8	5.2	4.8	0	83	74	88	51	43
11	7.5	6.0	6.7	4.8	5.2	5.2	0	54	62	85	43	43
12	7.5	6.0	6.4	4.8	5.2	4.8	0	7.9	18	83	42	43
13	7.1	5.6	5.2	4.8	5.2	2.7	0	0	18	82	45	39
14	7.1	6.0	5.2	4.8	5.2	0	0	0	24	80	48	38
15	7.1	6.0	4.8	4.8	5.2	.7	0	0	36	76	47	42
16	7.1	6.0	4.4	4.8	5.2	3.9	0	0	45	68	47	41
17	7.5	5.6	4.4	4.8	5.2	2.1	0	20	51	65	47	30
18	7.9	5.6	4.4	4.8	5.2	0	0	40	57	64	48	18
19	7.5	5.6	4.4	4.4	5.2	0	0	51	60	63	47	18
20	7.1	6.4	4.1	4.4	5.2	.5	0	51	61	63	46	16
21	6.7	6.0	4.4	4.4	4.8	.9	0	64	62	60	46	16
22	6.4	5.6	4.4	4.4	4.8	.7	0	84	66	58	47	16
23	6.7	6.0	4.4	4.4	4.8	.5	0	92	70	57	45	16
24	7.1	6.4	4.1	4.4	4.8	.4	0	102	84	57	44	16
25	6.7	6.0	4.1	4.4	4.8	.4	.1	119	106	57	43	16
26	8.3	6.0	4.1	4.4	4.8	.5	.2	122	120	57	a42	16
27	7.1	5.6	4.1	4.4	5.2	.5	.2	124	123	57	a42	15
28	9.2	5.6	4.1	4.1	4.8	.5	0	123	124	57	a41	18
29	8.3	5.6	4.1	4.1	-	1.8	7.0	125	127	56	a40	26
30	7.1	5.6	4.1	4.1	-	7.1	21	126	127	54	a40	26
31	a7.0	-	4.4	4.1	-	6.4	-	116	-	53	a39	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	330.6	22	6.4	10.7	656
November	182.1	7.0	5.6	6.07	361
December	158.7	7.1	4.1	5.12	315
Calendar year 1946	12,730.2	127	0	34.9	25,260
January	139.2	4.8	4.1	4.49	276
February	132.6	5.2	3.9	4.74	263
March	85.6	7.1	0	2.76	170
April	32.6	21	0	1.09	65
May	1,867.9	126	0	60.3	3,700
June	2,317	127	18	77.2	4,600
July	2,412	126	53	77.8	4,780
August	1,455	55	39	46.9	2,890
September	875	43	15	29.2	1,740
Water year 1946-47	9,988.3	127	0	27.4	19,820

a No gage-height record; discharge interpolated or computed from recorded range in stage.

Blacksmith Fork at Hardware Ranch, near Hyrum, Utah

Location.- Water-stage recorder, lat. 41°37', long. 111°37', in NE¼ sec. 17, T. 10 N., R. 3 E., 0.6 mile upstream from South Cottonwood Canyon, 2.1 miles downstream from Rock Creek, and 12½ miles east of Hyrum.

Drainage area.- 150 square miles.

Records available.- June 1943 to September 1947.

Extremes.- Maximum discharge during year, 202 second-feet Mar. 16 (gage height, 2.62 feet); minimum, 52 second-feet Jan. 15.
1943-47: Maximum discharge, 488 second-feet Apr. 18, 1946 (gage height, 4.08 feet); minimum, 41 second-feet Feb. 19, 1944 (gage height, 1.36 feet, site and datum then in use).

Remarks.- Records good. Some diversions above station for irrigation of meadow lands.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	88	a76	67	60	63	84	101	83	81	74	68
2	88	88	a76	67	62	64	93	110	83	80	75	68
3	88	88	a76	63	62	63	89	122	83	80	75	67
4	88	85	a74	64	63	63	85	128	81	80	77	67
5	86	84	a76	64	67	62	81	128	80	80	76	67
6	86	84	a78	67	67	62	77	126	80	80	75	67
7	88	85	a78	63	64	62	76	126	77	80	76	67
8	88	85	a76	62	63	63	75	126	83	81	79	67
9	86	84	75	60	63	63	83	123	89	81	79	68
10	86	84	75	60	63	85	77	128	93	80	81	70
11	a86	83	75	62	67	75	75	135	91	80	79	70
12	a86	83	75	60	66	70	74	131	97	79	76	70
13	a85	83	74	60	77	77	75	131	92	79	75	70
14	85	81	74	60	72	89	83	128	89	77	74	70
15	84	81	72	57	76	97	88	122	88	77	74	70
16	88	80	71	b56	79	106	88	117	88	79	72	71
17	91	79	64	56	77	103	86	113	86	79	72	79
18	89	80	64	56	71	104	88	111	86	77	72	79
19	88	80	68	55	70	101	85	108	85	77	72	74
20	86	81	71	55	67	97	89	104	86	76	72	72
21	86	a82	68	54	66	97	100	101	86	76	74	72
22	88	a82	68	54	64	100	101	100	88	76	74	72
23	89	a84	70	54	66	113	89	96	85	76	72	72
24	88	a88	68	54	70	84	84	92	84	76	72	71
25	86	a86	68	55	66	79	80	89	83	75	72	71
26	86	a82	70	64	63	79	80	88	81	75	72	68
27	89	a80	71	59	63	79	84	88	83	75	75	68
28	97	a80	70	60	66	86	85	91	83	75	74	68
29	92	a78	63	59	-	86	89	85	83	74	72	68
30	89	a78	66	60	-	103	97	81	81	74	71	68
31	88	-	60	59	-	91	-	81	-	74	70	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,718	97	84	87.7	5,390
November	2,486	88	78	82.9	4,930
December	2,210	78	60	71.3	4,380
Calendar year 1946	41,197	408	56	113	81,710
January	1,846	67	54	59.5	3,660
February	1,880	79	60	67.1	3,730
March	2,566	113	62	82.8	5,090
April	2,540	101	74	84.7	5,040
May	3,410	135	81	110	6,760
June	2,547	97	77	84.9	5,050
July	2,409	81	74	77.7	4,780
August	2,303	81	70	74.3	4,570
September	2,099	79	67	70.0	4,160
Water year 1946-47	29,014	135	54	79.5	57,550

a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for station above Utah Power & Light Co.'s dam.
b Stage-discharge relation affected by ice.

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

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

Drainage area. 260 square miles.

Records available.- July 1900 to December 1902, November 1913 to September 1947.

Average discharge.- 33 years (1914-47), 119 second-feet.

Extremes.- Maximum discharge during year, 305 second-feet May 4 (gage height, 2.74 feet); minimum daily, 73 second-feet Jan. 16.
1913-47: Maximum discharge, 1,620 second-feet May 15, 1917 (gage height, 6.5 feet, site and datum then in use), from rating curve extended above 600 second-feet; minimum daily, 29 second-feet Jan. 3, 1935.

Remarks.- Records excellent. Several small diversions above station for irrigation. Low-water flow may be regulated by power plant above station.

Cooperation.- Water-stage recorder graph furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	109	110	96	86	82	83	120	238	128	112	95	88
2	112	109	96	85	81	82	129	255	12[illegible]	112	3[illegible]	88
3	110	109	95	82	81	82	129	280	125	109	96	87
4	112	108	95	82	80	82	126	294	123	109	95	86
5	112	106	96	83	81	82	117	289	121	109	100	86
6	112	106	100	86	83	81	112	273	120	106	96	83
7	112	106	103	85	83	81	108	264	118	108	94	85
8	112	108	102	83	85	82	106	253	120	108	97	85
9	112	106	99	83	82	81	110	238	133	108	99	86
10	112	104	96	83	83	90	112	240	125	106	102	86
11	112	104	97	85	83	100	109	269	131	104	100	86
12	112	103	96	85	85	90	106	266	145	103	97	86
13	112	103	96	86	90	91	109	242	131	103	95	85
14	110	103	95	86	90	100	128	238	134	103	94	82
15	109	102	94	82	88	108	167	216	128	102	94	82
16	110	102	94	73	92	121	181	204	125	103	94	82
17	117	100	92	79	95	126	177	193	123	103	92	88
18	115	100	91	85	90	126	179	183	121	102	91	97
19	114	100	88	86	87	126	181	175	120	102	91	90
20	112	103	88	86	83	123	204	169	118	100	91	87
21	110	104	88	85	83	123	221	163	120	100	90	87
22	109	103	88	85	82	126	223	165	121	100	91	86
23	110	104	90	85	82	150	193	152	120	99	91	86
24	109	106	90	83	83	120	181	143	115	99	90	86
25	108	102	90	82	86	106	173	138	115	99	87	85
26	109	99	90	88	83	104	179	134	114	99	88	85
27	110	100	92	87	83	100	198	131	112	97	88	85
28	123	99	92	85	85	108	200	134	112	97	91	85
29	120	99	91	83	-	118	210	131	112	96	90	85
30	115	99	88	83	-	140	231	126	112	96	90	85
31	112	-	85	83	-	136	-	126	-	95	88	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,473	123	108	112	6,890
November	3,107	110	99	104	6,160
December	2,893	103	85	93.3	5,740
Calendar year 1946	64,762	1,090	71	177	128,400
January	2,600	88	73	83.9	5,160
February	2,369	95	80	84.6	4,700
March	3,268	150	81	105	6,480
April	4,719	231	106	157	9,360
May	6,322	294	126	204	12,540
June	3,668	145	112	122	7,280
July	3,189	112	95	103	6,330
August	2,893	102	87	93.3	5,740
September	2,580	97	82	86.0	5,120
Water year 1946-47	41,081	294	73	113	81,500

Clarkston Creek near Newton, Utah

Location.- Staff gage in concrete outlet flume, 300 feet downstream from Newton Dam, and staff gage and Parshall flume in Highline Canal, 20 feet downstream from head gate (at outlet flume) and 250 feet downstream from Newton Dam; lat. 41°54', long. 111°58', in SE¼ sec. 5, T. 13 N., R. 1 W., 2½ miles north of Newton.

Records available.- March 1939 to September 1947 (discontinued).

Extremes (regulated).- Maximum daily discharge during year, 40 second-feet July 12; no flow Nov. 23 to Jan. 1, May 12, June 12, Sept. 18-30.
1939-47: Maximum discharge observed, 282 second-feet Dec. 29-31, 1945; no flow at times in each year.

Remarks.- Records good. Gages read at each time of gate change. Discharge is computed by combining discharge of Newton Dam outlet flume below Highline Canal and that of Highline Canal. Highline Canal first diverted water in May 1946. Diversions above and below station for irrigation. Flow regulated by Newton Dam.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	0.7		0	0.3	5.4	10	10	23	14	14	12
2	4.7	.7		3.5	.3	9.8	10	10	23	24	11	10
3	1.6	.7		8.0	.3	13	10	10	20	27	8.2	17
4	1.2	.7		8.0	.3	13	10	10	14	26	11	20
5	1.1	.7		8.0	.3	13	10	10	14	30	15	17
6	1.1	.7		8.0	.3	13	10	10	17	35	16	17
7	1.1	.7		8.0	.3	13	10	10	18	26	12	14
8	1.1	.7		8.0	.3	13	10	12	13	19	11	13
9	1.1	.7		8.0	.3	13	10	16	12	22	11	15
10	1.1	.7		8.0	5.7	13	10	14	9.2	21	5.8	11
11	1.1	.7		8.0	9.2	13	10	5.9	1.0	28	3.1	8.5
12	1.1	.7		8.0	9.2	17	10	0	0	40	3.1	5.5
13	1.1	.7		8.0	9.2	20	10	7.5	1.9	36	3.1	4.5
14	1.1	.7		8.0	15	23	10	21	3.7	32	4.3	4.5
15	1.1	.7		8.0	19	25	10	20	4.0	26	8.5	5.3
16	1.1	.7		8.0	19	25	10	14	4.8	25	14	6.6
17	1.1	.7		8.0	19	25	10	11	5.5	24	13	7.5
18	1.1	.7		8.0	19	25	10	11	5.1	24	15	0
19	1.1	.7		8.0	19	25	10	8.5	4.6	25	19	0
20	.9	.7		8.0	19	25	10	6.8	3.3	27	20	0
21	.7	.7		8.0	19	20	10	10	3.2	26	22	0
22	.7	.2		8.0	19	18	18	14	5.7	27	19	0
23	.7	0		8.0	16	18	22	17	8.8	29	17	0
24	.7	0		8.0	15	18	21	21	10	28	18	0
25	.7	0		8.0	15	13	21	26	9.4	25	13	0
26	.7	0		8.0	8.9	10	14	32	13	24	21	0
27	.7	0		3.2	5.4	10	10	34	17	24	24	0
28	.7	0		.3	5.4	10	10	34	16	23	22	0
29	.7	0		.3	-	10	10	34	18	20	19	0
30	.7	0		.3	-	10	10	37	15	16	15	0
31	.7	-		.3	-	10	-	36	-	16	14	0

Month	Second-foot-days	Maximum	Minimum	Mean	Total runoff (acre-feet)	Diversion by Highline Canal (acre-feet)
October	42.6	10	0.7	1.37	84	27
November	14.9	.7	0	.50	30	17
December	0	0	0	0	0	0
Calendar year 1946	4,807.1	279	0	13.2	9,540	1,490
January	199.9	8.0	0	6.45	396	0
February	268.7	19	.3	9.60	533	0
March	489.2	25	5.4	15.8	970	0
April	346	22	10	11.5	686	6.7
May	512.7	37	0	16.5	1,020	268
June	313.2	23	0	10.4	621	164
July	789	40	14	25.5	1,560	717
August	422.1	24	3.1	13.6	837	365
September	188.4	20	0	6.28	374	184
Water year 1946-47	3,586.7	40	0	9.83	7,110	1,750

West Side Canal near Collinston, Utah

Location.- Water-stage recorder, lat. 41°50', long. 112°04', in SW¼ sec. 27, T. 13 N., R. 2 W., 4,200 feet downstream from Cutler Dam and 4 miles north of Collinston.

Records available.- June 1912 to September 1947.

Average discharge.- 35 years, 225 second-feet.

Extremes.- Maximum daily discharge during year, 720 second-feet May 30; no flow Mar. 26 to May 2.
1912-47: Maximum daily discharge, 729 second-feet May 19, 1946; no flow during periods in every year except 1914.

Remarks.- Records good to Mar. 26 and excellent thereafter. Canal diverts from west side of Bear River in NW¼SW¼ sec. 26, T. 13 N., R. 2 W., at dam at which Hammond (East Side) Canal and intake of Cutler power plant also divert. Water used for irrigation in eastern Box Elder County.

Cooperation.- Water-stage recorder graph and six discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	355	104	45	11	9.5	9.5		0	670	706	602	568
2	226	103	43	11	9.5	9.5		0	630	708	585	562
3	251	100	h42	11	9.5	9.5		112	594	708	568	583
4	285	99	42	11	9.5	9.5		303	533	710	548	608
5	239	96	41	11	9.5	9.5		243	497	708	537	618
6	210	96	40	11	9.5	9.5		296	497	706	541	636
7	223	95	37	11	9.5	9.5		420	496	704	543	638
8	221	92	35	11	9.5	9.5		566	397	704	528	626
9	220	92	h32	11	9.5	9.5		598	105	704	476	585
10	217	92	34	*11	9.5	10		604	165	678	436	577
11	207	94	34	11	9.5	10		362	126	652	416	579
12	197	93	34	11	9.5	10		187	24	656	442	573
13	194	92	33	11	*9.5	*10		185	18	654	443	560
14	188	91	33	11	9.5	10		251	16	652	451	562
15	187	91	30	11	9.5	10		294	160	644	469	560
16	186	91	*29	11	9.5	10		300	250	606	476	560
17	162	92	28	10	9.5	10		300	296	606	501	386
18	146	92	28	10	9.5	10		340	328	604	552	225
19	146	92	26	10	9.5	10		478	327	604	610	174
20	145	91	25	10	9.5	10		586	372	604	644	144
21	144	87	25	10	9.5	10		604	438	602	606	144
22	142	86	24	10	9.5	10		604	452	600	604	144
23	142	85	25	10	9.5	10		620	479	604	594	143
24	140	85	24	9.5	9.5	10		648	598	604	577	142
25	115	66	25	9.5	9.5	7.0		652	648	577	577	152
26	85	h48	26	9.5	9.5	0		666	676	539	577	180
27	84	48	24	9.5	9.5	0		686	694	560	550	196
28	89	47	17	9.5	9.5	0		704	702	575	516	241
29	96	h47	12	9.5	-	0		716	706	602	541	279
30	103	46	11	*9.5	-	0		720	698	604	560	259
31	104	-	11	9.5	-	0		702	-	600	562	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,449	355	84	176	10,810
November	2,533	104	46	84.4	5,020
December	915	45	11	29.5	1,810
Calendar year 1946	91,285	729	0	250	181,000
January	322.0	11	9.5	10.4	639
February	266.0	9.5	9.5	9.50	528
March	242.5	10	0	7.82	481
April	0	0	0	0	0
May	13,747	720	0	443	27,270
June	12,592	706	16	420	24,980
July	19,785	710	539	638	39,240
August	16,632	644	416	537	32,990
September	12,204	638	142	407	24,210
Water year 1946-47	84,687.5	720	0	232	168,000

* Winter discharge measurement made on this day.
h Computed from staff-gage reading.
Note.- No gage-height record Nov. 24, 25, 27, 28, 30, Dec. 1, 2, 4, 7, 8, Dec. 30 to May 3; discharge interpolated, or computed on basis of 4 discharge measurements and observer's notes.

Hammond (East Side) Canal near Collinston, Utah

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

Records available.- June 1912 to September 1947.

Average discharge.- 30 years (1917-47), 50.8 second-feet.

Extremes.- Maximum daily discharge during year, 165 second-feet May 28; no flow Oct. 29 to May 2, June 10-16.
1912-47: Maximum daily discharge, 182 second-feet June 28, July 1, 1922, June 27, 28, 1933; no flow for periods during each year.

Remarks.- Records excellent. Canal diverts from east side of Bear River in NW¼SW¼ sec. 26, T. 13 N., R. 2 W., at dam at which West Side Canal and intake of Cutler power plant also divert. Water used for irrigation in eastern Box Elder County.

Cooperation.- Water-stage recorder graph and four discharge measurements furnished by Utah Power & Light Co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64							0	133	153	150	128
2	35							0	115	160	150	127
3	38							69	115	162	150	126
4	35							82	115	162	140	127
5	32							83	113	161	136	128
6	33							97	114	162	136	127
7	33							110	112	161	143	128
8	34							127	87	160	139	128
9	34							135	5.9	161	123	127
10	19							121	0	161	114	126
11	12							78	0	160	87	125
12	12							58	0	160	76	128
13	11							68	0	159	77	126
14	11							66	0	159	77	127
15	10							66	0	159	91	121
16	14							66	0	152	126	111
17	22							67	29	149	137	96
18	22							84	50	149	147	45
19	22							92	42	148	143	3.0
20	22							108	98	145	143	1.7
21	22							115	115	137	140	1.4
22	16							115	116	148	143	1.6
23	8.0							131	115	150	144	1.6
24	7.8							138	132	150	145	1.6
25	7.5							145	154	151	134	1.7
26	7.0							157	153	150	128	1.8
27	7.0							162	145	150	128	26
28	3.1							165	149	149	127	64
29	0							164	154	149	127	67
30	0							163	154	150	127	62
31	0							146	-	150	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	593.4	64	0	19.1	1,180
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1946	20,033.4	160	0	54.9	39,740
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	3,178	165	0	103	6,300
June	2,515.9	154	0	83.9	4,990
July	4,777	162	137	154	9,480
August	3,955	150	*76	128	7,840
September	2,384.4	128	1.4	79.5	4,730
Water year 1946-47	17,403.7	165	0	47.7	34,520

Malad River below springs, near Malad, Idaho

Location.- Water-stage recorder, lat. 42°13', long. 112°22', in sec. 10, T. 14 S., R. 35 E., half a mile downstream from springs which form river, 1 3/8 miles upstream from Samaria Dam, 5¾ miles northwest of Malad, and 8¼ miles upstream from Little Malad River.

Records available.- November 1940 to November 1947 (discontinued). November 1931 to September 1932 at site 1¼ miles downstream.

Extremes.- Maximum discharge during period October 1946 to November 1947, 40 second-feet July 21 (gage height, 2.90 feet), by broad-crested weir formula; minimum, 8.1 second-feet Dec. 18 (gage height, 1.06 feet).
1931-32, 1940-47: Maximum discharge, that of July 21, 1947; minimum observed, 4.4 second-feet Nov. 3, 1931 (discharge measurement).

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

Discharge, in second-feet, 1946-47

1946-47

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	10	10	9.8	9.5	11	12	14	14	12	11	10
2	11	10	10	9.8	9.7	11	12	14	14	12	11	11
3	11	10	10	9.8	9.4	11	12	14	14	12	11	10
4	11	10	10	9.8	9.4	11	12	15	14	12	11	10
5	11	10	10	9.8	9.7	11	12	14	14	12	11	10
6	11	10	10	9.8	9.5	11	12	15	13	12	11	10
7	11	10	10	9.8	9.5	11	12	15	13	12	11	10
8	11	10	10	9.8	9.4	11	12	15	13	12	11	10
9	11	10	9.9	9.8	9.4	11	12	14	13	11	11	10
10	11	10	10	9.8	9.3	12	12	15	13	11	11	10
11	11	10	10	9.8	9.4	12	12	15	13	11	11	10
12	11	10	9.9	9.8	10	11	12	15	13	11	11	10
13	11	10	9.9	9.8	11	12	13	15	13	11	11	10
14	11	10	9.9	9.8	8.8	12	13	15	13	11	11	9.9
15	11	10	9.9	9.8	8.9	12	13	15	13	11	11	9.9
16	11	10	9.3	9.8	9.0	12	13	14	13	11	11	9.9
17	11	10	8.8	9.8	9.2	12	13	15	13	11	11	10
18	10	10	8.8	9.8	9.3	12	13	15	12	11	11	10
19	10	11	8.9	9.8	9.4	12	13	14	12	11	11	9.9
20	10	10	9.0	9.7	9.5	11	13	15	12	11	11	9.8
21	10	10	9.2	9.7	9.7	12	14	15	12	11	11	9.7
22	10	10	9.8	9.8	9.7	12	13	14	12	11	10	9.7
23	10	11	10	9.8	9.9	11	13	14	12	11	10	9.8
24	10	10	10	9.8	10	11	14	14	12	11	10	9.8
25	10	10	10	9.8	10	12	14	14	12	11	10	9.8
26	10	10	10	9.8	10	11	14	14	12	11	10	9.8
27	10	10	10	9.8	10	12	14	14	12	11	10	9.8
28	10	10	9.8	9.8	10	12	14	14	12	11	10	9.8
29	10	10	9.8	9.5	-	12	14	14	12	11	10	9.7
30	10	10	9.7	9.8	-	12	14	14	12	11	11	9.7
31	10	-	9.8	[illegible].5	-	12	-	14	-	11	10	-

1947

Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.
1	9.7	8.9	6	9.4	8.9	11	9.0	-	16	9.0	-	21	8.9	-	26	8.9	-
2	9.7	8.9	7	9.4	9.0	12	9.0	-	17	8.9	-	22	8.8	-	27	8.9	-
3	9.7	8.8	8	9.3	-	13	8.9	-	18	8.9	-	23	8.9	-	28	8.9	-
4	9.5	8.9	9	9.2	-	14	8.9	-	19	8.9	-	24	8.8	-	29	8.9	-
5	9.5	8.9	10	9.2	-	15	9.0	-	20	9.0	-	25	8.9	-	30	8.8	-
															31	8.8	-

Monthly discharge, in second-feet, 1946-47

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1946	327	11	10	10.5	649
November	302	11	10	10.1	599
December	302.4	10	8.8	9.75	600
Calendar year 1946	4,636.4	18	8.8	12.7	9,200
January 1947	303.0	9.8	9.5	9.77	601
February	268.6	11	8.8	9.59	533
March	358	12	11	11.5	710
April	386	14	12	12.9	766
May	448	15	14	14.5	889
June	382	14	12	12.7	758
July	349	12	11	11.3	692
August	332	11	10	10.7	659
September	298.0	11	9.7	9.93	591
Water year 1946-47	4,056.0	15	8.8	11.1	8,050
October 1947	281.6	9.7	8.8	9.08	559
November 1-7	62.3	9.0	8.8	8.90	124

Malad River at Woodruff, Idaho

Location.- Staff gage, lat. 42°02', long. 112°14', in sec. 15, T. 16 S., R. 36 E., at bridge on county road at Woodruff, 2½ miles north of Idaho-Utah State line.

Records available.- November 1938 to September 1947.

Extremes.- Maximum discharge observed during year, 250 second-feet Mar. 12 (gage height, 5.26 feet); minimum observed, 16 second-feet Aug. 7 (gage height, 1.92 feet).
1938-47: Maximum discharge, 650 second-feet Jan. 22 or 23, 1943 (gage height, 8 feet, from information by observer), from rating curve extended above 370 second-feet by logarithmic plotting; minimum observed, 15 second-feet July 15, 16, 1940; minimum gage height observed, that of Aug. 7, 1947.

Remarks.- Records good except those during periods of rapidly changing stage and those below 30 second-feet, which are fair. Gage read once daily. Flow regulated by several small reservoirs above station. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	97	100	71	81	128	102	46	24	24	22	20
2	28	91	98	67	87	129	99	47	24	24	22	21
3	30	81	99	66	89	125	102	45	26	24	22	21
4	30	79	100	66	106	150	113	41	28	24	22	21
5	29	81	104	61	117	156	128	40	32	24	22	21
6	29	82	122	61	123	156	110	40	31	23	22	21
7	30	82	133	61	131	140	106	35	33	23	e22	22
8	31	87	154	61	126	132	97	35	31	23	22	22
9	32	87	194	61	128	131	96	32	40	23	22	22
10	34	85	192	61	128	138	92	30	51	22	23	21
11	34	82	188	63	120	194	91	32	45	23	33	21
12	35	82	138	63	132	248	90	46	51	23	27	21
13	37	84	144	63	163	223	82	46	55	23	26	21
14	36	87	137	62	201	197	79	52	55	24	26	22
15	38	98	123	61	230	168	76	51	42	24	27	22
16	39	93	111	62	241	155	64	45	40	23	28	22
17	48	92	70	58	224	153	63	40	38	23	23	23
18	50	92	75	56	210	154	64	37	37	23	22	26
19	53	93	70	56	201	156	64	33	34	24	19	37
20	53	99	70	57	184	149	60	30	31	24	20	40
21	54	106	76	59	169	141	69	30	27	23	21	41
22	54	104	84	62	155	128	104	28	26	23	20	38
23	56	111	93	62	148	124	100	28	26	23	20	34
24	61	158	105	62	152	123	88	27	26	23	20	34
25	63	165	110	68	160	117	76	27	26	23	20	35
26	62	130	122	108	159	111	69	26	26	22	20	33
27	87	122	138	123	145	106	64	26	26	22	20	34
28	92	117	137	127	138	103	61	25	25	22	20	35
29	108	111	91	110	-	103	56	25	25	22	20	38
30	111	105	88	74	-	103	52	25	24	22	20	37
31	108	-	71	77	-	103	-	24	-	22	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,580	111	28	51.0	3,130
November	2,983	165	79	99.4	5,920
December	3,537	194	70	114	7,020
Calendar year 1946	32,199	478	21	88.2	63,860
January	2,169	127	58	70.0	4,300
February	4,248	241	81	152	8,430
March	4,442	246	103	143	8,810
April	2,517	128	52	83.9	4,990
May	1,094	52	24	35.3	2,170
June	1,005	55	24	33.5	1,990
July	715	24	22	23.1	1,420
August	693	33	19	22.4	1,370
September	826	41	20	27.5	1,640
Water year 1946-47	25,809	246	19	70.7	51,190

e Gage reading not representative of average for day; discharge computed on basis of records for stations on nearby streams.

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Little Malad River above Elkhorn Reservoir, near Malad, Idaho

Location.- Water-stage recorder and Cippoletti weir, lat. 42°20', long. 112°26', on line between secs. 35 and 36, T. 12 S., R. 34 E., three-quarters of a mile upstream from county bridge, 2 miles downstream from Wright Creek, 2½ miles downstream from springs, 2½ miles upstream from Elkhorn Dam, and 14 miles northwest of Malad.

Records available.- August 1911 to August 1913, October 1931 to September 1932, November 1940 to September 1947.

Extremes.- Maximum discharge during year, 199 second-feet Feb. 13 (gage height, 2.94 feet), from rating curve extended above 50 second-feet on basis of computation of flood flow by weir formula; minimum, 14 second-feet on several days during January, August, and September.

1911-13, 1931-32, 1940-47: Maximum discharge, that of Feb. 13, 1947; minimum, 9.1 second-feet Feb. 5, 1943 (gage height, 0.40 foot), probably due to storage behind ice jam upstream.

Remarks.- Records good. Small ranch diversions from tributaries above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	17	17	15	16	17	19	18	18	17	15	14
2	16	16	17	15	16	18	20	19	19	18	16	14
3	15	15	17	16	17	17	21	21	18	18	16	14
4	15	16	17	16	24	17	21	21	18	18	16	15
5	15	16	18	16	31	18	20	21	18	17	17	15
6	15	17	19	16	34	17	20	21	18	17	16	15
7	15	17	19	16	29	17	20	21	17	18	17	15
8	15	17	18	15	22	17	20	21	17	17	16	15
9	15	17	18	15	19	18	21	21	18	17	16	15
10	15	16	18	15	18	33	20	21	18	17	18	15
11	15	16	18	15	18	23	19	23	18	18	17	15
12	15	16	18	16	29	20	19	22	22	18	16	15
13	15	16	18	16	83	23	19	21	19	18	16	15
14	15	17	18	15	50	34	19	22	18	17	16	14
15	15	17	18	15	44	50	19	20	18	17	16	15
16	16	16	18	15	43	54	19	20	18	17	16	14
17	17	16	15	15	38	53	19	19	18	17	16	16
18	17	16	15	15	26	46	19	19	18	16	15	20
19	16	16	15	14	21	34	19	19	18	16	15	15
20	15	18	16	14	20	26	19	19	18	16	15	15
21	15	16	17	14	19	23	21	19	18	16	15	15
22	16	17	17	14	19	22	21	18	17	16	15	15
23	17	19	17	14	19	22	19	18	18	16	14	15
24	16	18	17	14	19	21	19	18	18	16	14	15
25	16	17	17	15	18	21	19	18	18	16	14	14
26	16	17	18	18	18	20	18	18	18	16	14	14
27	18	18	18	16	18	20	18	18	18	16	14	14
28	19	18	17	16	17	19	18	18	18	16	14	14
29	17	17	15	16	-	19	18	18	17	16	14	15
30	17	17	16	15	-	19	18	18	17	16	14	15
31	17	-	15	15	-	19	-	18	-	15	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	492	19	15	15.9	976
November	502	19	15	16.7	996
December	531	19	15	17.1	1,050
Calendar year 1946	6,828	39	15	18.7	13,530
January	472	18	14	15.2	936
February	745	83	16	26.6	1,480
March	777	54	17	25.1	1,540
April	581	21	18	19.4	1,150
May	608	23	18	19.6	1,210
June	541	22	17	18.0	1,070
July	519	18	15	16.7	1,030
August	477	18	14	15.4	946
September	447	20	14	14.9	887
Water year 1946-47	6,692	83	14	18.3	13,270

Elkhorn Reservoir near Malad, Idaho

Location.- Staff gage, lat. 42°18', long. 112°25', in sec. 7, T. 13 S., R. 35 E., 50 feet upstream from left end of partly completed dam on Little Malad River, 4½ miles downstream from Wright Creek, and 11½ miles northwest of Malad.

Records available.- December 1940 to September 1947.

Extremes.- Maximum gage height observed during year, 15.0 feet Feb. 13 or 14, from high-water mark; minimum gage height, below -3.3 feet for long periods.
1940-47: Maximum gage height observed, that of Feb. 13 or 14, 1947; minimum gage height, below -3.3 feet in July 1944 and for long periods in 1947.

Remarks.- Reservoir is formed by partly completed multiple-arch concrete dam (capacity, about 7,600 acre-feet). Gage read once weekly. Large seepage losses from reservoir limit storage to a small range. Storage is negligible below a stage of about 3 feet.

Gage height, in feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	5.32	4.06	-	-	-	-	-3.18	-
2	-	3.14	-	-	-	-	-	5.96	-	-	-	-
3	-	-	-	-	5.70	-	-	-	-	-	-	-
4	-	-	-	4.92	6.07	6.67	-	-	-	(†)	-	-3.11
5	3.14	-	-	-	-	-	9.71	-	-	-	-	-3.08
6	-	-	-	-	-	-	9.97	-	(†)	-	-	-
7	-	-	4.32	-	-	-	10.17	-	-	-	-	-
8	-	-	-	5.92	10.03	8.53	10.28	-	-	-	-	-
9	-	4.00	-	-	-	-	-	6.73	-	-	(†)	-
10	-	-	3.59	-	-	-	-	-	-	-	-	-
11	-	-	-	6.00	-	-	-	-	-	-3.04	-	-
12	3.14	-	-	-	-	10.39	10.76	-	-	-	-	-3.12
13	-	-	-	-	-	10.48	-	-	(†)	-	-	-
14	-	-	3.82	-	-	-	-	-	-	-	-	-
15	-	-	-	-	14.20	11.40	-	-	-	-	(†)	-
16	-	3.82	-	-	-	-	-	7.07	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	4.82	-	-	9.45	-	-	-3.06	-	-
19	3.34	3.92	-	-	13.98	-	-	-	-	-	-	-2.86
20	-	-	-	-	-	-	-	-	(†)	-	-	-
21	-	-	3.44	-	-	11.64	-	-	-	-	-	-
22	3.06	-	-	-	11.50	11.16	-	-	-	-	-3.06	-
23	3.59	4.84	-	4.92	-	-	-	5.76	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	3.32	-	-	6.83	-	-3.40	-3.08	-	-
26	3.34	-	-	-	-	-	-	-	-	-	-	-2.74
27	-	-	-	-	-	-	-	-	(†)	-	-	-
28	-	-	3.24	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	9.09	-	-	-	-	-2.06	-
30	-	3.86	-	-	-	-	-	4.14	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-

† Below stage of -3.3 feet on this day.

Little Malad River below Elkhorn Reservoir, near Malad, Idaho

Location.- Water-stage recorder, lat. 42°18', long. 112°25', in sec. 7, T. 13 S., R. 35 E., just downstream from Elkhorn Dam, 4½ miles downstream from Wright Creek and 11½ miles northwest of Malad.

Records available.- December 1940 to September 1947.

Extremes (regulated).- Maximum discharge during year, 52 second-feet Feb. 20 (gage height, 2.30 feet); no flow Apr. 2-14.

1940-47: Maximum discharge, 113 second-feet Aug. 23, 1946 (gage height, 3.50 feet, from floodmark), from computation of flow over weir 50 feet upstream; no flow at times during each year.

Remarks.- Records good except those for periods of partly estimated or no gage-height record and those below 5 second-feet, which are fair. Flow partly regulated by Elkhorn Reservoir (see preceding page). Small ranch diversions from tributaries above station for irrigation.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Dec. 18 to Mar. 3)

0.3	0	0.7	2.0	1.3	17
.4	.1	.8	3.6	1.6	26
.5	.3	.9	5.6	1.9	38
.6	.9	1.1	11	2.2	50

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	18	19	16	16	21	17	17	18	17	14	14
2	17	17	19	16	16	19	3.4	17	18	17	15	a14
3	16	16	19	15	16	10	0	18	.22	17	14	a14
4	16	17	19	13	16	4.0	0	19	21	18	15	14
5	15	17	19	14	18	4.0	0	19	20	17	17	14
6	16	17	20	15	14	2.6	0	19	22	16	15	14
7	16	17	20	15	4.0	1.7	0	19	a18	16	16	14
8	16	17	20	h16	4.2	1.7	0	19	a17	16	15	14
9	16	17	20	a16	4.0	1.6	0	18	a19	16	15	15
10	16	17	19	a16	4.0	1.4	0	19	a19	17	19	15
11	16	17	19	h16	4.0	.8	0	20	a19	17	17	14
12	16	17	20	a16	4.0	.7	0	20	a23	16	15	14
13	16	17	21	a16	4.2	.7	0	20	h24	16	15	14
14	16	17	20	a16	4.2	.7	3.7	19	a19	16	15	14
15	16	18	20	a16	13	.7	9.6	19	a19	16	14	14
16	16	17	20	a16	27	a7.0	16	20	a19	16	15	14
17	18	17	18	a16	32	a26	20	21	a19	16	14	16
18	18	17	16	16	41	a30	19	21	a19	15	14	22
19	17	17	17	16	50	a30	20	21	a19	15	14	16
20	17	18	18	16	50	a25	20	21	h19	15	14	15
21	17	19	18	16	48	31	19	20	f20	15	14	15
22	16	18	18	16	44	30	18	20	f19	16	14	15
23	17	18	18	16	40	27	18	20	f17	15	14	15
24	17	20	18	16	36	25	20	20	f17	15	14	15
25	17	21	18	16	34	24	19	21	17	15	14	15
26	17	19	18	17	34	19	19	18	17	15	14	14
27	17	19	19	18	30	12	20	18	18	14	14	14
28	18	19	19	18	27	11	20	18	18	14	14	14
29	23	19	16	17	-	11	18	18	18	14	14	15
30	18	19	16	16	-	11	16	18	17	14	14	15
31	18	-	16	16	-	17	-	18	-	14	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	520	23	15	16.8	1,030
November	533	21	16	17.8	1,060
December	577	21	16	18.6	1,140
Calendar year 1946	5,825.1	36	3.5	16.0	11,540
January	494	18	13	15.9	980
February	634.6	50	4.0	22.7	1,260
March	406.6	31	.7	13.1	806
April	315.7	20	0	10.5	626
May	595	21	17	19.2	1,180
June	571	24	17	19.0	1,130
July	486	18	14	15.7	964
August	456	19	14	14.7	904
September	442	22	14	14.7	877
Water year 1946-47	6,030.9	50	0	16.5	11,960

a No gage-height record; discharge computed on basis of records for stations above Elkhorn Reservoir and below Sand Ridge dam site and gage heights for Elkhorn Reservoir.
f Computed from partly estimated gage-height record.
h Computed from staff-gage reading.

Little Malad River below Sand Ridge dam site, near Malad, Idaho

Location.- Water-stage recorder, lat. 42°12', long. 112°20', in SE¼ sec. 14, T. 14 S., R. 35 E., 0.6 mile below proposed Sand Ridge dam site, 1¼ miles below unnamed tributary, 3½ miles west of Malad, and 9 miles downstream from Elkhorn Reservoir.

Records available.- October 1945 to September 1947.

Extremes.- Maximum discharge during year, 54 second-feet Feb. 13 (gage height, 5.1 feet, from floodmark); minimum recorded, 0.1 second-foot Sept. 7; minimum gage height observed, 1.53 feet Aug. 1.

1945-47: Maximum discharge, that of Feb. 13, 1947; maximum gage height recorded, 5.44 feet Feb. 17, 1946, during period of severe ice effect; minimum discharge recorded, that of Sept. 7, 1947.

Remarks.- Records fair except those for periods of ice effect or no gage-height record and those below 1 second-foot, which are poor. Flow practically all diverted above station during irrigation season; large diversions during other periods.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	8.0	14	a12	b13	h21	20	0.9	0.7	0.6	h0.2	a0.2
2	.6	8.1	14	a12	b13	a19	15	.8	.6	.6	a.2	a.2
3	.6	8.4	14	a11	*13	a10	4.5	.9	.6	.5	a.2	a.2
4	.6	9.6	14	h9.2	13	h7.2	2.9	.9	.6	.5	a.3	.2
5	.6	10	14	a11	15	a6.5	2.7	1.1	.6	.5	a.3	.2
6	.6	11	14	a12	15	a5.0	2.5	1.0	.8	.5	a.3	.2
7	.6	11	15		a13	a4.0	2.4	1.0	.6	.5	a.4	.2
8	2.0	11	15		h14	3.5	2.5	.9	.6	.5	a.4	.3
9	2.2	11	15		a14	3.5	2.6	.8	.6	.6	.4	.3
10	3.7	12	14		a15	3.5	2.7	.8	.6	.6	.5	.4
11	4.7	11	14		a16	4.7	3.0	1.0	.6	.5	.4	.4
12	4.9	11	*14		a20	4.2	2.9	1.0	.6	.5	.4	.4
13	5.0	11	15		e30	2.8	3.0	.9	.6	.5	.4	.4
14	5.1	12	15		e15	2.8	2.8	.8	.6	.5	.4	.4
15	5.0	12	15		h11	2.8	4.1	.8	.6	.5	.4	.4
16	5.3	12	15	b13	a20	2.8	6.1	.8	.6	.4	.3	.5
17	5.7	12	*b14		a25	9.6	11	.8	.6	.4	.3	.5
18	6.0	12	b13		a30	24	8.7	.8	.5	.3	a.3	.5
19	5.8	12	b12		a35	23	3.3	.8	.5	.4	a.3	.5
20	5.7	13	12		a20	28	7.0	.7	.5	.4	a.4	.5
21	5.7	13	13		h18	23	8.1	.7	a.5	.5	a.4	.5
22	5.7	13	13		h18	27	6.9	.6	a.5	.4	h.4	.5
23	5.9	14	13		20	27	6.1	.6	a.6	.5	a.4	.5
24	6.1	14	13		20	26	4.7	.6	a.6	.5	a.4	.5
25	6.1	14	13		30	25	1.0	.6	.6	.4	a.4	.5
26	6.1	14	14		30	24	.8	.6	.6	.4	a.3	.5
27	6.5	14	14		28	17	1.0	.6	.6	a.4	a.3	.5
28	6.8	14	14	b14	25	15	1.4	.6	.6	a.4	a.3	.5
29	6.9	14	a13		-	14	1.6	.5	.6	a.3	h.3	.5
30	8.0	14	a12		-	13	1.3	.6	.6	a.2	a.3	.5
31	7.8	-	a12		-	13	-	.8	-	a.2	a.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	136.9	8.0	0.6	4.42	272
November	356.1	14	8.0	11.9	706
December	426	15	12	13.7	845
Calendar year 1946	1,794.2	18	.5	4.92	3,560
January	398.2	-	9.2	12.8	790
February	549	35	11	19.6	1,090
March	411.9	28	2.8	13.3	817
April	142.6	20	.8	4.75	283
May	24.3	1.1	.5	.78	48
June	17.8	.8	.5	.59	35
July	14.0	.6	.2	.45	28
August	10.6	.5	.2	.34	21
September	11.9	.5	.2	.40	24
Water year 1946-47	2,499.3	35	.2	6.85	4,960

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Little Malad River below Elkhorn Reservoir and Malad River at Woodruff.

b Stage-discharge relation affected by ice.

e Staff-gage reading not representative of mean for day; discharge computed as explained in footnote a.

h Computed from staff-gage reading.

Devil Creek above Campbell Creek, near Malad, Idaho

Location.- Water-stage recorder, lat. 42°18', long. 112°12', in sec. 12, T. 13 S., R. 36 E., 0.6 mile upstream from proposed dam, 1.3 miles upstream from highway crossing of Campbell Creek, 4.5 miles upstream from Evans dividers, and 7½ miles northeast of Malad.

Records available.- November 1938 to September 1947.

Extremes.- Maximum discharge during year, 85 second-feet Aug. 8 (gage height, 1.44 feet); minimum, 3.7 second-feet (regulated) Sept. 4 (gage height, 0.51 foot); minimum daily, 6.0 second-feet Aug. 6, 7.

1938-47: Maximum discharge observed, 202 second-feet Apr. 2, 1943 (gage height, 2.10 feet), from rating curve extended above 40 second-feet; minimum recorded, 3.3 second-feet (regulated) July 20, Oct. 9, 1944; minimum daily observed, 4.1 second-feet July 5, 1939, Aug. 16-19, 1940.

Remarks.- Records fair. Small diversions above station for irrigation. Stream receives part of flow of Birch Creek above station. Malad power plant and its small reservoir on Birch Creek causes slight diurnal fluctuations.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	7.2	8.0	9.6	*10	10	12	13	10	8.8	6.4	6.8
2	8.0	6.8	8.0	9.2	10	11	12	14	10	8.4	6.4	6.8
3	7.6	6.8	8.0	8.8	10	11	14	14	10	8.4	6.4	6.8
4	7.6	7.2	8.0	9.6	9.6	10	12	16	10	8.4	6.4	6.8
5	7.6	6.8	8.4	8.8	10	11	12	16	10	8.4	6.4	6.8
6	7.6	7.6	9.8	9.2	10	10	13	16	10	8.4	6.0	6.8
7	7.6	8.8	8.8	8.8	11	10	13	16	9.2	8.4	6.0	6.8
8	7.6	8.8	8.4	9.2	11	11	13	16	9.6	8.4	8.7	7.2
9	7.6	8.8	*8.4	9.2	11	11	13	15	9.6	8.4	6.8	7.2
10	7.2	8.8	8.4	8.8	11	11	13	15	9.2	8.0	8.4	7.2
11	7.6	8.8	8.4	8.8	11	11	12	15	11	8.0	6.8	7.2
12	7.6	8.4	8.8	8.8	11	11	12	14	10	7.6	6.4	6.8
13	8.0	8.8	8.4	8.4	14	11	12	15	9.2	7.6	6.4	6.8
14	7.6	8.8	8.8	8.8	14	13	13	14	8.8	7.6	6.4	6.8
15	7.6	8.8	8.8	8.4	14	21	13	14	8.8	7.6	6.4	6.8
16	8.0	8.8	8.8	b8.0	15	27	13	13	8.8	7.6	6.8	6.8
17	8.0	8.8	8.4	8.8	15	25	12	13	8.8	7.6	6.4	9.2
18	8.0	8.8	8.4	9.2	14	20	12	13	8.8	7.2	6.4	8.4
19	8.0	9.2	8.4	8.4	13	16	13	13	8.8	7.2	6.4	7.2
20	7.6	9.2	8.4	8.8	11	16	13	13	8.8	7.2	6.8	7.2
21	7.2	8.8	8.8	8.8	11	16	13	13	8.4	7.2	6.8	7.2
22	7.6	8.8	8.8	8.8	11	14	13	13	8.4	7.2	6.8	7.2
23	8.0	9.6	8.8	9.2	12	15	12	12	8.4	7.6	6.4	7.2
24	7.2	8.8	8.8	9.2	12	13	12	12	8.4	7.6	6.4	6.8
25	7.2	8.4	8.8	9.2	11	12	12	12	8.0	7.2	6.4	6.8
26	7.2	8.8	9.2	10	11	12	12	12	6.4	7.2	6.4	6.8
27	8.0	8.8	9.2	10	11	12	12	12	7.6	6.8	6.8	7.2
28	8.0	8.4	9.6	10	11	12	13	11	8.8	6.8	6.8	6.8
29	7.2	8.4	9.2	10	-	12	13	11	8.8	6.8	6.8	6.8
30	7.2	8.4	9.2	9.6	-	13	13	11	8.8	6.4	6.8	7.2
31	7.2	-	8.4	9.6	-	12	-	11	-	6.4	6.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	236.4	8.0	7.2	7.63	469
November	253.2	9.6	6.8	8.44	502
December	267.6	9.6	8.0	8.63	531
Calendar year 1946	4,294	58	6.8	11.8	8,520
January	282.0	10	8.0	9.10	559
February	325.6	15	9.6	11.6	646
March	420	27	10	13.5	833
April	377	14	12	12.6	748
May	418	16	11	13.5	829
June	271.4	11	6.4	9.05	538
July	236.4	8.8	6.4	7.63	469
August	206.3	8.7	6.0	6.65	409
September	212.4	9.2	6.8	7.08	421
Water year 1946-47	3,506.3	27	6.0	9.61	6,950

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Devil Creek above Evans dividers, near Malad, Idaho

Location.- Water-stage recorder, lat. 42°15', long. 112°13', in sec. 35, T. 13 S., R. 36 E., at Evans Ranch, 900 feet upstream from Evans dividers, 3.1 miles downstream from Campbell Creek, and 3.6 miles northeast from Malad. Prior to Dec. 13, gage located 200 feet downstream at same datum.

Records available.- December 1940 to December 1943, April 1946 to September 1947.

Extremes.- Maximum discharge during year, 116 second-feet Mar. 16 or 17; maximum gage height recorded, 3.87 feet sometime between Feb. 8 and Mar. 10 (ice jam); minimum discharge, 3.5 second-feet (regulated) July 28; minimum daily, 5.0 second-feet July 27, Aug. 7.

1940-43, 1946-47: Maximum discharge, 254 second-feet Mar. 30, 1943 (gage height, 5.29 feet, present site, datum then in use), from rating curve extended above 60 second-feet; minimum recorded, 2.5 second-feet Sept. 21, 1941; minimum daily, 3.6 second-feet Sept. 26, 1942.

Remarks.- Records good except those below 8 second-feet, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Several diversions above station for irrigation. Stream receives part of flow of Birch Creek above station. Malad power plant and its small reservoir on Birch Creek cause slight diurnal fluctuations.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	10	12		*b12		16	18	14	11	8.0	7.1
2	11	9.2	11		12		17	19	14	10	8.2	5.9
3	9.2	b9.0	a11		a12		a18	20	14	10	8.2	5.7
4	9.2	9.6	a11		12		19	21	14	10	8.6	7.1
5	8.9	9.2	a11		12	a13	17	22	14	9.8	8.2	7.1
6	8.9	9.2	a12		12		18	22	12	8.8	7.7	6.9
7	8.9	11	a12		12		17	21	10	6.7	5.0	6.9
8	8.9	11	12				17	18	13	6.3	7.1	7.3
9	8.9	11	*12				17	19	14	6.3	10	7.5
10	8.9	11	12		a13	f21	17	21	13	6.5	11	7.5
11	8.9	11	12			17	16	25	18	6.5	8.6	7.5
12	a9.4	11	13			14	16	22	18	8.6	7.7	7.3
13	a10	11	*13			15	16	22	14	8.4	7.5	7.1
14	a9.5	11				19	17	22	14	8.2	7.5	7.3
15	a9.5	11		a12	a30	36	17	20	13	8.2	7.5	6.9
16	a10	11				52	18	19	13	8.4	7.7	6.3
17	a10	11				52	17	a18	13	8.2	7.7	10
18	a10	11				40	17	a17	13	6.3	7.3	14
19	a10	11				30	17	a17	12	5.7	7.1	8.8
20	9.6	12	a12			26	18	a17	9.1	5.3	7.1	8.4
21	10	b11				23	21	a16	9.3	5.1	7.5	8.2
22	9.6	12			a18	20	19	a16	6.9	5.5	7.3	7.7
23	12	14				20	18	a15	6.3	5.7	7.5	7.7
24	10	13				18	17	14	6.7	6.1	7.3	7.7
25	10	12				15	17	14	6.9	7.3	7.3	7.5
26	9.6	11				15	17	14	7.3	5.9	6.9	7.5
27	10	12			a13	14	17	14	8.6	5.0	7.3	7.5
28	11	11				14	18	14	12	7.3	7.5	7.5
29	10	12	a13		-	14	18	14	12	8.2	7.3	5.9
30	10	11			-	16	18	13	11	8.0	7.3	5.7
31	9.6	-			-	17	-	13	-	7.7	7.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	300.1	12	8.6	9.68	595
November	330.2	14	9.0	11.0	655
December	376	-	-	12.1	746
Calendar year 1946	-	-	-	-	-
January	372	-	-	12	738
February	506	-	-	18.1	1,000
March	625	52	-	20.2	1,240
April	522	21	16	17.4	1,040
May	557	25	13	18.0	1,100
June	356.1	18	6.3	11.9	706
July	231.0	11	5.0	7.45	458
August	238.0	11	5.0	7.68	472
September	225.5	14	5.7	7.52	447
Water year 1946-47	4,638.9	52	5.0	12.7	9,200

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for station above Campbell Creek and stations on nearby streams.

b Stage-discharge relation affected by ice.

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

Deep Creek below First Creek, near Malad, Idaho

Location.- Water-stage recorder, lat. 42°14', long. 112°11', in sec. 7, T. 14 S., R. 37 E., just downstream from site of proposed reservoir, 1 mile north and 3½ miles east of Malad and 12 miles upstream from mouth.

Records available.- October 1931 to September 1947.

Average discharge.- 16 years, 9.09 second-feet.

Extremes.- Maximum discharge during year, 46 second-feet Mar. 10 (gage height, 2.68 feet); minimum, 1.3 second-feet Aug. 18, 19.
1931-47: Maximum discharge observed, 172 second-feet July 8, 1937, from rating curve extended above 40 second-feet by logarithmic plotting; minimum observed, 0.3 second-foot Aug. 29, 1934.

Remarks.- Records good except those below 10 second-feet, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Small diversions above station. Flow regulated at times by reservoir 2½ miles above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	5.6	5.2	b2.3	a4.8	4.0	9.2	10	17	14	6.9	2.1
2	6.4	4.0	4.8	b2.0	*4.8	4.0	9.6	12	17	16	6.9	2.1
3	5.8	4.0	4.8	2.5	4.8	4.4	9.2	14	14	15	6.0	1.9
4	5.6	4.4	4.8	2.5	4.4	4.4	9.6	16	12	14	6.0	1.9
5	5.6	4.8	5.6	2.5	4.8	4.4	9.2	14	12	12	6.4	1.7
6	5.6	4.8	5.6	2.8	4.8	4.0	8.7	14	12	12	5.6	1.7
7	6.9	5.2	6.9	2.8	4.8	4.0	8.7	14	11	12	6.4	1.7
8	7.3	5.2	6.0	3.1	4.0	4.8	8.2	14	14	11	6.9	1.9
9	6.4	4.8	5.6	3.1	4.0	5.2	8.2	16	17	10	6.4	1.9
10	6.0	3.7	*5.2	3.1	4.8	15	8.7	16	14	10	6.9	1.9
11	5.2	3.7	5.2	3.1	4.8	8.2	8.2	19	16	9.2	4.4	2.1
12	4.0	3.4	6.4	3.1	5.2	6.9	7.8	18	14	9.2	3.7	1.9
13	4.4	3.7	6.0	3.1	12	7.3	7.8	19	12	11	3.1	1.9
14	4.8	4.4	5.6	3.1	9.2	10	7.8	19	11	13	2.8	1.9
15	3.7	4.8	5.2	b2.9	7.8	12	8.2	18	9.6	14	3.7	2.1
16	3.7	4.0	4.4	b2.7	10	14	9.2	17	9.2	13	3.1	1.9
17	5.2	4.0	2.5	3.1	11	14	9.2	17	9.2	13	1.9	4.8
18	5.6	4.0	2.5	3.1	9.2	14	9.2	16	8.7	12	1.4	12
19	4.8	4.4	2.5	3.4	7.8	14	9.2	18	8.2	11	1.6	6.0
20	4.4	5.2	3.1	3.7	6.0	13	9.2	18	9.6	11	3.1	3.7
21	4.0	3.4	3.4	3.7	6.0	13	11	17	13	10	3.1	3.4
22	4.0	4.4	4.0	a3.8	6.4	12	9.6	17	14	10	3.1	3.1
23	6.0	8.7	4.4	a4.0	6.9	12	8.7	16	16	10	3.1	2.8
24	4.8	6.9	4.4	a4.0	6.9	11	8.2	14	15	9.2	2.8	2.8
25	4.4	4.4	4.4	a4.5	6.0	10	7.8	14	14	8.2	2.8	2.8
26	4.4	4.8	5.2	a5.0	5.2	9.6	7.8	13	12	7.8	2.3	2.5
27	7.3	5.2	4.8	a5.0	4.8	9.2	8.2	13	12	6.9	2.3	2.5
28	9.6	5.6	3.1	a5.0	4.4	8.7	8.7	12	12	6.9	2.3	2.5
29	7.3	5.6	2.5	a5.0	-	8.7	9.6	12	10	7.8	2.1	2.5
30	6.9	5.2	b2.0	a4.5	-	9.6	9.6	14	10	7.3	2.3	2.5
31	6.0	-	b2.0	a4.5	-	9.6	-	16	-	7.3	2.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	169.9	9.6	3.7	5.48	337
November	142.3	8.7	3.4	4.74	282
December	138.1	6.9	2.0	4.45	274
Calendar year 1946	4,941.1	81	1.9	13.5	9,800
January	107.0	5.0	2.0	3.45	212
February	175.6	12	4.0	6.27	348
March	281.0	15	4.0	9.06	557
April	264.3	11	7.8	8.81	524
May	477	19	10	15.4	946
June	375.5	17	8.2	12.5	745
July	333.8	18	6.9	10.8	662
August	121.5	6.9	1.4	3.92	241
September	84.5	12	1.7	2.82	168
Water year 1946-47	2,670.5	19	1.4	7.32	5,300

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for Malad River at Woodruff and stations on other nearby streams.
b Stage-discharge relation affected by ice.

Weber River above Smith and Morehouse Creek, near Oakley, Utah

Location.- Water-stage recorder, lat. 40°48', long. 111°06', in NE¼ sec. 25, T. 1 N., R. 7 E., 3 miles upstream from mouth of Smith and Morehouse Creek, and 12 miles northeast of Oakley.

Records available.- October 1946 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 686 second-feet June 7 (gage height, 4.48 feet); minimum not determined, occurred during period of ice effect.

Remarks.- Records fair. A few small diversions above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			b34					a150	345	214	74	46
2			b35					a230	392	208	69	45
3			*b35					a330	420	208	69	45
4			*36					498	364	202	76	44
5			36					507	364	185	72	44
6			37					498	384	172	68	42
7			38				a43	549	489	162	64	42
8			b37					612	597	162	74	56
9		a33	b36					578	563	159	88	79
10						a28		485	392	147	86	72
11								400	353	140	78	66
12								353	312	128	69	64
13							a47	323	291	120	66	60
14							a51	302	291	118	63	58
15							a58	291	353	122	63	57
16	a33			b28	a28		a63	305	429	124	62	56
17			b35				a69	334	446	120	58	79
18		*33					a77	357	404	111	56	76
19		32			(*)		a84	380	446	107	54	72
20		b33					a92	416	535	101	54	63
21		b34				a32	a100	458	384	101	62	58
22		b35					*109	480	305	99	64	57
23		36					97	454	264	96	58	56
24		b39						429	245	90	54	54
25		b38	33					467	248	86	53	53
26		38	31			a38	a100	507	274	81	51	50
27		37						544	271	79	53	49
28		b36						463	258	74	51	48
29		b35	b31		-			372	274	72	50	45
30		b34			-	a43		345	229	69	49	48
31		-			-	a43	-	357	-	72	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,023	-	-	33	2,030
November	1,021	-	-	34.0	2,030
December	1,068	-	-	34.5	2,120
Calendar year	-	-	-	-	-
January	868	-	-	28	1,720
February	784	-	-	28	1,560
March	984	-	-	31.7	1,950
April	2,063	109	-	68.8	4,090
May	12,774	612	150	412	25,340
June	10,922	597	229	364	21,660
July	3,929	214	69	127	7,790
August	1,956	88	48	63.1	3,880
September	1,684	79	42	56.1	3,340
Water year 1946-47	39,076	612	-	107	77,510

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Weber River near Oakley and Smith and Morehouse Creek near Oakley.
b Stage-discharge relation affected by ice.

Weber River near Oakley, Utah

Location.- Water-stage recorder, lat. 40°44'10", long. 111°14'45", in SE¼NE¼ sec. 15, T. 1 S., R. 6 E., 1.4 miles downstream from South Fork, 2.6 miles upstream from Weber-Provo diversion canal, and 3¼ miles northeast of Oakley.

Drainage area.- 163 square miles.

Records available.- October 1904 to September 1947.

Average discharge.- 41 years (1906-47), 229 second-feet.

Extremes.- Maximum discharge during year, 1,340 second-feet May 8 (gage height, 3.38 feet); minimum not determined, occurred during period of ice effect.
1904-47: Maximum discharge observed, 4,010 second-feet July 6, 1907, June 5-7, 1909; minimum recorded, 16 second-feet Mar. 12, 1941.

Remarks.- Records good except those for periods of ice effect, which are fair. Several small diversions above station for irrigation. Flow slightly regulated by several small lakes on head waters and a small reservoir on Smith and Morehouse Creek. Total capacity of all reservoirs, about 3,200 acre-feet.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 10 to Sept. 30)

1.0	50	2.0	288
1.1	61	2.3	425
1.2	76	2.6	610
1.4	116	2.9	850
1.7	191	3.3	1,240

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	78	b66			61	91	337	709	415	121	78
2	84	b75	b66			b56	97	493	782	389	121	78
3	74	b73	b69		(*)	*b54	97	741	877	384	123	76
4	74	b70	*73			59	93	976	774	365	123	76
5	74	b70	73			b56	89	1,080	749	351	130	76
6	73	b71	76	(*)		b54	87	1,050	757	320	121	76
7	73	73	76		b57	b54	87	1,090	895	292	134	73
8	72	72	74			57	*91	1,240	1,100	288	134	80
9	72	72	b70			57	95	1,200	1,130	284	154	108
10	70	b70	b68			57	91	1,020	833	267	154	110
11	67	b68	70			58	89	895	765	250	142	106
12	66	b66	73			57	89	782	662	234	128	101
13	66	b69	70		59	58	101	693	610	221	121	97
14	62	73	70		b56	58	128	640	640	218	118	93
15	62	67	68		b58	59	154	596	725	212	114	91
16	66	b66	67	b55	59	61	169	632	850	212	110	87
17	70	b66	b53		59	64	180	717	958	203	106	114
18	70	b66	b56		58	68	186	774	824	191	103	112
19	66	67	b70		58	73	186	850	859	186	99	110
20	66	68	b66		b58	74	209	868	1,010	175	97	99
21	68	73	b66		b58	80	240	1,000	913	172	103	93
22	68	70	66	(*)	58	86	243	1,050	693	169	110	91
23	70	73	66		57	95	227	1,030	569	164	103	89
24	67	74	66		57	86	221	922	464	159	97	87
25	68	b68	62		b59	80	218	1,000	475	156	93	86
26	68	b70	62		b56	82	221	1,040	524	149	91	84
27	74	72	62		b55	82	237	1,080	542	139	91	82
28	*110	70	b58		61	87	227	1,000	518	134	91	80
29	93	b69	b50		-	89	234	790	518	130	89	80
30	84	b67	b52		-	101	256	709	459	125	86	80
31	82	-	b55		-	95	-	717	-	118	80	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,251	110	62	72.6	4,460
November	2,106	78	86	70.2	4,180
December	2,039	76	50	65.8	4,040
Calendar year 1946	73,413	1,290	-	201	145,600
January	1,705	-	-	55	3,380
February	1,610	-	-	57.5	3,190
March	2,158	101	54	69.6	4,280
April	4,733	256	87	158	9,390
May	27,012	1,240	337	871	53,580
June	22,184	1,130	459	739	44,000
July	7,072	415	118	228	14,030
August	3,487	154	80	112	6,920
September	2,693	114	73	89.8	5,340
Water year 1946-47	79,050	1,240	-	217	156,800

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Weber River near Coalville, Utah

Location.- Water-stage recorder, lat. 40°53'40", long. 111°24'00", in SE¼NE¼ sec. 20, T. 2 N., R. 5 E., at bridge 1½ miles upstream from high-water contour for Echo Reservoir, 1½ miles south of Coalville, and 6 miles downstream from Silver Creek.

Drainage area.- 438 square miles.

Records available.- April 1927 to September 1947.

Average discharge.- 20 years, 196 second-feet.

Extremes.- Maximum discharge during year, 1,320 second-feet May 8 (gage height, 3.85 feet); minimum, 38 second-feet Oct. 1 (gage height, 0.29 foot).
1927-47: Maximum discharge observed, 1,960 second-feet June 17, 1929 (gage height, 4.30 feet); minimum, 6 second-feet Sept. 20, 1934 (gage height, -0.23 foot).

Remarks.- Records good except those for periods of ice effect, which are fair. Many diversions above station for irrigation. No diversions between station and Echo Reservoir. Records do not include water diverted from Weber River Basin through Weber-Provo diversion canal. Flow slightly regulated by several small reservoirs above station.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-29, May 4-14)

0.3	42	1.6	287
.4	52	2.0	410
.6	77	2.4	570
.9	126	3.0	880
1.2	187	3.6	1,240

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	183	124			97	147	178	210	110	62	72
2	58	139	121			95	149	205	208	92	64	65
3	52	122	113		(*)	*93	145	242	215	80	68	57
4	57	119	*119			91	141	450	237	80	76	53
5	64	121	122			90	137	663	196	77	100	58
6	58	121	132	(*)		100	147	994	180	77	90	59
7	76	128	134			110	145	1,070	172	76	84	54
8	97	134	121			115	128	1,240	250	73	72	54
9	100	122	113			113	155	1,260	496	124	102	65
10	92	117	108			122	187	1,170	345	178	201	94
11	92	112	112			141	183	1,120	364	157	185	98
12	92	112	119			132	136	1,010	474	136	141	102
13	92	113	151			134	134	970	290	113	121	98
14	88	119	163			172	147	847	239	122	117	94
15	86	126	151			248	161	697	215	113	106	92
16	89	105	141	90	110	372	172	396	198	122	102	86
17	106	106	100			464	169	312	208	108	95	180
18	115	110	90			501	172	307	192	98	90	159
19	115	112	110			508	163	339	161	89	86	189
20	110	137	120			496	176	315	196	76	82	157
21	108	117	120			472	187	453	339	73	89	141
22	108	122	120	(*)		439	224	574	244	73	105	126
23	110	210	120			509	220	602	220	90	89	115
24	110	227	126			304	174	398	192	82	90	108
25	112	157	139			239	159	298	176	72	88	100
26	108	141	151			237	153	309	161	74	83	95
27	121	161	157			212	159	345	145	69	82	92
28	400	183	132			224	157	597	132	68	86	88
29	458	159	75		-	178	157	343	124	65	88	86
30	227	139	80		-	196	169	239	128	63	84	88
31	208	-	90		-	172	-	220	-	60	77	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,749	458	40	121	7,440
November	4,074	227	105	139	8,080
December	3,774	163	75	122	7,490
Calendar year 1946	55,261	754	30	151	109,600
January	2,790	-	-	90	5,530
February	3,080	-	-	110	6,110
March	7,376	509	90	238	14,630
April	4,853	224	128	162	9,630
May	18,163	1,260	178	586	36,030
June	6,907	496	124	230	13,700
July	2,890	178	80	93.2	5,730
August	3,005	201	82	96.9	5,960
September	2,925	189	53	97.5	5,800
Water year 1946-47	63,586	1,260	40	174	126,100

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 17-23, Dec. 29 to Mar. 7 (no gage-height record Jan. 15 to Feb. 3, Feb. 10 to Mar. 7); discharge computed on basis of 3 discharge measurements, weather records, and records for nearby stations.

Echo Reservoir at Echo, Utah

Location.- Staff gage, lat. 40°57'50", long. 111°26'00", in NW¼SW¼ sec. 30, T. 3 N., R. 5 E., near outlet works at left end of Echo Dam, 1 mile southeast of Echo. Datum of gage is at mean sea level (surveys of Bureau of Reclamation).

Drainage area.- 732 square miles.

Records available.- October 1930 to September 1947.

Extremes.- Maximum contents during year, 74,240 acre-feet May 26 to June 9, June 11-14, 16-21, 23-25 (elevation, 5,560.2 feet); minimum contents, 18,110 acre-feet Oct. 5-7 (elevation, 5,509.5 feet).

1930-47: Maximum contents, 74,460 acre-feet May 31, 1937 (elevation, 5,560.35 feet); no contents Sept. 12 to Dec. 3, 1931, Sept. 24 to Nov. 2, 1934, Oct. 12 to Nov. 21, 1944.

Remarks.- Reservoir is formed by earth-fill, rock-faced dam; storage began in October 1930; dam completed in 1931. Capacity, 73,940 acre-feet between elevations 5,450 feet (bottom of outlet tunnel) and 5,560 feet (top of radial gates in spillway). Dead storage negligible. Elevation of spillway crest is 5,543 feet. Water is used for irrigation on Echo project. Records give contents represented by daily gage readings to half-tenths at 6 a.m.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18,860	20,670	29,960	35,290	36,000	38,080	55,670	70,010	74,240	71,530	45,490	30,330
2	18,560	20,950	30,240	35,290	36,050	38,130	56,060	70,370	74,240	70,950	44,790	29,770
3	18,340	21,150	30,520	35,290	36,100	38,240	56,450	70,590	74,240	70,150	44,040	29,220
4	18,190	21,430	30,800	35,240	36,150	38,290	56,970	70,800	74,240	69,220	43,350	28,580
5	18,110	21,710	31,080	35,240	36,150	38,340	57,360	70,800	74,240	68,150	42,670	27,950
6	18,110	21,990	31,370	35,240	36,200	38,400	57,690	70,800	74,240	67,160	42,000	27,280
7	18,110	22,270	31,700	35,290	36,200	38,450	58,020	71,020	74,240	66,180	41,380	26,570
8	18,190	22,560	32,040	35,340	36,200	38,500	58,410	71,380	74,240	65,130	40,880	25,920
9	18,300	22,880	32,320	35,390	36,200	38,560	58,810	71,750	74,240	64,230	40,230	25,230
10	18,370	23,170	32,620	35,390	36,200	38,610	59,280	72,180	74,160	63,400	39,900	24,550
11	18,410	23,380	32,860	35,390	36,260	38,770	59,740	72,840	74,240	62,720	40,060	23,960
12	18,480	23,630	33,100	35,390	36,310	38,980	60,150	73,060	74,240	61,970	40,280	23,500
13	18,480	23,880	33,440	35,490	36,360	39,140	60,480	73,060	74,240	61,160	40,280	23,050
14	18,410	24,130	33,790	35,490	36,410	39,360	60,820	73,060	74,240	60,210	39,960	22,680
15	18,370	24,380	34,180	35,490	36,460	39,790	61,220	73,060	74,160	59,480	39,680	22,310
16	18,320	24,630	34,540	35,490	36,520	40,500	61,760	73,280	74,240	58,610	39,410	21,950
17	18,290	24,890	34,840	35,490	36,720	41,490	62,310	73,500	74,240	57,950	38,980	21,670
18	18,300	25,150	34,880	35,490	36,930	42,900	62,720	73,580	74,240	57,230	38,500	21,750
19	18,300	25,400	34,940	35,540	37,190	44,380	63,270	73,800	74,240	56,450	38,080	21,910
20	18,300	25,700	34,980	35,590	37,340	45,720	63,820	73,870	74,240	55,600	37,610	22,070
21	18,290	26,050	35,080	35,640	37,450	47,140	64,370	73,720	74,240	54,700	36,930	22,110
22	18,290	26,300	35,190	35,700	37,550	48,400	64,990	73,870	74,160	53,930	36,260	22,150
23	18,280	26,620	35,290	35,700	37,660	49,680	65,760	73,940	74,240	53,110	35,750	22,150
24	18,280	27,280	35,340	35,750	37,710	51,040	66,320	74,020	74,240	52,350	35,080	22,110
25	18,260	27,770	35,390	35,800	37,760	51,720	66,880	74,020	74,240	51,540	34,480	22,150
26	18,250	28,090	35,440	35,850	37,870	52,350	67,370	74,240	74,160	50,670	33,840	22,150
27	18,220	28,400	35,540	35,900	37,920	52,920	67,870	74,240	73,800	49,800	33,150	22,110
28	18,370	28,900	35,590	35,950	38,030	53,490	68,360	74,240	73,280	48,950	32,570	22,110
29	19,320	29,270	35,490	36,000	-	54,000	68,860	74,240	72,690	48,100	31,940	22,070
30	20,010	29,640	35,390	36,000	-	54,640	69,440	74,240	72,110	47,260	31,420	22,110
31	20,400	-	35,290	36,000	-	55,280	-	74,240	-	46,430	30,900	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	5,510.5	18,860	+1,810
Nov. 1	5,512.85	20,670	+9,290
Dec. 1	5,523.7	29,960	+5,330
Calendar year 1946	-	-	-5,370
Jan. 1	5,529.2	35,290	+710
Feb. 1	5,529.9	36,000	+2,080
Mar. 1	5,531.9	38,080	+17,590
Apr. 1	5,546.8	55,670	+14,340
May 1	5,557.3	70,010	+4,230
June 1	5,560.2	74,240	-2,710
July 1	5,558.35	71,530	-26,040
Aug. 1	5,538.55	45,490	-15,160
Sept.1	5,524.1	30,330	-8,220
Oct. 1	5,514.65	22,110	-
Water year 1946-47	-	-	+3,250

Weber River at Echo, Utah

Location.- Water-stage recorder, lat. 40°58'05", long. 111°26'15", in NE¼NE¼ sec. 25, T. 3 N., R. 4 E., 900 feet upstream from Echo Creek, 2,400 feet downstream from Echo Dam, and 3,200 feet southeast of Echo.

Drainage area.- 732 square miles.

Records available.- April 1927 to September 1947.

Average discharge.- 20 years, 257 second-feet.

Extremes (regulated).- Maximum discharge during year, 1,600 second-feet May 9, 10 (gage height, 5.10 feet); minimum, 3.7 second-feet Nov. 17-19, 21, 27.
1927-47: Maximum discharge, 2,370 second-feet June 2, 1943; maximum gage height, 6.17 feet June 2, 3, 1944; minimum daily discharge, 2 second-feet Feb. 27 to Mar. 2, Mar. 31, Apr. 3-13, 1940.

Remarks.- Records good. Many diversions above and below station for irrigation. One small diversion between station and Echo Dam. Flow regulated by Echo Reservoir (see preceding page).

Rating table, water year 1946-47, except periods of backwater from Echo Creek
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 2 to Dec. 17, June 28 to Aug. 28)

0.6	4.3	1.4	51	3.1	466
.7	7.3	1.6	74	3.5	644
.8	11	1.9	122	4.1	980
1.0	21	2.3	206	5.0	1,530
1.2	34	2.7	322		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229	87	4.1	111	117	102	7.7	124	416	537	499	376
2	194	65	4.1	104	117	102	7.7	321	416	555	483	372
3	161	13	4.1	104	117	102	8.1	449	420	615	462	383
4	130	13	4.3	88	117	102	8.1	825	435	654	439	390
5	104	14	4.3	82	117	101	8.1	1,130	362	659	416	390
6	88	13	4.3	82	117	101	8.1	1,290	319	644	416	401
7	88	13	4.6	82	117	101	8.1	1,270	309	644	416	420
8	88	13	4.3	82	117	101	8.1	1,430	376	634	412	423
9	88	13	4.3	98	117	101	8.5	1,580	766	630	374	423
10	88	13	4.3	104	118	101	8.5	1,380	572	615	220	405
11	88	13	4.6	104	118	84	8.5	1,350	610	610	123	386
12	108	13	4.6	104	118	80	8.5	1,430	748	610	140	366
13	132	14	4.6	104	118	80	8.9	1,370	546	606	296	338
14	137	14	4.9	104	118	69	8.9	1,230	491	582	293	316
15	137	14	4.9	88	118	51	8.9	964	427	564	275	296
16	141	9.2	4.9	82	88	22	9.3	705	380	537	303	266
17	141	3.7	22	82	78		9.3	573	335	516	338	216
18	141	3.7	88	82	78	c7	9.3	533	348	528	348	165
19	141	3.7	101	96	78		9.3	591	332	546	362	165
20	141	3.9	108	104	94		9.3	670	390	541	401	165
21	141	3.7	108	113	101	7.3	9.3	727	634	546	427	165
22	141	3.9	108	117	101	7.0	9.7	786	486	533	454	165
23	141	4.3	126	117	101	7.0	9.7	826	423	507	454	165
24	141	4.9	133	117	101	7.3	9.7	653	380	507	446	147
25	131	3.9	133	117	101	7.0	9.7	445	366	516	446	137
26	143	4.1	147	117	101	7.0	12	474	503	516	446	137
27	141	3.7	161	117	101	7.3	12	559	528	528	446	137
28	141	4.1	161	117	101	7.3	12	928	511	524	412	122
29	115	4.1	161	117	-	7.3	12	677	533	520	408	117
30	87	4.1	161	117	-	7.3	12	435	546	511	397	117
31	87	-	130	117	-	7.3	-	408	-	503	386	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,984	229	87	129	7,900
November	390.0	87	3.7	13.0	774
December	1,919.2	161	4.1	61.9	3,810
Calendar year 1946	85,563.1	1,050	3.7	234	169,700
January	3,170	117	82	102	6,290
February	2,985	118	78	107	5,920
March	1,507.1	102	-	48.6	2,990
April	279.3	12	7.7	9.3	554
May	26,134	1,580	124	843	51,840
June	13,908	766	309	464	27,590
July	17,538	659	503	566	34,790
August	11,741	499	123	379	23,290
September	8,071	423	117	269	16,010
Water year 1946-47	91,626.6	1,580	3.7	251	181,800

c Stage-discharge relation affected by backwater from Echo Creek; discharge computed on basis of observer's notes.

Note.- Daily staff-gage readings and record of time of gate changes used Oct. 2-25, Dec. 17 to May 1 when recorder was not operating.

Weber River at Devils Slide, Utah

Location.- Water-stage recorder, lat. 41°03'40", long. 111°34'25", in SE¼SE¼ sec. 23, T. 4 N., R. 3 E., 350 feet downstream from highway underpass on U. S. Highway 30S, 1½ miles west of Devils Slide, and 1¾ miles downstream from Lost Creek.

Drainage area.- 1,100 square miles.

Records available.- February 1905 to September 1947.

Average discharge.- 42 years, 438 second-feet.

Extremes.- Maximum discharge during year, 1,840 second-feet (regulated) May 9 (gage height, 5.08 feet); minimum, 26 second-feet (regulated) Dec. 18 (gage height, 0.82 foot).
1905-47: Maximum discharge observed, 6,000 second-feet May 22, 1920; minimum daily, 18 second-feet (regulated) Sept. 23, 1934.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation. Flow regulated by Echo Reservoir (see p. 84).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	237	117	40	b130	a145	136	133	410	461	571	498	385
2	221	115	39	b120	a145	140	134	690	474	566	488	381
3	183	45	38	b120	a145	139	139	892	483	619	470	389
4	155	39	39	b110	*144	*139	140	1,180	498	662	452	401
5	139	39	*38	b107	144	134	129	1,490	456	668	434	397
6	117	39	39	a107	147	134	122	1,720	381	662	430	401
7	117	38	41	*107	145	134	113	1,650	344	646	439	414
8	119	40	42	b107	144	139	112	1,710	397	640	434	430
9	117	42	40	b120	b140	139	127	1,820	820	630	410	430
10	117	41	39	b130	145	170	125	1,670	789	619	283	418
11	117	40	38	a130	147	207	117	1,630	718	603	159	401
12	122	41	38	a130	148	157	112	1,740	916	608	127	389
13	147	41	38	a130	159	160	112	1,670	712	598	293	366
14	155	42	38	a130	172	183	126	1,480	619	582	320	330
15	157	41	38	a117	170	214	160	1,210	561	582	290	316
16	162	41	36	a105	170	289	196	928	479	541	309	280
17	166	36	32	a105	170	280	207	768	426	516	359	245
18	168	33	91	a105	148	240	214	718	414	526	366	193
19	168	35	113	a115	133	240	207	745	378	546	381	179
20	166	36	122	a125	136	189	221	773	410	546	410	179
21	164	33	124	a133	144	159	265	820	690	546	439	175
22	164	33	126	a138	144	159	265	814	570	541	465	175
23	162	41	136	*b140	142	216	237	856	493	512	470	175
24	160	50	147	142	147	157	221	716	443	512	461	164
25	162	42	148	142	142	123	212	483	405	521	456	150
26	162	41	164	145	140	116	221	479	512	521	461	148
27	164	41	185	147	136	108	248	556	571	531	461	147
28	185	41	183	147	139	111	237	897	566	521	434	140
29	173	41	b175	145	-	122	253	802	571	512	422	132
30	127	41	173	147	-	142	306	502	598	507	414	130
31	120	-	b155	a145	-	142	-	461	-	512	397	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,793	237	117	155	9,510
November	1,345	117	33	44.8	2,670
December	2,695	185	32	86.9	5,350
Calendar year 1946	118,977	1,910	32	326	235,900
January	3,921	147	105	126	7,780
February	4,131	172	133	148	8,190
March	5,118	289	108	165	10,150
April	5,409	306	112	180	10,730
May	32,280	1,820	410	1,041	64,030
June	16,135	918	344	538	32,000
July	17,667	668	507	570	35,040
August	12,232	498	127	395	24,260
September	8,460	430	130	282	16,780
Water year 1946-47	114,186	1,820	32	313	226,500

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station at Echo.
b Stage-discharge relation affected by ice.

Weber River at Gateway, Utah

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

Drainage area.- 1,610 square miles.

Records available.- June 1919 to September 1947. October 1889 to July 1903 at site 1 mile downstream, published as Weber River near Uinta.

Average discharge.- 27 years (1920-47), 571 second-feet.

Extremes.- Maximum discharge during year, 2,480 second-feet (regulated) May 6 (gage height, 4.82 feet); minimum, 87 second-feet (regulated) Dec. 18.
1889-1903, 1919-47: Maximum discharge observed, 7,980 second-feet May 31, 1896; minimum, 45 second-feet (regulated) Sept. 24, 1934; minimum daily, 46 second-feet Sept. 23, 1934.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Many diversions above and below station for irrigation. Flow regulated by Echo and East Canyon Reservoirs (see pp. 84, 92).

Cooperation.- Five discharge measurements furnished by Utah Power & Light Co.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.7	118	2.2	702
.9	168	3.0	1,160
1.2	255	3.8	1,690
1.6	406	4.7	2,380

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	311	227	137	b200	204	221	456	941	686	623	597	460
2	311	221	135	b190	204	224	456	1,230	724	587	607	446
3	279	198	130	b190	204	227	474	1,580	713	592	587	438
4	258	a170	132	b180	207	230	489	1,880	740	639	577	465
5	243	a163	132	b175	*212	221	438	2,200	686	665	557	474
6	227	158	152	b170	215	221	410	2,400	602	660	547	470
7	221	147	155	b170	218	234	393	2,300	567	660	537	479
8	224	140	150	*b170	212	230	377	2,220	587	660	552	498
9	221	137	145	b170	210	246	547	2,270	918	665	562	498
10	215	132	135	b185	212	354	474	2,290	1,150	660	513	503
11	212	128	132	198	215	513	410	2,040	1,050	639	381	493
12	210	123	132	b200	221	356	377	2,200	1,290	639	307	489
13	221	123	132	b200	252	325	385	2,240	1,160	649	385	465
14	233	128	130	201	272	377	428	2,080	994	649	460	420
15	236	130	128	b180	275	460	522	1,790	907	649	415	424
16	243	125	123	b165	289	577	623	1,470	811	639	415	398
17	252	123	105	b165	296	597	654	1,260	762	607	446	393
18	258	120	*107	b165	286	587	665	1,210	697	597	460	381
19	252	120	165	b170	255	592	644	1,200	628	613	446	318
20	249	128	201	b180	233	547	665	1,210	577	613	433	293
21	246	118	198	a190	236	513	778	1,230	828	623	489	282
22	246	120	201	a195	233	513	784	1,170	873	623	522	279
23	246	182	207	b200	240	904	702	1,170	762	618	547	272
24	243	212	218	b205	252	562	649	1,050	665	582	537	252
25	243	163	227	215	243	442	633	794	582	597	522	249
26	243	155	243	218	230	398	649	691	607	602	522	249
27	252	150	307	218	221	352	707	697	686	602	527	243
28	344	145	289	215	227	352	681	913	660	602	518	240
29	341	142	b240	210	-	381	724	1,080	607	592	493	224
30	269	137	b240	207	-	498	828	778	633	592	484	218
31	243	-	b215	207	-	503	-	713	-	587	474	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,792	344	210	251	15,460
November	4,465	227	118	149	8,860
December	5,343	307	105	172	10,600
Calendar year 1946	205,872	3,140	105	564	408,400
January	5,904	218	165	190	11,710
February	6,574	296	204	235	13,040
March	12,757	904	221	412	25,300
April	17,022	828	377	567	33,760
May	46,207	2,400	691	1,491	91,650
June	23,152	1,290	602	772	45,920
July	19,325	665	582	623	38,330
August	15,419	607	307	497	30,580
September	11,313	503	218	377	22,440
Water year 1946-47	175,273	2,400	105	480	347,600

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations at Devils Slide and at Echo.
b Stage-discharge relation affected by ice.

Weber River near Plain City, Utah

Location.- Chain gage, lat. 41°16'42", long. 112°05'30", in NW¼NE¼ sec. 8, T. 6 N., R. 2 W., at county highway bridge, 1 mile downstream from Fourmile Creek, 1½ miles south of Plain City, and 6 miles upstream from mouth.

Drainage area.- 2,060 square miles.

Records available.- May 1905 to September 1947. Records collected in 1904 by State engineer.

Extremes.- Maximum discharge observed during year, 2,480 second-feet (regulated) May 14 (gage height, 13.27 feet); minimum observed, 26 second-feet (regulated) July 3, 4 (gage height, 1.82 feet).

1904-47: Maximum discharge observed, 7,580 second-feet June 6, 1909 (gage height, 19.1 feet); practically no flow during latter part of several summers since 1915 (result of regulation).

Remarks.- Records fair. Gage read once daily. In summer practically entire flow of Weber River is diverted above station for irrigation. Flow is partly regulated by Echo, East Canyon, and Pine View Reservoirs (see pp. 84, 92, 96).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	294	a190	494	379	385	660	995	286	38	42	38
2	147	306	184	486	369	392	693	1,260	279	30	48	36
3	139	285	184	458	389	399	724	1,390	261	26	61	33
4	135	260	194	450	379	399	796	1,610	347	26	71	35
5	121	241	200	437	390	410	724	1,810	320	26	67	38
6	107	226	224	392	397	406	684	2,160	241	30	68	40
7	137	244	362	342	401	428	642	2,250	186	37	63	47
8	150	234	378	339	403	431	629	2,120	209	42	62	56
9	403	236	437	344	443	443	642	2,290	448	37	65	62
10	726	231	437	367	464	435	768	2,130	848	32	270	61
11	1,000	224	410	374	486	686	702	1,970	1,050	34	213	65
12	270	205	410	364	482	554	654	2,110	1,260	32	218	64
13	118	207	410	354	488	458	620	2,410	1,130	37	80	72
14	136	224	403	347	550	481	604	2,480	975	40	65	70
15	159	230	397	321	556	511	671	2,190	855	40	56	86
16	175	225	386	312	552	604	932	1,680	656	46	45	99
17	188	214	403	291	532	642	a980	1,320	596	58	38	134
18	270	203	412	260	522	658	a1,000	1,180	454	72	43	304
19	359	206	439	275	450	688	a1,020	1,120	284	61	45	321
20	204	223	462	296	444	702	a1,000	1,110	187	41	43	260
21	218	229	467	284	435	728	a1,070	1,060	288	40	44	231
22	223	236	475	296	431	968	1,070	802	359	40	42	224
23	213	359	486	323	426	1,140	955	715	279	42	41	217
24	208	408	490	350	437	875	891	675	169	45	38	207
25	203	260	507	364	435	825	887	424	75	55	35	186
26	205	234	542	381	417	673	915	238	56	59	40	140
27	207	230	671	388	404	623	935	174	61	57	42	134
28	344	a220	574	381	408	594	896	153	68	52	38	122
29	421	a210	552	376	-	610	901	487	64	46	36	115
30	381	a200	540	366	-	618	955	227	55	44	38	102
31	294	-	513	369	-	631	-	239	-	46	37	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,923	1,000	62	256	15,720
November	7,304	408	200	243	14,490
December	12,739	671	184	411	25,270
Calendar year 1946	213,042	4,470	15	584	422,580
January	11,181	494	260	361	22,180
February	12,449	556	369	445	24,690
March	18,397	1,140	385	593	36,490
April	24,620	1,070	604	821	48,830
May	40,729	2,480	153	1,314	80,780
June	12,346	1,260	55	412	24,490
July	1,313	72	26	42.4	2,600
August	2,094	270	35	67.5	4,150
September	3,599	321	33	120	7,140
Water year 1946-47	154,694	2,480	26	424	306,800

a No gage-height record; discharge computed on basis of records for Weber River at Gateway and Ogden River near Ogden.

Smith and Morehouse Creek near Oakley, Utah

Location.- Water-stage recorder, lat. 40°47', long. 111°06', in SW¼ sec. 36, T. 1 N., R. 7 E., 3 miles upstream from mouth and 10½ miles northeast of Oakley.

Records available.- October 1946 to September 1947 (discontinued).

Extremes.- Maximum discharge during year, 517 second-feet May 8 (gage height, 3.92 feet); minimum, 9.3 second-feet Feb. 8 (gage height, 1.43 feet), but may have been less during period of no gage-height record.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Flow partly regulated by small reservoir about 1 mile above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			12	12	11	11	15	101	203	112	32	16
2			12	12	11	11	15	156	242	104	40	15
3			12	b12	11	11	16	252	255	103	39	15
4			12	b12	11	11	16	371	222	98	37	15
5			*13	12	11	11	16	402	224	94	36	15
6			13	12	11	11	16	378	214	86	33	15
7		12	13	12	11	11	16	395	296	76	32	14
8			13	12	11	11	16	450	361	76	30	14
9			13	12	11	11	16	399	335	73	29	14
10			13	12	11	11	16	308	229	68	29	14
11			13	12	11	11	16	252	205	64	28	14
12			12	12	11	11	16	210	172	59	27	14
13			12	12	11	11	17	187	172	54	25	14
14		12	12	12	11	11	18	176	192	52	23	13
15		12	12	12	11	11	19	166	226	50	23	13
16	12	12	12	b12	11	11	22	189	274	48	21	13
17		11	12	12	11	11	25	224	274	48	21	14
18		11	*13	12	11	11	26	247	247	47	20	14
19		11	12	12	*11	11	28	274	239	45	19	14
20		12	13	11	11	12	30	288	314	44	19	14
21		12	13	11	11	12	33	342	247	43	19	14
22		12	13	11	11	12	37	348	189	42	19	14
23		12	13	11	11	13	43	320	125	41	18	13
24		12	13	11	11	13	46	288	96	39	18	13
25		12	13	11	11	14	45	326	131	39	18	13
26		12	13	11	11	14	45	342	143	38	18	13
27		12	13	11	11	14	46	335	150	36	17	13
28		12	12	11	11	14	46	279	141	35	17	13
29		12	b12	11	-	14	47	201	143	34	16	13
30		12	12	11	-	15	52	189	128	33	16	13
31		-	b12	11	-	15	-	192	-	32	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	372	-	-	12	738
November	357	-	-	11.9	708
December	388	13	12	12.5	770
Calendar year	-	-	-	-	-
January	360	12	11	11.6	714
February	308	11	11	11.0	611
March	371	15	11	12.0	736
April	815	52	15	27.2	1,620
May	8,587	450	101	277	17,030
June	6,389	361	96	213	12,670
July	1,813	112	32	58.5	3,600
August	755	40	16	24.4	1,500
September	416	16	13	13.9	825
Water year 1946-47	20,931	450	-	57.3	41,520

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Oct. 1 to Nov. 13, June 27 to July 15; discharge computed on basis of weather records and records for nearby stations.

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Chalk Creek at Coalville, Utah

Location.- Water-stage recorder and concrete control, lat. 40°55'10", long. 111°24'00", in NE¼SE¼ sec. 8, T. 2 N., R. 5 E., 100 feet downstream from bridge on U. S. Highway 189 in Coalville and a third of a mile upstream from mouth.
Drainage area.- 253 square miles.
Records available.- October 1904 to December 1905, April 1927 to September 1947.
Average discharge.- 20 years (1927-47), 54.7 second-feet.
Extremes.- Maximum discharge during year, 444 second-feet May 5 (gage height, 1.89 feet); minimum, 4.7 second-feet Dec. 29.
1927-47: Maximum discharge, 884 second-feet Aug. 21, 1940 (gage height, 3.41 feet, site and datum then in use); minimum, less than 1 second-foot for several days during June to November 1934.
Remarks.- Records good. Several diversions above station for irrigation, none below. Flow slightly regulated by Chalk Creek Reservoir (capacity, 1,200 acre-feet).

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-16, Feb. 20 to Mar. 9, June 27 to July 22)

0.3	6.6	0.8	75
.4	13	1.0	123
.5	24	1.3	213
.6	38	1.7	361
.7	55		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	24	24	17	16	19	55	163	166	82	12	17
2	20	22	24	17	17	18	57	216	160	73	14	17
3	17	18	22	15	*18	19	63	313	151	65	13	17
4	15	20	*28	b11	18	20	53	378	157	59	18	16
5	18	23	28	b11	18	16	43	399	134	55	22	15
6	19	24	30	*b13	18	17	38	365	126	50	21	14
7	22	27	30	b14	17	17	37	361	120	48	20	13
8	23	25	30	16	17	21	37	390	113	46	20	13
9	22	24	24	17	17	19	45	381	160	45	23	14
10	21	20	24	16	18	25	41	325	166	43	63	17
11	20	17	27	16	18	32	38	333	187	41	48	18
12	19	18	25	16	18	25	35	310	210	38	37	19
13	21	19	25	16	21	25	40	317	194	35	35	19
14	21	25	24		20	38	63	329	210	34	32	17
15	20	21	24		22	69	84	283	187	34	34	18
16	19	15	22	b16	25	98	84	276	166	37	35	18
17	23	18	8.7		30	154	77	279	157	40	34	27
18	24	21	11		28	207	84	279	163	38	50	31
19	22	25	15		24	220	77	279	143	34	28	34
20	21	24	20	17	21	191	89	269	145	28	25	25
21	21	16	20	17	20	163	108	269	207	30	25	24
22	20	28	22	17	21	169	123	254	184	25	32	23
23	21	34	23	17	22	194	116	233	181	28	31	23
24	22	37	19	18	21	91	100	203	166	25	34	22
25	22	19	23	18	19	55	93	200	148	22	32	22
26	22	32	23	18	18	63	89	187	131	19	28	20
27	23	32	24	19	17	45	106	184	116	19	30	19
28	38	28	18	18	20	63	106	227	106	19	31	20
29	45	28	5.8	18	-	67	106	191	100	18	30	18
30	31	28	13	18	-	91	120	169	93	16	28	18
31	28	-	15	17	-	80	-	175	-	12	23	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	697	45	15	22.5	1,380
November	712	37	15	23.7	1,410
December	671.5	30	5.8	21.7	1,330
Calendar year 1946	23,829.2	485	5.8	65.3	47,250
January	503	19	11	16.2	998
February	561	30	17	20.0	1,110
March	2,331	220	16	75.2	4,620
April	2,207	123	35	73.6	4,380
May	8,517	399	163	275	16,890
June	4,647	210	93	155	9,220
July	1,158	82	12	37.4	2,300
August	888	63	12	28.6	1,760
September	588	34	13	19.6	1,170
Water year 1946-47	23,480.5	399	5.8	64.3	46,570

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Lost Creek near Croydon, Utah

Location.- Water-stage recorder, lat. 41°11', long. 111°24', in SW¼SE¼ sec. 8, T. 5 N., R. 5 E., 0.8 downstream from Francis Fork, 1.6 miles upstream from Hell Canyon, and 9½ miles northeast of Croydon.

Drainage area.- 133 square miles.

Records available.- February 1921 to December 1923. April 1941 to September 1947.

Extremes.- Maximum discharge during year, 175 second-feet May 3 (gage height, 3.14 feet); minimum not determined, occurred during period of ice effect.
1921-23, 1941-47: Maximum discharge, 770 second-feet May 10, 11, 18, 1923 (gage height, 4.20 feet, datum then in use), from rating curve extended above 200 second-feet; minimum, 3 second-feet for several days in August and September 1941, 1942.

Remarks.- Records fair. No diversion above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	11	11				40	112	39	25	10	7.1
2	10	10	11				39	131	44	24	11	6.8
3	11	10	*10			b10	43	151	41	22	12	6.8
4	11	9.6	11		(*)	(*)	39	161	40	21	11	6.5
5	11	9.6	12		b7		35	156	37	20	11	6.8
6	10	9.6	12			11	33	149	37	19	10	6.5
7	11	10	13	(*)		11	31	141	35	19	9.6	6.2
8	12	10	12			11	30	130	35	18	10	6.5
9	12	10	12			11	33	113	35	18	12	7.1
10	11	9.2	12			14	32	106	36	17	13	7.7
11	11	b8.8	12		7.4	16	31	108	36	17	13	7.7
12	11	b9.2	11		7.7	14	30	102	37	16	10	7.7
13	11	9.6	11		8.0	15	33	93	36	15	9.2	7.7
14	10	10	11		8.8	16	44	89	37	14	8.8	7.7
15	10	9.6	11		10	22	58	85	37	15	8.8	8.0
16	10	9.2	10	b8	11	31	*65	79	37	16	8.8	8.4
17	12	9.2	b9.8		11	44	66	76	37	16	8.4	11
18	12	9.2	b9.0		11	58	69	72	37	14	8.0	16
19	11	9.6	b8.4		10	57	69	66	37	14	7.7	14
20	10	b9.2	b8.6			49	79	61	37	13	8.0	11
21	10	b9.0	b8.8			49	93	59	37	12	8.8	10
22	10	b9.6	8.8			52	87	55	37	13	10	9.6
23	10	b11	9.2			58	75	52	37	14	9.2	9.6
24	10	b12	8.8		b10	37	72	49	37	12	8.8	9.6
25	9.6	b11	9.2			32	71	47	35	11	8.4	9.2
26	9.2	11	10			31	75	44	33	11	7.7	9.2
27	10	11	10			29	85	44	32	10	7.7	8.8
28	26	11	9.6			34	79	51	30	10	8.8	9.2
29	*19	11	b9.0		-	40	89	44	29	9.6	8.0	9.6
30	14	11	b8.6		-	49	102	41	28	9.2	7.7	9.6
31	12	-	b8.0		-	44	-	41	-	9.2	7.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	355.2	26	8.4	11.5	705
November	300.2	12	8.8	10.0	595
December	317.8	13	8.0	10.3	630
Calendar year 1946	13,646.3	370	7.1	37.4	27,070
January	248.0	-	-	8.00	492
February	244.9	-	-	8.75	486
March	885	58	-	28.5	1,760
April	1,727	102	30	57.6	3,430
May	2,708	161	41	87.4	5,370
June	1,082	44	28	36.1	2,150
July	474.0	25	9.2	15.3	940
August	292.8	13	7.4	9.45	581
September	261.6	16	6.2	8.72	519
Water year 1946-47	8,896.5	161	6.2	24.4	17,658

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

East Canyon Reservoir near Morgan, Utah

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

Drainage area.- 144 square miles.

Records available.- October 1937 to September 1947 in reports of Geological Survey. November 1931 to September 1947 in reports of Weber River water commissioner.

Extremes.- Maximum contents observed during year, 28,820 acre-feet May 29, June 9, 10, 12, 22 (gage height, 141.00 feet); minimum observed, 1,160 acre-feet Oct. 9.
1931-47: Maximum contents, 29,170 acre-feet June 2, 1943 (gage height, 141.67 feet); no contents Nov. 1, 1931, Sept. 2 to Nov. 1, 1934, Sept. 11 to Oct. 18, 1937, Sept. 11-28, 1946.

Remarks.- Reservoir was formed in 1896 by a 58-foot rock-fill dam (capacity, 3,850 acre-feet); raised 25 feet in 1900 (capacity, 9,000 acre-feet); raised 12 feet more in 1902 (capacity, 14,000 acre-feet), and later was replaced by present concrete dam, which formed a reservoir having a capacity of 28,730 acre-feet between gage heights 0.0 foot (bottom of outlet tunnel) and 140.8 feet (top of flashboards in spillway). Gage height of spillway crest is 135 feet. No dead storage. Water is used for irrigation in Davis and Weber Counties.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	4,320	-	-	-	-	-	28,780	-	-	-
2	-	-	-	-	8,220	10,050	-	-	28,780	-	-	-
3	-	-	-	-	-	-	-	-	28,720	-	24,400	-
4	-	-	-	-	-	-	-	23,380	28,720	28,390	-	-
5	-	-	-	6,700	-	-	-	-	28,740	-	-	-
6	-	-	-	-	-	-	16,760	-	28,750	28,170	-	-
7	-	-	-	-	-	-	-	-	28,750	-	-	20,030
8	-	-	4,990	-	-	-	-	-	28,760	-	-	-
9	1,160	-	-	-	8,630	10,500	-	-	28,820	-	-	-
10	-	2,810	-	-	-	-	-	-	28,820	-	23,500	-
11	-	-	-	-	-	-	-	25,750	28,780	-	-	-
12	-	-	-	7,080	-	-	-	-	28,820	-	-	-
13	-	-	-	-	-	-	17,960	-	28,800	27,370	-	-
14	-	-	5,410	-	-	-	-	-	28,760	-	-	19,190
15	-	-	-	-	-	-	-	-	28,760	-	-	-
16	-	-	-	-	9,060	11,280	-	-	28,760	-	-	-
17	-	3,200	-	-	-	-	-	-	28,760	-	22,630	-
18	-	-	-	-	-	-	-	28,430	28,740	-	-	-
19	-	-	-	7,400	-	-	-	-	28,760	-	-	-
20	1,570	-	-	-	-	-	19,500	-	28,760	26,420	-	-
21	-	-	-	-	-	-	-	-	28,800	-	-	19,160
22	-	-	5,880	-	-	-	-	28,550	28,820	-	-	-
23	-	-	-	-	9,580	13,820	-	28,600	28,740	-	-	-
24	-	3,860	-	-	-	-	-	28,600	28,760	-	21,730	-
25	-	-	-	-	-	-	-	28,610	28,760	-	-	-
26	-	-	-	7,800	-	-	-	28,610	28,760	-	-	-
27	1,870	-	-	-	-	-	21,190	28,650	28,760	25,400	-	-
28	-	-	-	-	a9,920	-	-	28,740	28,720	-	-	18,800
29	-	-	6,370	-	-	-	-	28,820	28,720	-	-	-
30	-	a4,260	-	-	-	15,420	a22,130	28,780	28,720	-	-	a18,790
31	a2,140	-	a6,460	a8,100	-	a15,610	-	28,740	-	a25,910	20,860	-

a No gage-height record; contents interpolated.

Monthly gage height and contents, water year October 1946 to September 1947

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	-	a100	-
Oct. 31	-	a2,140	+2,040
Nov. 30	-	a4,260	+2,120
Dec. 31	-	a6,460	+2,200
Calendar year 1946	-	-	-15,170
Jan. 31	-	a8,100	+1,640
Feb. 28	-	a9,920	+1,820
Mar. 31	-	a15,610	+5,690
Apr. 30	-	a22,130	+6,520
May 31	140.84	28,740	+6,610
June 30	140.80	28,720	-20
July 31	-	a25,910	-2,810
Aug. 31	124.63	20,860	-5,050
Sept. 30	-	a18,790	-2,070
Water year 1946-47	-	-	+18,690

a No gage-height record; contents interpolated.

East Canyon Creek near Morgan, Utah

Location.- Water-stage recorder and Lyman rectangular weir, lat. 40°55'20", long. 111° 36'20", in NW¼ sec. 10, T. 2 N., R. 3 E., 2,500 feet downstream from East Canyon Dam, 2½ miles upstream from Sheep Canyon, and 9 miles southeast of Morgan.

Drainage area.- 145 square miles.

Records available.- October 1937 to September 1947 in reports of Geological Survey. October 1931 to September 1947 in reports of Weber River water commissioner.

Average discharge.- 16 years (1931-47), 47.4 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 134 second-feet June 10, 12; minimum daily, 3.6 second-feet Jan. 5-20, Feb. 9.
1931-47: Maximum daily discharge, 412 second-feet Apr. 23, 1936; minimum daily, that of Jan. 5-20, Feb. 9, 1947.

Remarks.- Records good except those for period of no gage-height record, which are fair. No diversions between station and East Canyon Reservoir (see preceding page) which completely regulates flow.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	7.5	8.2	4.0	4.0	4.0	8.3	11	110	66	80	76
2	17	7.5	7.4	3.9	4.0	4.0	8.4	12	108	81	80	76
3	17	7.4	6.7	3.8	4.0	4.3	8.5	12	99	75	80	76
4	17	7.3	6.0	3.7	4.0	4.7	8.6	12	86	76	80	75
5	17	7.2	5.4	3.6	4.0	4.7	8.7	13	78	80	80	75
6	17	7.2	5.4	3.6	3.9	4.7	8.8	13	76	80	79	74
7	17	7.1	5.4	3.6	3.8	4.7	8.9	13	75	78	79	73
8	17	7.1	5.4	3.6	3.7	4.7	8.9	13	76	78	79	74
9	17	7.0	5.5	3.6	3.6	4.7	8.9	13	103	78	78	74
10	17	6.9	5.6	3.6	3.7	4.9	8.9	13	134	76	78	75
11	17	6.8	5.8	3.6	3.8	5.1	8.9	14	127	78	77	75
12	17	6.8	5.9	3.6	3.9	5.3	8.9	14	134	78	77	75
13	17	6.7	6.0	3.6	3.9	5.5	8.9	14	112	76	76	76
14	17	6.7	6.1	3.6	3.9	5.7	8.9	14	90	76	76	76
15	17	6.6	5.8	3.6	4.0	5.9	8.9	14	95	76	76	76
16	17	6.5	5.5	3.6	4.0	6.1	8.9	14	90	78	76	76
17	17	6.5	5.2	3.6	4.0	6.4	8.9	18	80	76	76	76
18	17	6.4	4.9	3.6	4.0	6.7	8.9	48	72	76	76	61
19	17	6.4	4.6	3.6	4.0	7.0	9.6	83	71	75	76	35
20	12	6.3	4.4	3.6	4.0	7.3	9.6	127	75	76	76	35
21	7.6	6.2	4.2	3.7	4.0	7.6	9.6	119	91	81	76	32
22	7.6	6.2	4.0	3.8	4.0	7.9	9.6	98	88	81	76	30
23	7.6	6.1	4.0	3.9	4.0	8.2	9.6	96	74	81	76	30
24	7.6	6.1	4.0	4.0	4.0	8.2	9.6	91	68	81	76	30
25	7.6	6.4	4.0	4.0	4.0	8.2	10	76	74	81	76	30
26	7.6	6.7	4.0	4.0	4.0	8.2	10	66	68	81	76	30
27	7.6	7.0	4.0	4.0	4.0	8.2	10	58	68	80	76	30
28	7.6	7.3	4.0	4.0	4.0	8.2	10	86	64	80	76	30
29	7.6	7.6	4.0	4.0	-	8.2	10	127	54	80	77	30
30	7.6	7.9	4.0	4.0	-	8.2	11	121	52	80	77	30
31	7.6	-	4.0	4.0	-	8.2	-	88	-	78	78	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	418.6	17	7.6	13.5	830
November	205.4	7.9	6.1	6.85	407
December	159.4	8.2	4.0	5.14	316
Calendar year 1946	31,541.4	284	4.0	86.4	62,560
January	116.4	4.0	3.6	3.75	231
February	110.2	4.0	3.6	3.94	219
March	195.7	8.2	4.0	6.31	388
April	276.7	11	8.3	9.22	549
May	1,511	127	11	48.7	3,000
June	2,592	134	52	86.4	5,140
July	2,417	81	66	78.0	4,790
August	2,395	80	76	77.3	4,750
September	1,711	76	30	57.0	3,390
Water year 1936-47	12,108.4	134	3.6	33.2	24,010

Note.- Daily discharge for periods Oct. 1 to Apr. 8, May 30 to June 2, June 11 to July 2, and Aug. 4 to Sept. 30 computed on basis of occasional staff-gage readings, results of discharge measurements, and record of gate changes.

Hardscrabble Creek near Porterville, Utah

Location.- Water-stage recorder, lat. 40°57'10", long. 111°43'00", in SW¼NW¼ sec. 34, T. 3 N., R. 2 E., two-thirds of a mile upstream from Tucker Hollow and 2⅔ miles southwest of Porterville.

Drainage area.- 24.9 square miles.

Records available.- October 1941 to September 1947. Fragmentary records December 1937 to August 1940 on file in State engineer's office.

Extremes.- Maximum discharge during year, 233 second-feet May 7 (gage height, 2.73 feet); minimum not determined, occurred during period of ice effect.
1941-47: Maximum discharge, 631 second-feet Aug. 20, 1945 (gage height, 3.60 feet), from rating curve extended above 180 second-feet; minimum recorded, 3.0 second-feet Feb. 11, 1944, but may have been less during periods of ice effect.

Remarks.- Records good except those for periods of ice effect, which are fair. A small transbasin canal diverts water from Arthurs Fork, a tributary of Hardscrabble Creek, to Farmington Creek for irrigation in vicinity of Farmington.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.2	8.6				47	118	59	25	11	7.2
2	10	b9.0	8.3				49	138	58	24	12	7.2
3	7.8	b8.6	8.3				50	165	61	23	12	7.0
4	8.0	b8.4	9.5			b6.4	49	185	55	21	12	7.0
5	8.3	b8.2	*10		(*)	(*)	43	199	50	21	11	6.8
6	8.0	b8.0	12				38	189	49	21	10	6.5
7	8.6	8.3	11			b6.6	36	207	48	21	9.8	6.2
8	8.6	8.3	11	(*)		b6.8	37	185	55	20	9.8	6.5
9	8.3	8.0	10			7.0	*40	155	64	19	10	7.0
10	8.0	7.8	9.8			8.9	37	146	50	19	14	7.0
11	7.8	b7.6	9.5			8.9	38	121	52	17	12	7.0
12	7.8	b7.8	9.5			8.3	40	118	54	16	10	7.0
13	7.8	8.0	9.5			8.9	48	152	51	16	9.8	6.8
14	7.8	8.0	9.5			11	61	143	50	15	9.5	6.2
15	7.8	8.0	9.5			14	77	143	48	16	9.5	6.5
16	8.6	8.3	8.9	b6.5		20	84	138	47	16	9.2	6.5
17	9.5	8.0	b8.3			27	84	135	46	15	8.9	8.3
18	9.8	7.8	b7.6			33	82	132	45	15	8.9	14
19	9.5	8.0	b7.4			37	82	123	44	14	8.6	8.9
20	9.5	7.8	b7.6		b8.0	38	93	118	44	13	8.6	8.0
21	9.5	b7.6	b8.0			40	104	113	43	13	8.9	7.8
22	9.5	b8.2	8.0			42	95	101	40	14	8.6	7.8
23	10	b9.0	8.0			58	80	95	38	14	8.3	7.5
24	9.2	b10	7.8			45	76	90	35	13	8.3	7.5
25	8.9	b9.6	8.0			38	74	88	33	12	7.8	7.2
28	9.2	9.5	11		b6.4	34	78	88	32	12	7.8	7.0
27	13	9.5	11			32	84	88	32	11	8.0	7.2
28	25	9.5	9.5			35	82	80	31	11	8.0	7.2
29	14	9.2	b8.0		-	39	93	70	29	11	7.5	7.5
30	*11	8.9	b7.0		-	51	106	64	27	10	7.2	8.0
31	9.8	-	b6.5		-	49	-	62	-	10	7.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	301.6	25	7.8	9.73	598
November	254.1	10	7.6	8.47	504
December	278.6	12	6.5	8.99	553
Calendar year 1946	12,199.6	238	-	33.4	24,200
January	201.5	-	-	6.50	400
February	195.1	-	-	6.97	387
March	736.8	58	-	23.8	1,460
April	1,987	106	36	66.2	3,940
May	3,949	207	62	127	7,830
June	1,370	84	27	45.7	2,720
July	498	25	10	16.1	988
August	294.2	14	7.2	9.49	584
September	222.3	14	6.2	7.41	441
Water year 1946-47	10,288.2	207	6.2	28.2	20,400

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

South Fork Ogden River near Huntsville, Utah

Location.- Water-stage recorder, lat. 41°16', long. 111°40', in SE¼ sec. 12, T. 6 N., R. 2 E., half a mile downstream from Magpie Creek, 1 mile upstream from Huntsville Mountain Canal, and 5½ miles east of Huntsville.

Drainage area.- 148 square miles.

Records available.- March 1921 to September 1947.

Average discharge.- 26 years, 104 second-feet.

Extremes.- Maximum discharge during year, 778 second-feet May 3 (gage height, 3.83 feet); minimum discharge not determined, occurred during period of ice effect.
1921-47: Maximum discharge, 1,780 second-feet May 4, 1936 (gage height, 5.45 feet), from rating curve extended above 900 second-feet; minimum observed, 20 second-feet Nov. 25, 1931, July 28, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Small diversions above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	49	45		39	44	126	428	121	84	47	42
2	45	48	*45		39	44	132	517	128	81	49	41
3	44	46	45		39	43	138	645	117	77	50	41
4	44	46	45		39	43	132	709	112	76	51	42
5	44	45	47		*39	42	119	685	107	75	50	41
6	43	45	49		*40	42	114	625	103	72	49	41
7	44	46	52		41	42	108	593	97	71	48	41
8	45	46	50		41	43	108	540	105	69	50	42
9	44	45	49	(*)	41	44	119	479	125	66	54	42
10	43	45	49		41	50	112	432	114	66	63	42
11	43	45	49		41	57	110	422	125	64	56	42
12	43	45	49		41	54	108	390	136	63	51	42
13	43	45	49		42	56	114	359	140	62	50	42
14	44	45	49		44	63	140	338	140	61	49	41
15	44	45	49	b38	45	75	193	318	138	60	48	41
16	44	44	49		48	88	236	304	132	60	47	41
17	47	44	45		52	100	251	285	132	58	47	47
18	46	44	b42		52	114	256	269	126	57	46	54
19	44	45	48		51	119	256	246	119	56	45	48
20	44	48	48		49	121	290	226	119	55	46	45
21	44	45	46		47	123	329	212	123	54	46	44
22	44	45	46		46	130	307	197	117	53	45	43
23	45	50	45	(*)	45	159	272	179	107	53	43	43
24	43	52	45		46	126	259	166	103	50	43	43
25	43	48	45		45	112	256	155	102	49	44	43
26	44	48	49		45	103	277	146	97	49	43	43
27	48	47	49		44	96	312	142	97	49	45	43
28	61	46	48		44	97	299	142	94	49	44	43
29	58	46	b44		-	114	326	130	91	49	43	43
30	52	46	b40		-	140	387	123	86	48	42	43
31	51	-	b43		-	136	-	123	-	47	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,416	61	43	45.7	2,810
November	1,384	52	44	46.1	2,750
December	1,453	52	40	46.9	2,880
Calendar year 1946	50,858	1,250	-	139	100,900
January	1,178	-	-	38	2,340
February	1,226	52	39	43.8	2,430
March	2,620	159	42	84.5	5,200
April	6,186	387	108	206	12,270
May	10,525	709	123	340	20,880
June	3,453	140	86	115	6,850
July	1,883	84	47	60.7	3,730
August	1,475	63	41	47.6	2,930
September	1,289	54	41	43.0	2,560
Water year 1946-47	34,088	709	-	93.4	67,630

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Pine View Reservoir near Ogden, Utah

Location.- Staff gage, lat. 41°15'20", long. 111°50'25", in NW¼SE¼ (corrected) sec. 16, T. 6 N., R. 1 E., at trash rack at Pine View Dam on Ogden River, 7 miles northeast of Ogden. Datum of gage is at mean sea level, datum of 1929 (levels by Bureau of Reclamation).

Drainage area.- 310 square miles.

Records available.- November 1936 to September 1947.

Extremes.- Maximum contents during year, 43,580 acre-feet May 11-27 (elevation, 4,872.00 feet); minimum, 2,790 acre-feet Jan. 12 (elevation, 4,832.81 feet).
1936-47: Maximum contents, 45,370 acre-feet May 17, 1938 (elevation, 4,873.00 feet); minimum, 80 acre-feet Feb. 19, 1937 (elevation, 4,818.99 feet).

Remarks.- Reservoir is formed by earth-fill, rock-faced dam; storage began Nov. 16, 1936. Capacity, 43,580 acre-feet between elevations 4,818 feet (sill of trash-rack structure) and 4,872 feet (top of spillway gates); during September 1939 sills of radial spillway gates were raised 1 foot, thus changing top of spillway gates from elevation 4,871 to 4,872 feet. Dead storage, 45 acre-feet (below elevation 4,818 feet), which must be deducted from figures of total contents shown in tables to obtain usable contents. Water is used for irrigation on Ogden River project. Gage read daily at 8 a.m.; contents are as of that time.

Cooperation.- Capacity table furnished by Bureau of Reclamation.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,150	8,190	9,410	3,980	3,090	3,870	14,990	33,780	43,000	40,270	27,320	18,690
2	8,090	8,190	9,530	3,770	3,100	3,930	15,320	34,920	42,930	39,850	26,870	18,380
3	8,010	8,160	9,610	3,590	3,140	4,110	15,740	36,470	42,930	39,460	26,480	18,030
4	7,930	8,160	9,700	3,370	3,160	4,150	16,250	38,190	42,930	39,060	26,160	17,680
5	7,850	8,160	9,500	3,040	3,160	4,230	16,500	38,310	42,860	38,740	25,830	17,330
6	7,850	8,160	9,310	2,820	3,140	4,270	17,110	41,080	42,790	38,350	25,500	16,990
7	7,850	8,160	9,070	2,820	3,120	4,350	17,270	41,920	42,660	37,950	25,120	16,640
8	7,870	8,190	8,900	2,810	3,090	4,410	17,520	42,930	42,520	37,560	24,540	16,300
9	7,870	8,210	8,720	2,810	3,070	4,490	17,780	42,930	42,520	37,160	24,470	16,000
10	7,870	8,240	8,550	2,810	3,020	4,540	18,210	43,070	42,520	36,780	24,470	15,700
11	7,850	8,280	8,320	2,810	3,020	4,620	18,470	43,580	42,520	36,270	24,530	15,420
12	7,850	8,300	8,040	2,790	3,020	5,020	18,730	43,580	42,520	35,890	24,530	15,120
13	7,820	8,300	7,820	2,820	3,020	5,380	18,990	43,580	42,570	35,380	24,320	14,840
14	7,790	8,330	7,600	2,860	3,020	5,670	19,250	43,580	42,850	34,870	24,100	14,550
15	7,790	8,360	7,380	2,860	3,020	6,050	19,800	43,580	43,120	34,370	23,890	14,220
16	7,790	8,360	7,230	2,860	3,050	6,710	20,530	43,580	43,400	34,010	23,640	13,910
17	7,740	8,380	6,960	2,860	3,090	7,400	21,500	43,580	43,490	33,630	23,390	13,690
18	7,740	8,380	6,710	2,860	3,130	8,020	21,210	43,580	43,350	33,260	23,140	13,760
19	7,790	8,410	6,450	2,870	3,200	8,710	23,110	43,580	43,210	32,770	22,880	13,760
20	7,770	8,440	6,250	2,890	3,280	9,320	24,280	43,580	43,060	32,420	22,520	13,760
21	7,770	8,470	6,010	2,890	3,370	9,880	25,380	43,580	42,850	31,940	22,170	13,720
22	7,740	8,490	5,760	2,890	3,430	10,530	26,390	43,580	42,710	31,530	21,820	13,690
23	7,740	8,490	5,590	2,890	3,480	11,330	27,400	43,580	42,570	31,110	21,580	13,610
24	7,710	8,570	5,350	2,910	3,550	12,100	28,080	43,580	42,460	30,700	21,250	13,540
25	7,710	8,750	5,160	2,910	3,600	12,600	28,780	43,580	42,260	30,290	20,910	13,460
26	7,710	8,860	4,980	2,930	3,660	12,970	29,470	43,580	41,980	29,820	20,530	13,390
27	7,710	8,960	4,800	2,960	3,730	13,180	30,170	43,580	41,700	29,430	20,160	13,260
28	7,770	9,080	4,680	2,980	3,810	13,430	30,990	43,440	41,280	29,020	19,840	13,190
29	7,970	9,200	4,550	3,000	-	13,720	31,830	43,300	40,940	28,620	19,570	13,080
30	8,080	9,290	4,320	3,030	-	14,180	32,670	43,300	40,600	28,220	19,260	13,010
31	8,190	-	4,200	3,070	-	14,590	-	43,160	-	27,770	18,950	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	4,842.51	8,150	+40
Nov. 1	4,842.57	8,190	+1,220
Dec. 1	4,844.28	9,410	-5,430
Calendar year 1946	-	-	+850
Jan. 1	4,835.42	3,980	-890
Feb. 1	4,833.49	3,090	+780
Mar. 1	4,835.20	3,870	+11,120
Apr. 1	4,850.80	14,990	+18,790
May 1	4,865.97	33,780	+9,220
June 1	4,871.67	43,000	-2,730
July 1	4,870.07	40,270	-12,950
Aug. 1	4,861.42	27,320	-8,630
Sept. 1	4,854.35	18,690	-5,750
Oct. 1	4,848.64	12,940	-
Water year 1946-47	-	-	+4,790

Ogden River below Pine View Dam, near Ogden, Utah

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

Drainage area.- 321 square miles.

Records available.- October 1937 to September 1947, not including flow of Pine View pipe line. 1895-96, January 1904 to October 1912, October 1931 to September 1937 at same site, including flow of pipe line, published as Ogden River near Ogden.

Extremes (regulated).- Maximum discharge during year, 722 second-feet May 8 (gage height, 4.36 feet); minimum not determined, occurred during period of no gage-height record.
1937-47: Maximum discharge, 2,290 second-feet June 7, 1945 (gage height, 6.73 feet); minimum, 0.3 second-foot at times when reservoir gages were closed.

Remarks.- Records fair. Flow regulated by Pine View Reservoir (see preceding page). Pine View pipe line diverts water above station for use in irrigation and power development. Diversions for irrigation and municipal supply above Pine View Reservoir.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 18 to Nov. 23)

0.9	1.6	1.3	9.0	2.4	125
1.0	2.6	1.5	18	2.8	205
1.1	4.0	1.7	31	3.4	368
1.2	6.0	2.0	63	3.9	541

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	2.3	3.0	2.6			a29	22	28	32	28	16
2	7.2	1.9	3.0	2.6			29	29	29	33	29	18
3	2.0	2.0	2.9	2.5			23	33	26	33	28	19
4	1.8	2.0	3.4	2.4			20	60	25	32	25	19
5	1.7	2.1	4.4	2.3		a2.3	16	295	25	31	23	19
6	1.7	2.0	7.5	2.0			16	346	22	31	21	19
7	1.8	2.1	7.8	2.0			15	343	19	30	21	19
8	1.8	2.1	5.8	2.1			16	543	23	31	22	19
9	1.6	2.0	5.0	2.1			22	523	32	31	16	19
10	1.7	2.0	4.4	2.0			18	362	28	32	13	20
11	1.8	2.0	4.2	2.0		a10	16	334	30	31	12	20
12	1.8	2.1	4.2	2.1			14	407	33	31	11	21
13	1.8	2.1	4.2	1.9			16	462	28	31	11	21
14	1.8	1.9	4.4	1.9			20	444	25	31	11	20
15	1.8	1.4	4.4		a1.5		23	280	24	31	9.0	14
16	1.9	1.3	4.2			a45	22	264	23	31	7.5	11
17	1.9	1.2	3.2				20	277	22	31	12	13
18	1.4	1.2	2.7				20	320	19	31	13	11
19	1.0	1.2	2.7				19	331	15	31	10	4.8
20	1.0	1.2	3.0				19	322	11	30	14	4.6
21	1.0	1.2	2.7			a50	22	236	20	30	19	4.6
22	1.0	1.2	2.6				24	158	30	36	20	4.6
23	1.3	9.3	2.6	a1.5			22	134	18	35	19	4.6
24	1.2	8.7	2.6				20	34	18	30	18	4.6
25	1.2	3.9	2.6				19	32	23	30	19	4.6
26	1.2	3.6	3.4				19	30	28	29	22	4.6
27	1.4	3.4	3.7			a20	19	31	28	29	24	4.6
28	2.9	3.3	3.4				19	30	33	29	15	4.6
29	2.9	3.2	2.7		-		19	29	36	30	18	4.6
30	2.4	3.0	2.7		-		21	28	36	29	18	4.6
31	2.3	-	2.7		-	a30	-	28	-	29	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	70.3	14	1.0	2.27	139
November	76.9	9.3	1.2	2.56	153
December	116.1	7.8	2.6	3.75	230
Calendar year 1946	42,805.3	1,520	-	117	84,900
January	56.0	2.6	-	1.81	111
February	42.0	-	-	1.50	83
March	695.7	-	-	22.4	1,380
April	597	29	14	19.9	1,180
May	6,767	543	22	218	13,420
June	757	36	11	25.2	1,500
July	961	36	29	31.0	1,910
August	546.5	29	7.5	17.6	1,080
September	373.4	21	4.6	12.4	741
Water year 1946-47	11,058.9	543	1.0	30.3	21,930

a No gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for nearby stations.

Jordan River at Narrows, near Lehi, Utah

Location.- Water-stage recorders, lat. 40°26'40", long. 111°55'20", in SE¼NW¼ sec. 26, T. 4 S., R. 1 W., at Narrows, 5½ miles northwest of Lehi and 7½ miles downstream from Utah Lake.

Drainage area.- 2,960 square miles, including 280 square miles in Cedar Valley.

Records available.- October 1934 to September 1947. May to December 1904 and July 1913 to September 1934 at outlet of Utah Lake, 7½ miles upstream.

Average discharge.- 34 years (1913-47), 359 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 887 second-feet July 21; minimum daily, 1.4 second-feet Apr. 15.
1913-47: Maximum daily discharge,1,370 second-feet June 8, 1922 (gage height, 7.78 feet, site and datum then in use); no flow at times when gates were closed.

Remarks.- Records excellent except those below ten second-feet, which are good. They represent combined flow of Jordan River, Utah & Salt Lake Canal, and East Jordan Canal. Flow completely regulated by gates and pumps at outlet of Utah Lake, pumps at Pelican Point, and diversion dam at Narrows.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	541	16	17	16	10	21	95	371	621	774	771	759
2	525	16	17	17	10	23	236	472	592	811	764	759
3	509	16	17	17	10	30	48	563	536	832	767	747
4	433	16	17	17	12	25	17	678	453	835	755	742
5	373	16	17	17	13	25	14	700	439	840	646	773
6	272	16	17	17	14	19	16	687	474	832	689	794
7	151	16	17	17	15	19	22	685	561	840	693	799
8	67	16	17	17	15	17	23	678	577	707	692	778
9	65	16	17	17	16	19	25	688	397	867	668	783
10	64	16	17	17	22	18	46	676	317	876	612	777
11	65	16	17	17	37	15	29	648	265	841	476	778
12	66	16	17	17	40	16	28	401	202	839	491	750
13	67	16	17	17	41	16	27	308	214	839	590	745
14	67	16	17	17	40	13	8.5	290	209	841	674	745
15	30	16	17	18	36	15	1.4	334	204	839	679	747
16	17	17	17	18	35	15	89	449	271	836	685	695
17	16	16	17	18	31	14	183	494	375	843	681	659
18	16	16	17	18	31	16	196	506	483	871	710	448
19	16	16	17	18	22	19	205	564	573	875	744	353
20	15	16	17	18	23	23	203	613	620	882	777	356
21	15	16	17	14	21	29	199	668	587	887	765	361
22	16	16	17	12	20	33	210	714	569	884	787	342
23	16	16	17	12	20	34	193	767	585	840	810	367
24	16	16	17	22	17	24	194	751	629	789	809	423
25	16	17	17	34	20	16	207	745	672	792	815	460
26	16	17	17	26	17	9.0	209	743	704	786	772	482
27	16	16	17	16	16	11	252	734	703	784	763	469
28	17	16	17	11	19	7.1	323	711	734	781	772	494
29	16	17	17	9.0	-	15	320	698	734	807	758	514
30	16	17	17	13	-	9.5	296	726	739	810	757	515
31	16	-	17	8.5	-	7.5	-	706	-	810	757	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,551	541	15	115	7,040
November	485	17	16	16.2	962
December	527	17	17	17	1,050
Calendar year 1946	119,041.5	876	3	326	236,100
January	522.5	34	8.5	16.9	1,040
February	626	41	10	22.4	1,240
March	573.1	34	7.1	18.5	1,140
April	3,914.9	323	1.4	130	7,770
May	18,768	767	290	605	37,230
June	15,039	739	202	501	29,830
July	25,690	887	707	829	50,960
August	22,129	815	476	714	43,890
September	18,394	799	342	613	36,480
Water year 1946-47	110,219.5	887	1.4	302	218,600

Jordan River at Salt Lake City, Utah

Location.- Water-stage recorder, lat. 40°44', long. 111°55', in SW¼SW¼ sec. 14, T. 1 S., R. 1 W., a quarter of a mile downstream from highway bridge on Twenty-first South Street, Salt Lake City, and 2 miles downstream from Mill Creek. Datum of gage is 4,220.73 feet above mean sea level (datum of 1929).

Records available.- December 1942 to September 1947.

Extremes (regulated).- Maximum discharge during year, 235 second-feet June 9 (gage height, 4.43 feet); minimum daily, 76 second-feet June 24.
Maximum combined discharge during year (Jordan River and Surplus Canal), 758 second-feet June 9; minimum daily, 166 second-feet July 1.
1942-47: Maximum discharge, 384 second-feet June 3, 1944 (gage height, 5.55 feet); minimum daily, 13 second-feet Apr. 9, 13, 14, 1943, July 19, 1944.
Maximum combined discharge (Jordan River and Surplus Canal), 1,190 seccnd-feet June 3, 1944; minimum daily, 145 second-feet May 18, 1946.

Remarks.- Records good. Flow regulated by gates and pumps at outlet of Utah Lake. Many diversions above station for irrigation and industrial and municipal water supplies. Surplus Canal diverts water 1,000 feet above station (see p. 119). For records of combined flow see following page.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171	127	140	129	140	147	81	114	185	83	150	128
2	187	157	147	128	143	152	81	116	182	87	154	168
3	191	150	146	126	145	158	114	127	187	85	148	194
4	193	149	145	125	150	159	106	136	201	108	158	138
5	197	148	138	123	153	156	80	149	187	108	178	124
6	173	147	129	122	154	151	76	114	175	114	204	139
7	153	145	138	122	154	149	76	113	154	116	199	137
8	155	148	145	122	152	151	80	112	171	123	186	142
9	160	148	139	120	152	149	96	108	208	131	168	150
10	156	147	135	119	157	146	96	101	184	142	181	160
11	140	145	131	119	164	145	88	105	179	136	222	166
12	141	144	131	117	166	145	87	114	203	128	200	166
13	142	143	129	118	165	145	82	115	176	126	195	165
14	143	145	128	117	164	140	78	99	158	129	183	163
15	141	145	127	116	162	138	80	89	150	132	180	168
16	142	143	126	113	161	136	83	96	126	141	182	174
17	164	141	122	120	159	137	89	102	117	144	177	185
18	182	140	122	128	155	137	90	103	124	145	166	219
19	176	137	122	128	155	138	92	110	116	146	164	218
20	169	138	123	128	152	143	100	107	108	146	162	194
21	173	138	123	130	154	126	110	114	137	152	164	192
22	172	138	121	130	149	111	117	115	136	171	173	192
23	170	140	122	129	148	117	108	126	94	180	172	190
24	164	140	123	129	148	122	102	116	76	161	171	182
25	160	131	123	136	147	118	102	112	77	153	165	173
26	154	147	130	152	144	111	107	127	85	145	156	162
27	158	143	148	154	146	107	108	159	84	136	148	160
28	177	136	146	148	148	105	111	182	81	140	172	162
29	187	134	142	145	-	102	114	172	82	132	156	162
30	154	139	136	140	-	105	116	157	86	144	126	172
31	123	-	131	140	-	89	-	173	-	148	87	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,068	197	123	163	10,050
November	4,273	157	127	142	8,480
December	4,108	148	121	133	8,150
Calendar year 1946	51,978	248	47	142	103,100
January	3,973	154	113	128	7,880
February	4,287	166	140	153	8,500
March	4,135	159	89	133	8,200
April	2,850	117	76	95.0	5,650
May	3,783	182	89	122	7,500
June	4,229	208	76	141	8,390
July	4,132	180	83	133	8,200
August	5,247	222	87	169	10,410
September	5,045	219	124	168	10,010
Water year 1946-47	51,130	222	76	140	101,400

Combined discharge, in second-feet, of Jordan River and Surplus Canal at Salt Lake City, Utah, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	284	323	275	226	212	222	194	282	373	166	267	222
2	340	300	286	224	218	234	214	290	367	172	274	220
3	343	274	284	219	223	255	335	324	437	170	258	239
4	346	269	279	216	234	257	309	348	537	206	307	218
5	351	270	264	213	243	250	239	413	461	195	346	217
6	338	268	249	212	247	235	224	390	414	188	444	223
7	333	263	272	211	247	228	220	410	328	184	431	212
8	336	269	293	210	243	234	237	408	383	199	377	225
9	348	268	276	208	242	227	279	400	568	221	325	248
10	338	265	267	204	256	216	281	406	579	247	373	266
11	286	261	255	200	282	216	256	444	581	235	504	280
12	284	258	254	196	283	214	253	485	724	204	410	276
13	274	256	245	197	282	210	235	501	630	210	369	273
14	270	265	240	196	279	199	222	452	563	215	320	273
15	259	265	239	194	271	194	224	414	533	219	324	270
16	259	261	236	188	264	190	235	396	460	254	327	291
17	295	255	229	183	256	191	249	383	428	247	311	324
18	308	252	227	184	247	191	250	363	429	250	291	449
19	293	243	224	182	248	192	246	346	402	250	278	473
20	280	246	225	182	238	200	251	317	378	244	267	399
21	282	261	226	184	242	197	267	301	447	275	262	382
22	278	270	222	185	227	202	295	269	435	328	266	374
23	270	314	222	183	225	216	286	281	337	344	264	368
24	254	408	224	181	224	226	270	255	259	290	265	360
25	248	356	224	196	219	220	261	234	229	262	250	353
26	234	315	231	239	211	212	261	225	170	250	245	301
27	242	293	259	244	219	201	260	265	183	233	240	290
28	367	272	278	231	226	196	268	321	173	248	235	291
29	568	266	264	225	-	190	278	332	177	231	231	287
30	525	278	246	212	-	196	286	291	172	253	227	314
31	403	-	233	213	-	202	-	329	-	265	224	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	9,838	568	234	317	19,510
November	8,364	408	243	279	16,590
December	7,748	293	222	250	15,370
Calendar year 1946	93,626	648	145	257	185,700
January	6,338	244	181	204	12,570
February	6,808	283	211	243	13,500
March	6,613	257	190	213	13,120
April	7,685	335	194	256	15,240
May	10,875	501	225	351	21,570
June	12,157	724	170	405	24,110
July	7,255	344	166	234	14,390
August	9,512	504	224	307	18,870
September	8,918	473	212	297	17,690
Water year 1946-47	102,109	724	166	280	202,500

Spanish Fork at Thistle, Utah

Location.- Water-stage recorder, lat. 40°00', long. 111°30', in SW¼ sec. 28, T. 9 S., R. 4 E., at Thistle, 600 feet downstream from confluence of Soldier Fork and Thistle Creek and 2½ miles upstream from Diamond Fork.

Drainage area.- 490 square miles.

Records available.- January 1908 to September 1925 and October 1936 to September 1947 in reports of Geological Survey, January 1933 to September 1947 in reports of Spanish Fork water commissioner.

Average discharge.- 31 years (1908-25, 1933-47), 95.7 second-feet.

Extremes.- Maximum discharge during year, 473 second-feet May 8 (gage height, 4.04 feet); minimum, 27 second-feet Aug. 31.
1908-25, 1933-47: Maximum discharge observed, 1,250 second-feet May 26, 1922; minimum observed, 10 second-feet Sept. 17, 22, 25, Oct. 25, 1934.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	47	51	b41	b45	58	102	242	139	70	36	40
2	38	45	51	b41	b46	58	106	286	129	64	39	38
3	32	41	50	b41	*b47	55	109	350	124	62	40	38
4	32	44	53	b40	*48	54	104	399	122	63	42	39
5	34	45	*54	b39	49	54	98	425	112	59	44	36
6	34	42	55	b40	51	53	97	446	a105	62	46	38
7	36	45	58	*40	50	55	94	443	a100	62	41	36
8	38	47	54	b39	48	58	94	451	a100	60	39	37
9	36	46	51	b39	49	62	107	420	a110	60	43	37
10	35	43	47	b40	50	79	109	384	97	50	50	34
11	37	44	49	b40	53	85	102	358	100	51	51	33
12	37	46	50	b39	54	76	95	352	85	50	47	33
13	38	48	49	b39	59	89	100	319	76	52	47	32
14	38	49	49	b39	63	104	120	294	73	53	54	32
15	38	47	49	b37	64	170	145	276	70	52	41	32
16	39	45	48	b35	70	204	161	261	68	52	42	32
17	43	43	38	b36	73	182	166	256	66	49	43	53
18	43	46	38	b37	80	157	174	249	66	41	43	33
19	42	47	38	b39	73	143	174	240	72	39	44	34
20	43	49	46	b42	67	139	195	224	85	37	46	36
21	44	45	44	b42	62	131	215	212	102	38	57	35
22	44	48	47	b42	63	129	233	217	95	40	48	34
23	44	63	49	b44	68	174	212	206	76	41	40	34
24	44	74	47	46	76	124	189	191	70	39	40	33
25	43	52	50	48	70	111	176	184	74	40	40	30
26	45	52	51	45	68	104	176	176	80	38	40	29
27	47	53	59	51	70	98	184	168	78	38	41	29
28	67	54	53	52	62	95	189	172	73	38	45	30
29	68	53	43	50	-	100	197	159	73	34	44	31
30	54	51	42	b48	-	104	217	151	72	33	48	32
31	48	-	42	b45	-	104	-	145	-	33	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,293	68	32	41.7	2,560
November	1,454	74	41	48.5	2,880
December	1,505	59	38	48.5	2,990
Calendar year 1946	26,865	329	28	73.6	53,290
January	1,296	52	35	41.8	2,570
February	1,678	80	45	59.9	3,330
March	3,209	204	53	104	6,360
April	4,440	233	94	148	8,810
May	8,656	451	145	279	17,170
June	2,692	139	66	89.7	5,340
July	1,500	70	33	48.4	2,980
August	1,362	57	36	43.9	2,700
September	1,040	53	29	34.7	2,060
Water year 1946-47	30,125	451	29	82.5	59,750

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Spanish Fork at Castilla and Diamond Fork near Thistle.
b Stage-discharge relation affected by ice.

Spanish Fork at Castilla, Utah

Location.- Water-stage recorder, lat. 40°03'00", long. 111°32'45", in SW¼NE¼ sec. 12, T. 9 S., R. 3 E., 600 feet upstream from outlet of Cold Springs, 1 mile upstream from diversion dam of Bureau of Reclamation, 1½ miles northwest of Castilla, and 3 miles downstream from Diamond Fork.

Drainage area.- 670 square miles.

Records available.- May 1919 to September 1925 and October 1936 to September 1947 in reports of Geological Survey. January 1933 to September 1947 in reports of Spanish Fork water commissioner.

Average discharge.- 20 years (1919-25, 1933-47), 214 second feet.

Extremes.- Maximum discharge during year, 664 second-feet July 8 (gage height, 5.20 feet); minimum not determined.
1919-25, 1933-47: Maximum daily discharge, 1,520 second-feet May 22, 1920; minimum, 24 second-feet Jan. 19, 1943.

Remarks.- Records good except those for period of no gage-height record, which are fair. Several small diversions above station for irrigation. Flow is materially increased by water diverted by tunnel from Strawberry Reservoir (capacity, 250,000 acre-feet) in Colorado River Basin into Diamond Fork for irrigation in Jordan River Basin (see p.105).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	81	81	a54	68	84	171	364	343	477	305	250
2	200	79	80	a54	72	84	175	413	343	530	310	258
3	160	75	79	a53	75	83	177	484	370	555	268	294
4	160	78	81	a53	76	83	173	574	370	537	268	318
5	152	79	85	a54	78	83	160	597	313	544	286	324
6	146	74	85	a56	80	83	154	608	276	566	299	327
7	150	78	89	a60	78	84	148	608	236	601	266	305
8	144	80	86	a58	76	86	147	608	231	608	250	297
9	98	79	83	a58	76	89	175	563	273	593	258	297
10	89	75	75	a60	80	105	166	505	233	559	263	310
11	81	73	83	a60	84	119	158	477	226	548	214	294
12	80	76	81	a58	84	105	145	480	a165	470	201	253
13	80	78	81	a58	90	116	153	423	a145	385	187	233
14	80	80	80	a58	96	128	182	388	a135	341	171	231
15	78	78	80	a56	96	307	221	373	a130	358	187	250
16	76	75	79	a54	98	275	248	355	126	395	233	276
17	81	74	80	a57	104	271	258	346	128	410	260	316
18	79	75	53	a62	112	254	271	341	126	391	289	263
19	78	76	61	a66	102	232	268	332	160	382	329	175
20	76	81	75	69	94	210	299	308	212	382	398	138
21	76	75	70	68	89	196	343	410	212	401	463	138
22	75	79	73	69	90	198	370	480	164	394	388	140
23	75	100	76	72	93	320	341	523	136	302	346	140
24	74	119	73	73	102	202	299	537	124	212	324	147
25	74	86	78	74	96	164	281	544	124	248	302	151
26	75	85	80	.5	93	158	276	544	128	258	338	143
27	78	86	92	78	94	148	291	559	124	268	385	132
28	114	84	85	78	88	156	294	544	201	284	391	132
29	129	84	60	76	-	164	299	453	313	286	376	145
30	93	81	58	67	-	175	332	410	417	297	321	164
31	84	-	a56	73	-	171	-	376	-	281	278	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,231	200	74	104	6,410
November	2,423	119	73	80.8	4,810
December	2,358	92	53	76.1	4,680
Calendar year 1946	79,068	617	53	217	156,800
January	1,961	78	53	63.3	3,890
February	2,464	112	68	88.0	4,890
March	4,933	320	83	159	9,780
April	6,975	370	145	232	13,850
May	14,527	608	308	469	28,810
June	6,484	417	124	216	12,860
July	12,863	608	212	415	25,510
August	9,154	463	171	295	18,160
September	6,841	327	132	228	13,570
Water year 1946-47	74,214	608	53	203	147,200

a No gage-height record; discharge computed on basis of 1 discharge measurement, weather records, and records for other Spanish Fork stations.

Spanish Fork near Lake Shore, Utah

Location.- Water-stage recorder and low-water timber control, lat. 40°10', long. 111°44', in SE¼SE¼ sec. 32, T. 7 S., R. 2 E., 400 feet downstream from bridge, 1 mile upstream from mouth, and 2½ miles north of Lake Shore.

Drainage area.- 700 square miles.

Records available.- January 1938 to September 1947. December 1903 to July 1907 and March 1909 to September 1925 at site 3 miles upstream.

Average discharge.- 26 years (1904-6, 1909-19, 1920-25, 1938-47), 91.4 second-feet.

Extremes.- Maximum daily discharge during year, 360 second-feet Mar. 23; no flow on several days.

1903-7, 1909-25, 1938-47: Maximum discharge observed, 1,430 second-feet May 11, 1909; practically no flow at times during irrigation season of most years.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Flow regulated by many diversions for irrigation and hydroelectric power plant. During latter part of irrigation season only waste and return waters pass gage. Station is below all diversions.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	88	95	65	78	97	192	103	0.5	1.0	0.2	0
2	12	84	94	64	93	96	194	102	.3	0.5	3.0	0
3	1.4	72	94	64	90	96	204	114	.4	.3	4.9	.4
4	.8	72	95	68	91	96	200	152	.1	.2	4.0	.1
5	7.6	80	98	66	92	96	193	168	0	.2	1.2	0
6	2.8	69	98	66	99	95	188	160	0	.2	1.2	0
7	10	72	104	70	94	94	181	130	0	.2	.9	0
8	14	85	104	74	94	98	178	80	0	.2	.7	0
9	30	83	101	80	98	102	197	68	0	.3	1	0
10	19	83	93	82	100	108	200	55	3.7	0	3.5	0
11	33	78	90	80	106	137	174	45	7.5	0	2.3	.3
12	59	84	91	80	116	118	122	35	32	0	.3	0
13	65	85	91	80	115	123	126	25	12	0	.3	0
14	67	83	90	80	130	133	134	15	12	.3	.3	0
15	60	84	87	80	131	180	155	11	11	.5	0	0
16	55	80	91	80	135	315	182	11	9.5	0	.2	.1
17	63	.76	83	80	130	300	189	9.8	8.8	0	.1	0
18	53	78	67	80	142	280	188	10	6.2	.2	.2	0.2
19	63	83	69	81	136	260	167	9.3	6.0	.1	0	2.5
20	61	83	79	82	116	240	161	8.8	8.8	0	0	
21	64	80	84	81	110	225	189	7.4	7.4	0	2.8	
22	64	83	83	82	112	230	205	6.9	9.3	0	6.4	
23	63	102	84	85	110	360	192	5.7	9.3	.9	1.4	
24	65	166	86	88	120	230	158	3.5	8.6	.5	1.0	
25	65	110	82	90	110	180	147	2.5	6.0	.4	.9	2.5
26	65	104	90	94	107	174	126	2.1	5.4	0	.7	
27	69	101	110	96	108	159	155	4.0	4.6	.1	.7	
28	102	98	100	94	102	176	152	3.0	3.5	.1	.7	
29	152	102	70	96	-	185	116	.7	3.2	.6	.7	
30	108	98	68	86	-	199	108	.8	2.0	.1	.4	
31	90	-	66	90	-	197	-	.6	-	0	.1	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,592	152	0.6	51.3	3,160
November	2,647	166	69	88.2	5,250
December	2,737	110	66	88.3	5,430
Calendar year 1946	27,960	529	0.2	76.6	54,790
January	2,484	96	64	80.1	4,930
February	3,065	142	78	109	6,080
March	5,379	360	94	174	10,670
April	5,073	205	108	169	10,060
May	1,349	168	0.6	43.5	2,680
June	178	32	0	5.94	353
July	6.8	1.0	0	0.219	13
August	40.1	6.4	0	1.29	80
September	31.1	2.5	0	1.04	62
Water year 1946-47	24,580	360	0	67.3	48,770

Note.- No gage-height record Dec. 4, Dec. 25 to Jan. 25, Feb. 24 to Mar. 3, Mar. 15-26, May 8-12, June 5-9, June 30 to July 7, Sept 20-30, discharge interpolated, or computed on basis of records for station at Castilla.

Diamond Fork near Thistle, Utah

Location.- Water-stage recorder, lat. 40°02'15", long. 111°29'20", in NW¼NE¼ sec. 16, T. 9 S., R. 4 E., 1½ miles upstream from mouth, 3 miles north of Thistle, and 3½ miles downstream from Little Diamond Creek.

Drainage area.- 155 square miles.

Records available.- April 1940 to September 1947. December 1907 to September 1917 at site 1 1/3 miles downstream.

Average discharge.- 10 years (1914-17, 1940-47), 106 second-feet.

Extremes.- Maximum discharge during year, 556 second-feet (regulated) Aug. 21 (gage height 3.96 feet); minimum not determined.
1907-17, 1940-47: Maximum discharge observed, 735 second-feet May 9, 1909; minimum, 1.6 second-feet Nov. 26, 1944.

Remarks.- Records fair. Small diversions above station for irrigation. Flow is materially increased by water diverted by tunnel from Strawberry Reservoir in Colorado River Basin (capacity, 250,000 acre-feet) for irrigation in Jordan River Basin (see p. 105).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	161	12	15		11	15	48	98	173	420	263	208
2	145	10	14		12	16	48	108	178	481	263	210
3	117	12	14		14	16	48	123	210	470	215	252
4	115	19	15	8	15	17	46	139	218	464	215	273
5	100	17	*17		15	18	44	143	180	481	236	271
6	98	16	17		16	18	41	139	150	493	246	265
7	100	16	18	*b9.8	15	18	40	136	115	508	215	244
8	85	17	17	10	14	18	40	134	123	529	205	238
9	39	17	16	10	14	18	46	128	157	517	210	236
10	26	16	13	10	16	19	42	117	121	508	205	249
11	20	15	16	10	15	20	41	119	100	490	152	236
12	18	16	15	10	16	20	40	125	64	438	152	192
13	16	17	15	9	16	20	42	108	56	362	139	180
14	16	18	15	8	17	22	50	100	54	320	125	178
15	12	18	14	7	18	28	62	96	52	332	151	202
16	11	16	14	7	18	35	71	94	49	374	200	223
17	13	14	b10	7	19	40	76	92	49	398	215	233
18	12	16	b8.0	7	22	46	78	92	48	384	252	198
19	11	16	8.5	8	20	49	78	90	78	361	287	110
20	11	18	15	8	18	50	83	89	113	358	347	79
21	11	16	14	8	17	49	92	204	85	395	412	83
22	10	17	13	b9	19	52	104	257	48	372	342	85
23	9.2	24	14	b9	18	85	92	310	42	275	303	89
24	10	23	12	b9	19	48	85	358	40	190	282	98
25	9.2	14	12	b10	18	40	81	370	39	233	260	104
26	9.2	17	13	10	17	40	79	361	37	236	295	98
27	9.2	18	14	8.0	19	36	87	375	40	241	347	89
28	24	16	13	7.5	16	44	87	347	120	249	347	89
29	55	16	12	8	-	46	87	282	235	249	333	100
30	24	16	b9	9	-	50	90	236	336	265	268	121
31	14	-	8	10	-	48	-	208	-	238	231	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,290.8	161	9.2	41.6	2,560
November	493	24	10	16.4	978
December	420.5	18	8.0	13.6	834
Calendar year 1946	46,417.3	556	8.0	127	92,050
January	266.3	10	7	8.59	528
February	464	22	11	16.6	920
March	1,041	85	15	33.6	2,060
April	1,948	104	40	64.9	3,860
May	5,578	375	89	180	11,060
June	3,310	336	37	110	6,570
July	11,631	529	190	375	23,070
August	7,713	412	125	249	15,300
September	5,233	273	79	174	10,380
Water year 1946-47	39,388.6	529	7	108	78,120

No gage-height record Oct. 31 to Nov. 3, Dec. 29, Dec. 31 to Jan. 7, Jan. 8-21, Jan. 29 to Feb. 2; discharge computed on basis of weather records and records for other Spanish Fork stations.
* Winter discharge measurement made on this day.
b Stage discharge relation affected by ice.

Strawberry tunnel at West Portal, near Thistle, Utah

Location.- Water-stage recorder and rectangular weir, lat. 40°09'40", long. 111°14'40", in sec. 34, T. 7 S., R. 6 E., 40 feet downstream from west portal of tunnel and 18 miles northeast of Thistle.

Records available.- October 1945 to September 1947. October 1922 to September 1925 and May 1932 to September 1945 in Spanish Fork water commissioner's reports and files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum daily discharge during year, 514 second-feet July 8; minimum, 5 second-feet (seepage) Oct. 9 to Apr. 30.

1922-25, 1932-47: Maximum daily discharge, 595 second-feet July 9, 1923; minimum daily observed, 4 second-feet many times when no water is being diverted from Strawberry Reservoir.

Remarks.- Records furnished by Spanish Fork Water Users' Association. They show water diverted from Strawberry Reservoir plus tunnel seepage for use on lands of Strawberry project.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134								130	384	264	193
2	117								153	462	243	202
3	100								186	461	201	251
4	101								177	452	209	268
5	86								133	467	228	268
6	86								106	480	234	265
7	86								70	509	190	241
8	50								96	514	182	236
9									104	487	192	234
10									80	489	175	251
11								5.5	25	473	125	227
12									6	395	131	181
13									6	313	115	179
14									6	277	105	176
15		5	5	5	5	5	5		6	304	145	208
16									6	348	194	226
17									6	362	209	224
18									14	345	250	170
19	5								70	334	287	81
20								38	83	337	337	70
21								144	19	364	371	77
22								221	6	336	310	79
23								267	6	219	279	84
24								304	6	141	259	97
25								320	6	223	240	98
26								322	6	218	292	91
27								343	29	229	350	83
28								286	125	245	334	86
29					-			228	248	250	317	99
30					-			189	327	260	241	118
31		-			-		-	163	-	230	209	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	875	134	-	28.2	1,740
November	150	-	-	5	298
December	155	-	-	5	307
Calendar year 1946	34,428.6	520	-	94.3	68,300
January	155	-	-	5	307
February	140	-	-	5	278
March	155	-	-	5	307
April	150	-	-	5	298
May	2,929.5	343	-	94.5	5,810
June	2,241	327	6	74.7	4,440
July	10,908	514	141	352	21,640
August	7,218	371	105	233	14,320
September	5,063	268	70	169	10,040
Water year 1946-47	30,139.5	514	-	82.6	59,780

Hobble Creek near Springville, Utah

Location.- Water-stage recorder, lat. 40°09'30", long. 111°31'30", in NE¼ sec. 6, T. 8 S., R. 4 E., 1,000 feet downstream from Springville hydroelectric plant, 1¼ miles downstream from Right Fork, and 4 miles southeast of Springville.

Drainage area.- 105 square miles.

Records available.- March 1904 to December 1916 (1906-7 gage heights only), April 1945 to September 1947.

Average discharge.- 12 years (1905, 1907-16, 1945-47), 58.4 second-feet.

Extremes.- Maximum discharge during year, 261 second-feet May 5 (gage height, 3.53 feet); minimum, 4.8 second-feet (regulated) Aug. 25.
1904-9, 1909-16, 1945-47: Maximum discharge observed, 824 second-feet Apr. 29, 1916 (gage height, 6.40 feet, site and datum then in use); minimum, 1.4 second-feet (regulated) Feb. 12, 1946.

Remarks.- Records good except those for periods of doubtful or no gage-height record, which are fair. Several diversions above station for irrigation. Flow regulated by hydroelectric plant at times during low stages.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	24	24		23	25	89	157	66	a40	22	20
2	17	24	24		24	25	97	171	62	a39	22	19
3	18	23	24		23	25	104	198	62	a37	22	17
4	20	23	23		22	24	97	232	62	a36	24	17
5	20	23	22		22	23	84	244	61	a34	22	17
6	22	22	21		22	23	76	218	60	a33	22	17
7	25	22	21		22	24	69	192	57	32	22	16
8	25	22	20		22	24	66	179	51	34	21	18
9	23	22	20		22	24	68	164	52	33	22	19
10	22	22	22		24	24	66	146	50	32	24	20
11	22	22		22	24	24	64	134	66	26	26	20
12	22	22			24	24	62	148	59	28	23	19
13	22	22			24	24	66	143	53	28	22	21
14	21	22			24	25	91	129	44	25	21	21
15	21	22			24	26	129	122	39	25	21	20
16	21	22			24	28	144	117	37	26	21	20
17	22	22			25	33	152	114	40	24	23	19
18	24	21			25	42	144	114	43	24	24	20
19	24	21			25	50	137	114	48	25	22	21
20	23	22			25	58	152	112	49	25	23	24
21	23	22	22		25	61	170	109	52	22	22	23
22	22	22		22	25	81	173	101	53	23	21	22
23	22	26		22	25	116	150	92	50	21	20	22
24	23	29		22	25	92	132	88	49	21	17	22
25	22	26		22	25	73	125	85	47	20	16	22
26	22	26		22	25	64	124	88	45	20	19	22
27	22	26		22	25	59	127	86	a44	20	19	22
28	30	25		23	25	65	125	85	a42	20	21	22
29	32	25		23	-	74	129	71	a44	23	22	21
30	26	25		23	-	91	143	73	a42	24	22	19
31	26	-		23	-	89	-	73	-	22	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	699	32	15	22.5	1,390
November	697	29	21	23.2	1,380
December	683	-	-	22.0	1,350
Calendar year 1946	14,816	336	-	40.6	29,390
January	686	-	-	22.1	1,360
February	670	25	22	23.9	1,330
March	1,440	116	23	46.5	2,860
April	3,355	173	62	112	6,650
May	4,099	244	71	132	8,130
June	1,529	66	37	51.0	3,030
July	842	40	20	27.2	1,670
August	668	26	16	21.5	1,320
September	602	24	16	20.1	1,190
Water year 1946-47	15,970	244	-	43.8	31,660

a No gage-height record; discharge computed on basis of weather records and records for Deer Creek near Wildwood.

Note.- Doubtful gage-height record Dec. 2-5, Dec. 12 to Jan. 21; discharge computed on basis of 2 discharge measurements, weather records, and records for Deer Creek near Wildwood.

Provo River near Charleston, Utah

Location.- Water-stage recorder, lat. 40°29', long. 111°28', in SW¼ sec. 11, T. 4 S., R. 4 E., 900 feet upstream from Snake Creek and 1½ miles northeast of Charleston.

Records available.- October 1945 to September 1947. October 1938 to September 1945 collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 1,620 second-feet May 28 (gage height, 2.85 feet); minimum, 27 second-feet Sept. 8.
1945-47: Maximum discharge, that of May 28, 1947; minimum, 25 second-feet Aug. 13, 1946.

Remarks.- Records poor. Many diversions above station for irrigation. Records include flow of Weber-Provo diversion canal (see p. 113). Flow also slightly affected by small lakes near headwaters that serve as reservoirs.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31		143	80	115	108	219	545	1,020	400	46	48
2	33		138	90	115	108	236	645	1,020	360	47	61
3	31	150	138	78	120	112	242	929	1,020	310	48	52
4	31		148	82	120	112	236	1,170	1,070	280	48	39
5	32		155	76	125	103	219	1,380	993	200	51	39
6	33	183	158	84	117	108	214	1,100	953	187	53	31
7	34	130	160	109	103	112	191	1,010	1,000	117	55	35
8	36	122	150	97	98	112	191	1,010	1,160	105	58	31
9	45	109	130	92	93	112	231	1,050	1,230	93	60	39
10	49	103	115	95	108	117	231	937	1,260	84	61	39
11	81	101	138	103	112	153	214	858	1,250	76	60	39
12	59		162	101	108	132	191	750	1,180	66	59	43
13	62		143	95	117	132	202	609	1,100	60	58	39
14	67		125	101	117	164	254	552	1,050	52	57	61
15	78	100	120	96	117	242	334	518	1,000	48	56	74
16	74		118	92	117	242	384	819	1,000		55	74
17	86		72	93	127	242	391	1,010	1,080		54	98
18	93		57	95	137	242	391	1,060	1,120		53	143
19	95	107	88	98	137	231	378	1,130	1,020		52	180
20	92	130	95	107	132	225	404	1,170	1,180		52	127
										45		
21	90	109	95	112	117	208	457	1,170	1,230		52	117
22	88	135	95	116	117	208	518	1,160	1,050		51	127
23	90	292	95	114	127	260	490	1,120	920		53	122
24	90	288	88	118	137	185	450	1,100	740		56	112
25	88	143	90	118	132	132	443	1,240	640		60	93
26	88	143	95	120	117	148	424	1,300	620		61	83
27	92	165	107	120	112	127	477	1,360	580		61	83
28	218	168	103	120	112	169	470	1,520	540	46	61	74
29	300	151	72	120	-	219	477	1,290	500		57	65
30	180	140	70	109	-	254	511	1,080	440		52	61
31	151	-	62	112	-	254	-	1,020	-		48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,595	300	31	83.7	5,150
November	4,169	292	-	139	8,270
December	3,525	182	57	114	6,990
Calendar year 1946	85,545	1,210	28	234	169,700
January	3,143	120	76	101	6,230
February	3,306	137	93	118	6,560
March	5,273	260	103	170	10,460
April	10,070	518	191	336	19,970
May	31,612	1,520	518	1,020	62,700
June	28,966	1,260	440	966	57,450
July	3,114	400	-	100	6,180
August	1,695	61	46	54.7	3,360
September	2,229	180	31	74.3	4,420
Water year 1946-47	99,697	1,520	31	273	197,700

Note.- No gage-height record Nov. 1-5, Feb. 1-5, July 9 to Aug. 25; indefinite stage-discharge relation Nov. 12-18 Dec. 4-10, 20-23, Dec. 30 to Jan. 1, Jan. 15-19, May 30 to June 3, June 9 to July 5, July 8; discharge computed on basis of 4 discharge measurements, weather records, a comparison with a compilation of records for upper Provo River Basin stations, and records for other nearby stations.

Deer Creek Reservoir near Charleston, Utah

Location.- Mercury indicating gage, lat. 40°24', long. 111°32', in SW¼SW¼ sec. 5, T. 5 S., R. 4 E., at dam on Provo River, half a mile upstream from Deer Creek and 4½ miles southwest of Charleston. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Records available.- December 1940 to September 1947.

Extremes.- Maximum contents observed during year, 153,100 acre-feet July 1 (elevation, 5,417.20 feet); minimum observed, 75,180 acre-feet Apr. 13 (elevation, 5,380.40 feet).
1940-47: Maximum contents observed, 154,400 acre-feet June 19, 1946 (elevation, 5,417.65 feet); minimum observed, 1,200 acre-feet Dec. 16, 1940 (elevation, 5,296.8 feet).

Remarks.- Reservoir is formed by earth-fill dam with concrete cut-off wall, completed in October 1941. Storage began in October 1940. Capacity, 152,560 acre-feet between elevations 5,280 feet (bottom of outlet tunnel) and 5,417 feet (top of 20-foot radial gates). Dead storage, 2,870 acre-feet below elevation 5,305 feet (sill of trash-rack structure). Water used for irrigation, domestic, and industrial purposes. Gage read once daily at 8 a.m.; contents given herein includes dead storage and is computed from 12 p.m. elevations which are based on trend indicated by 8 a.m. readings.

Cooperation.- Records of daily elevations and contents furnished by Provo River water commissioner.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108,500	111,400	113,600	95,890	80,340	76,550	76,180	80,770	117,300	153,100	141,800	132,600
2	108,300	111,400	113,200	95,280	80,200	76,410	76,230	81,520	118,700	152,900	141,400	132,300
3	108,000	111,500	112,800	94,670	80,060	76,280	76,280	82,780	120,500	152,700	141,100	132,000
4	107,800	111,600	112,400	94,020	79,910	76,140	76,210	84,200	122,300	152,400	140,700	131,600
5	107,600	111,600	112,100	93,360	79,750	76,010	76,130	85,540	124,000	152,200	140,400	131,300
6	107,600	111,700	111,800	92,670	79,560	75,880	75,940	86,800	125,600	151,800	140,000	130,900
7	107,600	111,800	111,600	91,950	79,390	75,750	75,760	87,620	126,900	151,400	139,700	130,500
8	107,600	111,800	110,500	91,250	79,220	75,610	75,580	88,440	128,600	151,000	139,400	130,100
9	107,600	111,900	109,700	90,540	79,050	75,480	75,420	89,360	130,300	150,700	139,100	129,700
10	107,600	111,900	109,100	89,840	78,880	75,430	75,270	90,000	132,200	150,300	138,900	129,300
11	107,600	111,900	108,600	89,140	78,710	75,430	75,250	90,460	134,100	149,800	138,600	128,800
12	107,700	111,900	108,100	88,480	78,540	75,430	75,230	90,780	135,900	149,200	138,400	128,400
13	107,800	112,000	107,600	87,890	78,370	75,430	75,180	90,780	137,500	148,800	138,100	128,000
14	107,900	112,000	107,000	87,290	78,200	75,480	75,300	90,430	138,900	148,300	137,800	127,700
15	108,000	112,000	106,400	86,670	78,030	75,680	75,520	90,090	140,200	147,900	137,600	127,300
16	108,100	112,000	105,800	86,060	77,860	75,900	75,810	90,560	141,500	147,500	137,300	127,100
17	108,200	112,000	105,100	85,450	77,720	76,130	76,260	91,860	143,000	147,000	137,100	126,900
18	108,300	112,000	104,400	84,840	77,590	76,340	76,700	93,320	144,500	146,600	136,800	126,800
19	108,500	112,000	103,700	84,240	77,450	76,550	77,130	94,880	145,800	146,200	136,500	126,600
20	108,600	112,100	103,000	83,790	77,340	76,750	77,570	96,600	147,400	145,900	136,300	126,500
21	108,700	112,100	102,400	83,350	77,220	76,920	78,150	98,340	149,100	145,500	136,000	126,400
22	108,800	112,200	101,800	82,900	77,100	77,080	78,880	100,000	150,400	145,100	135,700	126,300
23	109,000	112,700	101,300	82,480	77,000	77,270	79,310	101,600	151,200	144,800	135,400	126,100
24	109,100	113,200	100,700	82,060	76,900	77,300	79,390	103,200	151,500	144,400	135,100	126,000
25	109,100	113,600	100,200	81,730	76,760	77,270	79,390	104,900	151,600	144,000	134,800	125,800
26	109,200	114,200	99,660	81,400	76,680	77,130	79,390	106,600	151,800	143,700	134,500	125,600
27	109,500	114,700	99,180	81,120	76,680	76,880	79,390	108,900	152,300	143,300	134,100	125,400
28	110,100	114,600	98,530	80,890	76,680	76,630	79,510	111,200	152,600	143,000	133,800	125,200
29	111,000	114,300	97,850	80,760	-	76,460	79,840	113,200	152,800	142,600	133,500	125,000
30	111,300	113,900	97,180	80,620	-	76,380	80,290	114,600	153,000	142,300	133,200	124,900
31	111,400	-	96,500	80,480	-	76,300	-	115,900	-	142,100	132,900	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30.....	5,398.42	108,700	-
Oct. 31.....	5,399.70	111,400	+2,700
Nov. 30.....	5,400.90	113,900	+2,500
Dec. 31.....	5,392.30	96,500	-17,400
Calendar year 1946...	-	-	+30,740
Jan. 31.....	5,383.53	80,480	-16,020
Feb. 28.....	5,381.30	76,680	-3,800
Mar. 31.....	5,381.07	76,300	-380
Apr. 30.....	5,383.42	80,290	+3,990
May 31.....	5,401.80	115,900	+35,610
June 30.....	5,417.18	153,000	+37,100
July 31.....	5,413.01	142,100	-10,900
Aug. 31.....	5,409.30	132,900	-9,200
Sept.30.....	5,405.84	124,900	-8,000
Water year 1946-47...	-	-	+16,200

Provo River near Wildwood, Utah

Location.- Water-stage recorder, lat. 40°24', long. 111°32', in NE¼ sec. 7, T. 5 S., R. 4 E., 1,500 feet downstream from Deer Creek, half a mile downstream from Deer Creek Reservoir, and 2 miles northeast of Wildwood.

Records available.- October 1945 to September 1947. October 1938 to September 1945, collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge recorded during year, 897 second-feet May 14 (gage height, 3.99 feet); minimum daily, 35 second-feet Nov. 25.
1945-47: Maximum discharge recorded, that of May 14, 1947; minimum, 30 second-feet Dec. 28, 1945.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Station is below diversions for irrigation in Heber Valley and above those in vicinity of Provo. Flow regulated by Deer Creek Reservoir and small lakes at headwaters that serve as reservoirs. Small transmountain diversion from Strawberry River drainage to Daniels Creek. Records include flow of Weber-Provo diversion canal (see p. 113).

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Jan. 19)

1.8	39	2.6	228
1.9	54	2.9	342
2.0	72	3.2	474
2.2	114	3.5	622
2.4	165	3.9	844

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	257	235	465	512	294	291	442	527	428	465	371	350
2	257	235	469	508	294	291	446	527	397	469	367	350
3	253	235	469	508	294	291	442	607	388	451	367	350
4	253	235	469	503	291	287	442	708	393	446	367	350
5	250	235	469	503	291	287	437	736	393	446	367	355
6	a160	239	469	503	291	291	437	741	402	446	363	363
7		242	469	503	291	291	437	741	415	442	363	371
8		242	a780	503	291	294	437	747	419	442	363	371
9		242	546	498	291	294	437	741	424	397	367	371
10		242	527	498	291	294	437	741	424	380	367	367
11		242	527	498	291	294	371	741	415	388	367	367
12		246	522	498	291	294	342	780	402	393	367	367
13		246	522	498	291	294	346	827	402	393	355	350
14		246	522	498	291	294	350	874	406	402	350	346
15	a155	250	522	498	291	298	355	891	402	384	338	346
16		250	522	493	291	298	359	815	428	380	330	342
17		253	517	493	291	302	363	451	446	367	330	346
18		253	512	493	291	302	363	437	465	363	330	314
19		264	517	493	291	302	367	437	484	363	330	298
20		275	517	446	291	302	397	442	484	367	334	283
21		279	512	410	291	306	424	442	484	367	334	283
22		283	512	410	291	306	419	446	484	367	334	287
23	a160	294	508	410	291	314	488	446	591	363	334	298
24	a165	a310	512	410	291	306	607	460	675	363	334	306
25	a170	a35	508	410	291	306	633	460	675	363	350	306
26	a180	a37	512	410	291	402	633	465	581	363	359	310
27	a190	a40	512	410	291	437	633	469	474	363	350	306
28	a205	a300	517	367	291	442	607	474	451	363	350	302
29	a200	460	512	314	-	442	517	474	479	363	338	302
30	a190	465	508	294	-	442	522	474	474	363	342	306
31	a205	-	508	294	-	442	-	479	-	272	350	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,575	257	-	180	11,060
November	7,410	465	35	247	14,700
December	15,953	780	465	515	31,640
Calendar year 1946	121,875	780	35	334	241,740
January	14,086	512	294	454	27,940
February	8,157	294	291	291	16,180
March	10,036	442	287	324	19,910
April	13,490	633	342	450	26,760
May	18,600	891	437	600	36,890
June	13,785	675	388	459	27,340
July	12,094	469	272	390	23,990
August	10,868	371	330	351	21,560
September	9,963	371	283	332	19,760
Water year 1946-47	140,017	891	35	384	277,730

a No gage-height record; discharge computed on basis of records of gate changes at Deer Creek Reservoir and records for station at Vivian Park.

Provo River at Vivian Park, Utah

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

Drainage area.- 600 square miles.

Records available.- November 1911 to September 1947.

Average discharge.- 35 years, 350 second-feet. (Since 1932 flow includes that of Weber-Provo diversion canal.)

Extremes.- Maximum discharge during year, 1,090 second-feet (regulated) Dec. 8 (gage height, 4.57 feet); minimum daily, 42 second-feet (regulated) Nov. 27.
1911-47: Maximum discharge observed, 3,180 second-feet June 11, 1921; minimum, that of Nov. 27, 1946.

Remarks.- Records good. Station is below diversions for irrigation in Heber Valley and above those in vicinity of Provo. Flow regulated by Deer Creek Reservoir and small lakes at headwaters that serve as reservoirs. Small transmountain diversions from Strawberry River drainage into Daniels Creek. Records include flow of Weber-Provo diversion canal (see p. 113).

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)

1.3	50	2.8	367
1.8	92	3.4	568
2.0	165	3.8	718
2.4	257	4.3	945

Discharge, in second-fset, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	244	480	522	295	294	446	550	473	504	389	347
2	267	244	480	519	295	296	446	554	433	511	389	347
3	267	242	477	516	295	294	450	630	424	497	389	347
4	267	242	477	513	295	294	453	755	424	490	389	347
5	267	242	577	510	294	294	450	806	424	490	386	352
6	171	242	480	510	294	294	450	811	433	487	382	361
7	161	242	477	510	294	294	446	816	450	487	379	367
8	161	242	834	509	294	296	446	820	460	490	382	367
9	159	242	680	509	296	296	453	816	460	443	392	370
10	159	262	543	509	299	299	453	811	456	417	401	370
11	157	262	539	508	296	302	389	811	446	424	395	367
12	157	262	536	508	296	302	355	852	430	430	389	367
13	157	265	528	508	296	302	355	390	427	427	370	358
14	157	265	528	505	296	305	364	955	427	437	361	350
15	157	265	528	502	296	307	370	985	430	420	347	350
16	159	262	532	502	296	307	376	911	463	411	338	350
17	159	262	528	502	296	310	376	497	487	398	338	350
18	161	262	528	501	296	313	379	483	508	395	338	321
19	159	273	532	501	296	316	382	487	532	395	335	302
20	157	280	532	460	296	318	417	494	550	395	335	288
21	157	278	532	420	296	321	440	500	536	395	338	288
22	157	278	536	420	296	324	446	500	525	392	335	294
23	163	294	532	420	296	332	500	504	646	392	338	299
24	171	286	532	417	296	327	611	504	718	389	335	305
25	180	49	528	414	296	327	660	504	714	389	352	305
26	188	43	532	414	296	393	660	508	631	386	358	305
27	193	42	536	414	299	440	660	522	522	386	350	305
28	220	311	532	390	296	437	637	522	497	386	344	296
29	206	480	525	340	-	440	546	518	514	386	335	296
30	197	480	525	300	-	443	546	518	511	382	341	296
31	224	-	525	295	-	443	-	518	-	291	347	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,788	273	157	187	11,480
November	7,643	480	42	255	15,160
December	16,551	834	477	534	32,830
Calendar year 1946	128,767	834	42	353	255,400
January	14,368	522	295	463	28,500
February	8,282	299	294	296	16,430
March	10,260	443	294	331	20,350
April	13,962	660	355	465	27,690
May	20,352	985	483	657	40,370
June	14,951	718	424	498	29,650
July	13,122	511	291	423	26,030
August	11,197	401	335	361	22,210
September	9,967	370	288	332	19,770
Water year 1946-47	146,443	985	42	401	290,500

Note.- No gage-height record Jan. 1-20, Jan. 28 to Feb. 4; discharge computed on basis of records for stations at Wildwood and at Provo.

Provo River at Provo, Utah

Location.- Water-stage recorder, lat. 40°14'15", long. 111°41'45", in NE¼SE¼ sec. 3, T. 7 S., R. 2 E., 1,300 feet downstream from bridge on State Highway 114, 2 miles west of Provo, and 2 miles upstream from mouth.

Records available.- June 1933 to September 1934 and November 1938 to September 1947. January 1937 to November 1938 at site 1,100 feet upstream, above one small diversion. May 1903 to June 1905 at site three-quarters of a mile upstream, above three small diversions. Records equivalent when adjusted for diversions.

Average discharge.- 11 years (1934, 1937-47), 163 second-feet.

Extremes.- Maximum discharge during year, 987 second-feet Dec. 9 (gage height, 5.71 feet); minimum daily, 0.4 second-foot Aug. 4.

1903-5, 1933-34, 1937-47: Maximum discharge observed, 1,620 second-feet May 27, 1904; practically no flow during several periods.

Remarks.- Records good except those for periods of no gage-height record and those below 20 second-feet, which are fair. Station is below all diversions. At times entire flow is diverted above station for irrigation. Flow regulated by Deer Creek Reservoir and small lakes at headwaters that serve as reservoirs. Small transmountain diversions from Strawberry River drainage into Daniels Creek. Flow affected by Weber-Provo diversion canal (see p. 113). Factory race diverts water above station into Provo Bay, an arm of Utah Lake, and Provo River water commissioner furnished following records of this diverted flow for water year 1946-47:

Month	Diversion (acre-feet)	Month	Diversion (acre-feet)
October	409	May	514
November	300	June	486
December	310	July	670
January	310	August	589
February	280	September	468
March	310		
April	342	Water year 1945-46	4,988

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	246	488	556	324	305	462	225	24		5.6	5.1
2	35	242	485	556	324	312	468	207	15		5.4	5.4
3	56	234	488	549	321	319	473	207	7.3	a20	8.3	5.9
4	69	234	485	549	319	326	479	288	7.0		2.4	5.9
5	82	234	500	549	319	324	476	380	5.4		5.4	5.4
6	115	234	500	546	317	321	473	358	4.6	33	8.7	3.6
7	133	234	509	546	317	336	456	345	3.8	33	7.0	3.4
8	140	236	635	552	314	308	456	350	4.4		5.1	2.9
9	145	244	705	552	312	308	459	336	7.6		8.3	2.8
10	145	258	591	546	336	305	448	324	24		16	4.6
11	146	258	575	546	326	310	393	355	58		20	8.7
12	145	256	575	543	317	310	358	546	129		22	15
13	151	254	562	540	308	310	350	568	152	a20	19	17
14	154	250	559	537	303	310	338	540	148		15	8.0
15	151	246	556	534	299	314	333	591	125		11	7.3
16	152	246	549	530	301	314	288	562	82		8.7	5.1
17	164	246	549	530	299	312	270	141	58		9.4	11
18	165	246	546	530	299	321	262	58	57		7.0	37
19	162	250	549	530	299	324	252	51	37		5.1	56
20	164	262	552	530	294	324	281	35	24		5.9	68
21	159	262	549	530	294	326	236	27	58	a10	5.1	77
22	157	262	546	428	296	328	219	22	63		2.9	77
23	162	290	546	414	294	343	281	13	122		2.4	78
24	167	310	543	398	299	338	340	5.6	236		1.7	80
25	172	a70	540	431	299	331	417	4.1	227		1.9	71
26	183	a70	552	428	301	365	412	4.6	173	a5	3.1	60
27	198	a70	575	428	305	448	406	4.6	66		5.9	44
28	248	a330	565	412	305	453	393	14	30	2.6	9.4	37
29	273	470	556	360	-	453	281	22	a20	2.8	11	36
30	229	479	549	331	-	456	244	25	31	4.6	5.9	36
31	229	-	552	324	-	462	-	30	-	5.9	4.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,653.8	273	2.8	150	9,230
November	7,523	479	70	251	14,920
December	17,031	705	485	549	33,780
Calendar year 1946	64,374.9	705	.3	176	127,700
January	15,335	556	324	495	30,420
February	8,641	336	294	309	17,140
March	10,616	462	305	342	21,060
April	11,004	479	219	367	21,830
May	6,638.9	591	4.1	214	13,170
June	1,999.1	236	3.8	66.6	3,970
July	471.9	-	-	15.2	936
August	249.2	22	1.7	8.04	494
September	874.1	80	2.8	29.1	1,730
Water year 1946-47	85,037.0	705	1.7	233	168,700

a No gage-height record; discharge interpolated, or computed on basis of records for station at Vivian Park.

Weber-Provo diversion canal at Oakley, Utah

Location.- Water-stage recorder and Parshall flume, lat. 40°42'30", long. 111°16'30", in NW¼ sec. 28, T. 1 S., R. 6 E., 1,400 feet downstream from head and three-quarters of a mile east of Oakley.

Records available.- October 1945 to September 1947. October 1938 to September 1945, collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey. October 1932 to September 1939 in reports of Weber River water commissioner.

Extremes.- Maximum daily discharge during year, 747 second-feet June 20; no water diverted from Weber River for several months.
1945-47: Maximum daily discharge, that of June 20, 1947; no water diverted from Weber River for several months each year.

Remarks.- Records excellent. Canal diverts water from Weber River in SW¼SW¼ sec. 21, T. 1 S., 6 E. for irrigation and water supply in Jordon River Basin. Figures given herein represent water diverted from main stem of Weber River, some of which may return to Weber River through seepage. No diversion from Weber River Oct. 1-31, Dec. 13 to Mar. 27, July 10 to Sept. 30.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		17	48			0	61	318	501	224		
2		44	49			0	69	478	459	197		
3		43	44			0	69	647	606	192		
4		f51	47			0	64	593	533	194		
5		f45	a48			0	54	354	525	175		
6		f36	a48			0	51	87	517	155		
7		f39	49			0	50	58	614	136		
8		47	48			0	58	5.2	695	101		
9		46	46			0	66	5.2	706	26		
10		48	49			0	63	4.7	601	0		
11		f44	47			0	61	4.7	584	0		
12		f52	36			0	60	4.2	530	0		
13		f41	0			0	71	4.2	499	0		
14		38	0			0	91	4.2	496	0		
15		41	0			0	113	159	620	0		
16		f43	0			0	130	418	620	0		
17		f47	0			0	142	535	687	0		
18		f46	0			0	149	560	593	0		
19		42	0			0	146	582	620	0		
20		45	0			0	169	543	747	0		
21		43	0			0	204	400	653	0		
22		49	0			0	217	303	494	0		
23		51	0			0	197	319	381	0		
24		45	0			0	190	538	296	0		
25		36	0			0	195	633	307	0		
26		49	0			0	199	642	334	0		
27		45	0			0	219	642	336	0		
28		42	0			32	210	629	309	0		
29		41	0			60	219	571	314	0		
30		46	0			72	248	530	264	0		
31		-	0			64	-	541	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	1,302	52	17	43.4	2,580
December	559	49	0	18	1,110
Calendar year	-	-	-	-	-
January	0	0	0	0	0
February	0	0	0	0	0
March	228	72	0	7.35	452
April	3,833	248	50	128	7,600
May	11,109.4	647	4.2	358	22,040
June	15,439	747	264	515	30,620
July	1,400	224	0	45.2	2,780
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	33,870.4	747	0	92.8	67,180

a No gage-height record; discharge interpolated.
f Fragmentary gage-height record; discharge computed on basis of partly estimated gage-height record.

Note.- Backwater from checks in canal May 13, 14; discharge computed on basis of records of gate operation.

Weber-Provo diversion canal near Woodland, Utah

Location.- Water-stage recorder and sharp crested weir, lat. 40°36'40", long. 111°18'15", in SW¼SE¼ sec. 30, T. 2 S., R. 6 E., 100 feet upstream from outlet to Provo River and 4½ miles northwest of Woodland. Datum of gage is 6,318 feet above mean sea level.

Records available.- October 1931 to September 1947.

Extremes.- Maximum daily discharge during year, 676 second-feet June 20; no water diverted from Weber River or Beaver Creek for several months.
1931-47: Maximum daily discharge, that of June 20, 1947; no water diverted from Weber River or Beaver Creek for several months during each year.

Remarks.- Canal diverts water from Weber River in SW¼SW¼ sec. 21, T. 1 S., R. 6 E., and from Beaver Creek in NE¼SE¼ sec. 17, T. 2 S., R. 6 E., to Provo River for irrigation along Provo and Jordan Rivers. Figures given herein represent flow of water reaching Provo River during periods when water was diverted from Weber River and Beaver Creek. Not all of flow diverted reaches Provo River due to evaporation, transpiration, and seepage losses.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		12	25			0	48	313	502	240		
2		9.8	25			0	57	453	529	203		
3		20	23			0	59	622	580	197		
4		26	25			0	57	624	538	200		
5		28	24			0	45	505	518	161		
6		24	26			0	40	127	502	152		
7		22	25			0	39	98	568	125		
8		31	25			0	42	10	647	112		
9		28	21			0	54	8.5	673	42		
10		25	21			0	52	4.0	592	4.4		
11		18	23			0	51	1.8	573	3.7		
12		25	27			0	49	6.8	527	3.0		
13		27	9.3			0	56	3.0	482	2.7		
14		20	7.2			0	76	28	482	2.1		
15		16	6.8			0	103	131	504	2.4		
16		17	6.1			0	128	400	568	1.8		
17		22	5.0			0	142	504	642	1.5		
18		24	5.4			0	150	540	568	1.2		
19		24	5.7			0	145	568	580	0		
20		23	6.4			0	165	559	676	0		
21		17	6.4			0	203	453	652	0		
22		30	6.4			0	228	366	518	0		
23		32	4.7			0	213	355	417	0		
24		35	2.1			0	203	500	313	0		
25		14	2.4			0	208	600	310	0		
26		27	2.4			0	208	620	335	0		
27		28	2.1			4.7	237	632	342	0		
28		25	1.2			16	228	624	315	0		
29		21	1.2			36	237	573	317	0		
30		25	1.5			52	262	524	278	0		
31		-	0			53	-	531	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	695.8	35	9.8	23.2	1,380
December	372.3	27	0	12.0	738
Calendar year 1946	31,867.1	607	0	87.3	63,210
January	0	0	0	0	0
February	0	0	0	0	0
March	161.7	53	0	5.22	321
April	3,785	282	39	126	7,510
May	11,284.1	632	1.8	364	22,380
June	15,048	676	278	502	29,850
July	1,454.8	240	0	46.9	2,890
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	32,801.7	676	0	89.9	65,070

Snake Creek near Charleston, Utah

Location.- Water-stage recorder, lat. 40°29', long. 111°28', in SW¼ sec. 11, T. 4 S., R. 4 E., 600 feet upstream from mouth and 1½ miles northeast of Charleston.

Records available.- October 1945 to September 1947. October 1938 to September 1945 collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 86 second-feet June 20 (gage height, 2.48 feet); minimum, 35 second-feet Apr. 30.
1945-47: Maximum discharge, 91 second-feet May 10, 1946 (gage height, 2.68 feet); minimum, 33 second-feet Sept. 4, 1946.

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	57	51	45	41	41	44	38	65	57	45	44
2	43	56	50	44	42	42	44	41	55	57	44	44
3	43	54	50	42	41	41	45	49	59	56	41	44
4	46	54	50	43	42	42	45	46	59	56	42	44
5	46	54	50	43	41	41	46	44	57	55	46	44
6	48	54	51	43	43	41	46	42	56	55	44	44
7	51	54	50	43	42	42	46	41	55	54	42	44
8	56	55	49	43	42	42	46	42	57	54	42	45
9	55	54	49	43	41	42	46	40	64	53	43	45
10	54	54	48	43	42	43	46	41	64	52	46	45
11	54	54	48	43	41	45	48	48	76	50	44	44
12	55	54	48	43	41	44	44	55	68	48	45	44
13	54	55	48	44	41	44	44	53	62	51	45	44
14	56	55	47	44	41	46	45	49	63	50	44	44
15	55	54	47	44	41	51	41	47	63	50	44	45
16	54	54	46	42	41	49	38	48	59	49	47	46
17	54	53	46	41	42	48	36	49	63	49	46	48
18	57	51	46	41	42	47	40	55	67	48	46	52
19	55	50	46	38	43	47	42	55	62	46	47	52
20	53	51	46	38	42	46	42	59	70	46	47	50
21	53	50	46	39	42	46	42	60	80	45	46	49
22	52	50	46	40	42	45	42	67	70	46	44	50
23	52	56	46	38	43	46	41	64	64	46	43	51
24	52	56	46	38	44	45	41	59	62	43	43	52
25	53	52	46	38	44	45	44	57	62	42	42	50
26	51	51	47	39	43	45	44	60	61	41	43	50
27	52	51	48	40	42	45	44	61	57	42	43	54
28	70	51	47	40	42	45	43	72	59	43	43	54
29	69	50	46	40	-	46	41	68	58	45	43	54
30	61	51	46	39	-	45	39	58	58	43	44	54
31	59	-	45	39	-	45	-	61	-	46	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,655	70	42	53.4	3,280
November	1,595	57	50	53.2	3,160
December	1,475	51	45	47.6	2,930
Calendar year 1946	17,512	79	35	48.0	34,730
January	1,280	45	38	41.3	2,540
February	1,174	44	41	41.9	2,330
March	1,382	51	41	44.6	2,740
April	1,293	46	36	43.1	2,560
May	1,629	72	38	52.5	3,230
June	1,875	80	56	62.5	3,720
July	1,518	57	41	49.0	3,010
August	1,368	47	41	44.1	2,710
September	1,430	54	44	47.7	2,840
Water year 1946-47	17,674	80	36	48.4	35,000

Note.- No gage-height record Nov. 1-6, June to July 8, Aug. 27 to Sept. 9; discharge interpolated or computed on basis of weather records.

Round Valley Creek near Wallsburg, Utah

Location.- Water-stage recorder, lat. 40°24'30", long. 111°28'30", in SE¼ sec. 3, T. 5 S., R. 4 E., 1,900 feet upstream from high-water line of Deer Creek Reservoir and 3½ miles northwest of Wallsburg.

Records available.- October 1945 to September 1947. October 1938 to September 1945, collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 96 second-feet May 4 (gage height, 2.85 feet); minimum, 2.6 second-feet Aug. 16.
1945-47: Maximum discharge, 179 second-feet Apr. 21, 1946 (gage height, 3.24 feet); minimum, 2.1 second-feet Aug. 8-10, 1946.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	10	11	7.8	9.1		25	70	12	6.1	3.6	3.6
2	4.6	9.6	12	7.6	9.1		28	75	9.1	6.4	3.6	3.8
3	3.3	8.7	13	7.8	9.1	13	29	86	9.6	5.0	3.3	3.6
4	3.6	8.7	14	8.0	9.1		29	88	11	4.8	3.0	3.8
5	4.0	8.7	16	8.0	9.1		25	88	8.3	5.0	3.6	4.3
6	3.6	9.6	17	8.0	9.1	12	21	79	6.4	4.0	3.0	3.6
7	4.3	9.6	16	8.0	8.7	12	19	71	5.7	4.8	3.0	3.8
8	4.6	11	14	8.0	8.3	14	18	54	5.7	4.0	3.0	3.6
9	3.8	10	13	7.2	8.0	15	25	45	8.7	4.0	4.0	3.8
10	3.3	9.1	12	7.6	8.3	21	22	46	7.6	4.0	6.8	3.6
11	3.3	8.7	13	8.0	8.0	29	20	45	17	4.3	6.1	3.6
12	3.3	8.7	13	7.6	8.0	18	17	59	16	4.8	4.0	3.6
13	3.3	9.1	12	8.0	8.7	17	17	52	8.7	4.8	3.6	3.6
14	3.3	11	12	8.0	9.6	18	22	48	7.6	4.8	3.6	3.6
15	3.0	10	12	7.6	9.1	19	32	41	6.4	5.0	3.6	3.6
16	3.3	8.7	12	7.2		17	38	37	5.7	5.0	2.8	3.6
17	3.6	8.7	11	8.0		17	44	39	5.7	4.3	3.3	3.6
18	4.0	8.7	11	7.6	10	18	45	39	5.7	4.0	3.8	4.6
19	3.8	8.3	11	8.0		18	43	36	6.4	4.8	3.8	4.8
20	3.6	15	10	8.0		19	49	33	13	4.8	3.8	4.6
21	3.6	12	10	8.0		21	64	31	21	4.3	3.6	4.6
22	3.8	11	10	8.0		24	74	29	12	4.6	3.6	4.6
23	3.8	28	10	8.0	11	46	60	29	8.3	4.3	3.0	4.3
24	3.8	23	9	8.3		33	50	26	7.8	5.0	3.3	4.6
25	3.8	14	11	8.7		24	48	18	11	4.8	3.6	4.6
26	3.8	13	11	8.7	12	22	47	16	10	4.3	3.8	4.3
27	4.6	14	12	8.7		19	54	9.1	6.8	4.0	3.6	4.3
28	30	13	9.6	9.1		20	54	18	8.0	3.8	3.0	4.3
29	21	12	8.3	8.7	-	24	54	16	8.7	3.6	3.3	4.6
30	11	12	8.7	8.0	-	30	62	14	8.0	3.8	3.3	4.6
31	11	-	8.0	9.1	-	28	-	14	-	3.6	3.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	173.4	30	3.0	3.59	344
November	341.9	28	8.3	11.4	678
December	362.8	17	8.0	11.7	719
Calendar year 1946	4,594.8	152	2.1	12.6	9,110
January	249.3	9.1	7.2	8.04	494
February	273.3	-	8.0	9.76	542
March	621	46	12	20.0	1,230
April	1,135	74	17	37.8	2,250
May	1,351.1	88	9.1	43.6	2,680
June	277	21	5.0	9.23	549
July	140.8	6.4	3.6	4.54	279
August	112.7	6.8	2.8	3.64	224
September	121.5	4.8	3.8	4.05	241
Water year 1946-47	5,159.4	88	2.8	14.1	10,230

Note.- No gage-height record Dec. 17 to Jan. 7, Feb. 16 to Mar. 5; discharge computed on basis of weather records and records for nearby stations.

Deer Creek near Wildwood, Utah

Location.- Water-stage recorder, lat. 40°24'30", long. 111°32'00", in NE¼ sec. 7, T. 5 S., R. 4 E., 1,000 feet upstream from mouth and 2 miles northeast of Wildwood.

Records available.- October 1945 to September 1947. October 1938 to September 1945 collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 42 second-feet Apr. 20; minimum, 8.5 second-feet Sept. 7.
1945-47: Maximum discharge, 76 second-feet Apr. 18, 1946; minimum, 7.7 second-feet Sept. 11, 1946.

Remarks.- Records good except those for periods of ice effect, which are fair. One small irrigation diversion above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	12		11	11	23	32	15	12	10	9.0
2	11	11	12		11	11	24	33	14	12	11	9.0
3	11	11	*12		11	11	25	34	13	11	11	9.2
4	11	11	12		11	11	23	35	13	11	11	9.0
5	11	11	12		*11	11	20	33	13	11	10	9.0
6	11	11	13		11	11	20	32	13	11	9.5	9.0
7	11	12	13	11	11	11	19	30	12	11	9.2	8.8
8	11	12	12		11	12	19	29	12	11	9.8	8.8
9	11	12	12	(*)	11	12	20	27	14	11	11	9.2
10	11	11	11		12	12	19	27	13	11	11	8.8
11	11	11	12		11	12	19	29	14	11	11	8.8
12	11	12	12		11	12	19	29	13	11	11	8.8
13	11	12	12		11	12	21	27	13	11	10	9.0
14	11	12	12		11	13	26	26	12	11	9.5	9.0
15	11	11	12		11	14	29	25	12	11	9.8	9.2
16	12	11	12		11	15	32	24	12	11	9.2	9.2
17	12	11	11		11	15	32	23	12	11	9.2	9.8
18	13	11	11		11	16	32	22	12	11	9.2	9.8
19	13	12	11		11	16	32	22	12	11	9.2	9.8
20	12	12	11		11	16	36	22	13	11	9.2	9.5
21	12	11	12		11	16	36	21	13	11	10	9.8
22	12	12	12	10	11	17	35	19	12	11	9.5	9.5
23	12	14	12		11	22	32	17	12	11	9.5	9.5
24	12	12	12		11	19	31	17	12	10	9.2	9.5
25	13	11	12		11	17	29	16	12	10	9.2	9.5
26	13	12	13		11	17	30	16	12	10	9.2	11
27	14	12	13		11	16	30	18	11	10	9.2	11
28	15	12	12		11	18	29	18	12	11	9.2	11
29	12	12			-	19	31	16	13	10	9.2	11
30	12	12	11		-	21	32	15	13	11	9.5	11
31	11	-			-	22	-	15	-	10	9.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	365	15	11	11.8	724
November	348	14	11	11.6	690
December	368	13	-	11.9	730
Calendar year 1946	5,038	65	7.9	13.7	9,990
January	322	-	-	10.4	639
February	309	12	11	11.0	613
March	458	22	11	14.8	908
April	805	36	19	26.8	1,600
May	749	35	15	24.2	1,480
June	379	15	11	12.6	752
July	337	12	10	10.9	668
August	304.0	11	9.2	9.81	603
September	285.5	11	8.8	9.52	566
Water year 1946-47	5,030	36	8.8	13.8	9,970

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 29 to Jan. 31.

South Fork Provo River at Vivian Park, Utah

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

Drainage area.- 30 square miles.

Records available.- November 1911 to September 1947.

Average discharge.- 35 years, 30.2 second-feet.

Extremes.- Maximum discharge during year, 71 second-feet Oct. 1 (gage height, 1.58 feet); minimum, 19 second-feet July 3.
1911-47: Maximum discharge observed, 123 second-feet May 27, 1922; minimum, 13 second-feet several times in 1934, 1935, and on Apr. 2, 1937.

Remarks.- Records good. Station is below all diversions.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)

0.8	22.5
1.0	33.3
1.3	51.7

Discharge, in second-feet, water year October 1946 to September 1947

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

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,062	45	30	34.3	2,110
November	982	38	30	32.7	1,950
December	938	-	-	30.3	1,860
Calendar year 1946	11,030	45	23	30.2	21,870
January	820	-	-	26.5	1,630
February	724	26	25	25.9	1,440
March	845	30	26	27.3	1,680
April	858	33	26	28.6	1,700
May	1,126	51	26	36.3	2,230
June	922	34	27	30.7	1,830
July	871	31	22	28.1	1,730
August	990	38	28	31.9	1,960
September	1,134	44	31	37.8	2,250
Water year 1946-47	11,272	51	22	30.9	22,370

Note.- No gage-height record Dec. 10 to Jan. 7; discharge interpolated.

American Fork above upper power plant, near American Fork, Utah

Location.- Water-stage recorder, lat. 40°27', long. 111°41', in NE¼ sec. 26, T. 4 S., R. 2 E., 500 feet downstream from Rock Creek, 1,000 feet upstream from intake for upper power plant of Utah Power & Light Co., about 4 miles upstream from mouth of canyon, and 8 miles northeast of American Fork.

Records available.- October 1945 to September 1947. January 1927 to September 1945 available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 399 second-feet May 7 (gage height, 6.64 feet); minimum daily, 15 second-feet Dec. 17, 18, 29, 31.
1927-47: Maximum daily discharge, 429 second-feet May 17, 1927; minimum daily, 5 second-feet Feb. 3, 1936.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. No diversions above station.

Cooperation.- Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project. Twelve discharge measurements made by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	a23	22	18	16	16	38	151	160	124	48	31
2	30	a22	22	b18	16	16	38	202	160	130	47	30
3	25	a21	22	b18	16	16	40	265	166	134	45	30
4	23	a23	22	b18	16	16	39	312	158	130	47	31
5	24	a25	23	b18	16	16	37	289	156	124	47	30
6	25	25	*25	*b18	16	16	36	283	162	116	44	29
7	25	26	23	18	16	16	34	325	195	114	43	28
8	26	26	22	18	16	16	34	341	231	115	44	28
9	25	25	22	18	17	16	34	292	220	112	48	31
10	25	21	20	18	18	16	33	250	173	109	55	30
11	24	22	21	18	17	16	33	223	156	103	49	29
12	23	22	22	18	17	16	33	200	140	96	44	28
13	23	22	21	18	17	16	38	175	135	94	42	28
14	22	23	21	18	17	16	49	166	132	87	41	28
15	22	22	20	b18	18	18	68	164	140	85	40	28
16	23	19	20	b18	18	20	83	181	156	83	39	27
17	23	21	15	a17	18	23	87	193	166	78	38	38
18	23	21	15	a17	19	26	83	218	156	75	37	36
19	22	21	16	a17	20	31	82	239	173	75	36	33
20	a23	22	18	a16	19	34	94	256	188	72	35	31
21	23	20	19	a16	20	38	105	268	160	71	a35	30
22	23	21	19	16	20	43	102	265	140	69	a34	28
23	23	27	19	16	20	44	92	259	124	68	a34	28
24	23	24	18	16	20	38	86	256	118	64	a34	28
25	22	20	18	16	20	35	87	259	121	61	a33	27
26	22	22	20	16	18	34	90	268	130	58	a33	26
27	28	21	19	16	18	32	94	268	138	56	a32	26
28	42	21	18	16	17	34	96	234	140	55	32	26
29	30	22	b15	16	-	34	105	188	135	54	32	26
30	26	22	16	16	-	38	124	171	122	52	31	26
31	a24	-	b15	16	-	38	-	168	-	50	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	772	42	22	24.9	1,530
November	672	27	19	22.4	1,330
December	608	25	15	19.6	1,210
Calendar year 1946	19,991	279	14	54.8	39,650
January	531	18	16	17.1	1,050
February	496	20	16	17.7	984
March	784	44	16	25.3	1,560
April	1,994	124	33	66.5	3,960
May	7,329	341	151	236	14,540
June	4,651	231	118	155	9,230
July	2,714	134	50	87.5	5,380
August	1,230	55	31	39.7	2,440
September	875	38	26	29.2	1,740
Water year 1946-47	22,656	341	15	62.1	44,954

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of power-plant records.
b Stage-discharge relation affected by ice.

Surplus Canal at Salt Lake City, Utah

Location.- Water-stage recorder, lat. 40°44', long. 111°55', in SW¼SW¼ sec. 14, T. 1 S., R. 1 W., 300 feet downstream from diversion dam which is an eighth of a mile downstream from highway bridge over Jordan River on Twenty-first South Street, Salt Lake City. Since Dec. 31, 1946, auxiliary water-stage recorder about 1 mile downstream in NW¼NE¼ sec. 15, T. 1 S., R. 1 W., 20 feet upstream from bridge on Redwood Road (State Highway 68). Datum of both gages is 4,219.02 feet above mean sea level (datum of 1929).

Records available.- December 1942 to September 1947.

Extremes (regulated).- Maximum discharge during year, 545 second-feet June 12 (gage height, 5.84 feet); minimum daily, 45 second-feet Sept. 3.
1942-47: Maximum discharge, 965 second-feet June 3, 1944 (gage height, 7.50 feet); minimum daily, 31 second-feet July 4, 1943.

Remarks.- Records good. Flow regulated by head gates at diversion dam 300 feet above station. Canal was built to bypass floodwater of Jordan River around Salt Lake City residential area. (See p. 99 for records of combined flow of Jordan River and Canal.) Several diversions below station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	196	155	97	72	75	113	168	188	83	117	94
2	153	143	139	96	75	82	133	174	185	85	120	52
3	152	124	138	93	78	97	221	197	250	85	110	45
4	153	120	134	91	84	98	203	212	336	98	149	80
5	154	122	126	90	90	94	159	264	274	87	168	93
6	165	121	120	90	93	84	148	276	239	74	240	84
7	180	118	134	89	93	79	144	297	174	68	232	75
8	181	121	148	88	91	83	157	296	212	76	191	83
9	188	120	137	88	90	78	163	292	360	90	157	98
10	182	118	132	85	99	70	185	305	395	105	192	106
11	146	116	124	81	118	71	168	339	402	99	282	114
12	143	114	123	79	117	69	166	371	521	76	210	110
13	132	113	117	79	117	65	153	386	454	84	174	108
14	127	120	112	79	115	59	144	353	405	86	137	110
15	118	120	112	78	109	56	144	325	383	87	144	102
16	117	118	110	75	103	54	152	300	334	113	145	117
17	131	114	107	63	97	54	160	281	311	103	134	139
18	126	112	105	56	92	54	160	260	305	105	125	230
19	117	106	102	54	93	54	154	236	286	104	114	255
20	111	108	102	54	86	57	151	210	270	98	105	205
21	109	123	103	54	88	71	157	187	310	123	98	190
22	106	132	101	55	78	91	178	154	299	157	93	182
23	100	174	100	54	77	99	178	155	243	164	92	178
24	90	268	101	52	76	104	168	139	183	129	94	178
25	88	225	101	60	72	102	159	122	152	109	85	180
26	80	168	101	87	67	101	154	98	85	105	89	139
27	84	150	111	90	73	94	152	106	99	97	92	130
28	190	136	132	83	78	91	157	139	92	108	63	129
29	381	132	122	80	-	88	164	160	95	99	75	125
30	371	139	110	72	-	91	170	134	86	109	101	142
31	280	-	102	73	-	113	-	156	-	117	137	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,768	381	80	154	9,460
November	4,091	268	106	136	8,110
December	3,640	148	100	117	7,220
Calendar year 1946	41,625	400	42	114	82,560
January	2,365	97	52	76.3	4,690
February	2,521	118	67	90.0	5,000
March	2,478	113	54	79.9	4,920
April	4,835	221	113	161	9,590
May	7,092	386	98	229	14,070
June	7,928	521	85	264	15,720
July	3,123	164	68	101	6,190
August	4,265	282	63	138	8,460
September	3,873	255	45	129	7,680
Water year 1946-47	50,979	521	45	140	101,100

Sevier River at Hatch, Utah

Location.- Water-stage recorder, lat. 37°39'00", long. 112°25'30", in SW¼NW¼ sec. 28, T. 36 S., R. 5 W., 100 feet downstream from bridge, 0.2 mile east of Hatch, and 2.8 miles downstream from Mammoth Creek.

Drainage area.- 260 square miles.

Records available.- June 1911 to September 1928 (many years incomplete), June 1939 to September 1947.

Average discharge.- 16 years (1912-13, 1914-16, 1917-18, 1922-23, 1924-27, 1939-47), 141 second-feet.

Extremes.- Maximum discharge during year, 607 second-feet May 9 (gage height, 3.14 feet); minimum discharge recorded, 49 second-feet Oct. 1, but may have been less during period of ice effect.

1911-28, 1939-47: Maximum discharge not determined, occurred May 25, 1914, when Hatchtown Dam failed; maximum recorded, 1,490 second-feet May 26, 1922 (gage height, 5.25 feet, datum then in use); minimum daily, 10 second-feet (regulated) for several days in 1912 when water was stored in Hatchtown Reservoir.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Two small diversions from Mammoth Creek above station for irrigation. No regulation since Hatchtown Dam failed in 1914.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	78	60			60	136	193	333	135	78	86
2	93	76	58			60	141	234	313	130	78	86
3	72	80	58			58	141	304	304	130	78	83
4	87	74	58			60	136	403	295	124	80	83
5	82	70	60			57	136	463	285	122	82	82
6	70	70	61			57	129	488	270	122	86	78
7	65	68	62			58	126	556	262	120	88	75
8	64	71	61			57	126	568	253	118	86	77
9	61	68	65			58	136	564	247	116	86	77
10	60	68	68	50		62	133	552	239	110	92	77
11	58	68	65		60	62	120	533	236	106	92	78
12	57	68	60			61	110	503	231	106	88	77
13	58	72	58			62	105	496	218	106	85	78
14	61	77	60			68	100	466	210	104	85	78
15	61	68	*57			74	95	427	200	104	85	78
16	64	66	58			78	88	399	193	102	85	78
17	64	65	57			84	82	399	190	97	85	78
18	65	65	56	(*)		85	88	399	193	93	85	77
19	65	64	62			87	94	418	183	90	83	77
20	65	65	61			85	100	448	181	90	106	77
21	64	68	56		*60	87	120	477	190	88	126	74
22	64	64	57		58	87	140	492	190	106	102	69
23	64	64	57		66	96	170	488	190	92	88	69
24	64	68	57		68	89	190	481	178	86	86	69
25	64	62	58	54	65	89	200	477	173	83	85	69
26	64	61	60		64	89	205	463	164	82	83	69
27	72	62	60		62	94	202	459	157	80	180	66
28	111	61	57		61	104	188	452	153	78	130	66
29	172	62	55		-	108	173	420	144	78	102	65
30	108	60	53		-	117	171	392	137	77	93	65
31	89	-	50		-	133	-	365	-	78	90	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,264	172	56	73.0	4,490
November	2,033	80	60	67.7	4,030
December	1,825	68	50	58.9	3,620
Calendar year 1946	27,562	290	48	75.5	54,670
January	1,602	-	-	51.7	3,180
February	1,704	-	-	60.9	3,380
March	2,426	133	57	78.3	4,810
April	4,081	205	82	136	8,090
May	13,777	568	193	444	27,330
June	6,812	333	137	217	12,920
July	3,153	135	77	102	6,250
August	2,878	180	78	92.8	5,710
September	2,261	86	65	75.4	4,480
Water year 1946-47	44,516	568	-	122	88,290

* Winter discharge measurement made on this day.

Note.- No gage-height record Apr. 11-25, Aug. 28; discharge computed on basis of records for station near Kingston. Stage-discharge relation affected by ice Dec. 19 to Feb. 20.

Sevier River near Kingston, Utah

Location.- Water-stage recorder and concrete control, lat. 38°12', long. 112°12', in NE¼NW¼ sec. 16, T. 30 S., R. 3 W., 1,000 feet upstream from bridge on State Highway 22, 1 mile west of Kingston, and 2 miles upstream from East Fork.

Drainage area.- 1,110 square miles.

Records available.- June 1914 to September 1947.

Average discharge.- 33 years, 147 second-feet.

Extremes.- Maximum discharge during year, 576 second-feet May 11, 12 (gage height, 2.33 feet); minimum, 5.8 second-feet July 19.

1914-47: Maximum discharge, 3,000 second-feet (including estimated flow of 360 second-feet, in overflow channel bypassing station) Mar. 4, 1948 (gage height, 5.20 feet), from rating curve extended above 1,100 second-feet; minimum, 4 second-feet Sept. 9, 1943.

Remarks.- Records good except those for periods of ice effect, which are fair. Many diversions above station; none between station and mouth of East Fork.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	187	151	b88	b100	154	170	112	205	35	20	86
2	34	167	148		112	154	160	118	163	31	21	61
3	50	144	148	b90	123	151	151	138	167	28	19	52
4	46	151	148		129	148	141	157	151	25	19	45
5	50	151	151		138	148	144	216	163	22	20	40
6	76	141	151		148	141	144	258	160	24	19	48
7	115	138	160		151	138	148	270	148	21	21	52
8	118	144	151		154	135	141	321	144	22	18	43
9	118	141	144		154	135	144	321	123	19	20	34
10	109	132	141		154	138	144	312	109	15	38	24
11	107	141	144	b100	167	144	141	424	109	14	46	28
12	107	141	148		174	141	118	516	98	13	50	31
13	107	154	148		160	135	109	428	109	13	63	35
14	104	191	*148		163	141	118	395	98	13	50	35
15	104	163	148	b98	180	151	104	385	98	15	38	32
16	104	144	148	*b88	184	163	98	334	78	14	34	24
17	112	144	144	b76	184	177	86	287	61	13	25	21
18	112	144	b120	b80	160	180	96	270	76	12	35	27
19	115	144	b122	b80	148	180	96	239	74	10	37	31
20	118	148	129	b80	*148	174	115	235	98	9.1	28	35
21	123	160	129	b80	148	163	126	247	177	11	48	45
22	121	151	129	b90	148	167	151	258	205	15	160	45
23	121	154	129	b95	151	187	184	291	170	15	107	46
24	115	170	135	104	163	174	180	316	160	13	72	27
25	118	157	141	112	167	167	170	287	148	14	70	32
26	118	144	144	118	160	170	157	291	126	15	55	30
27	123	151	148	126	160	167	174	278	94	14	50	38
28	144	157	144	b120	160	174	180	308	66	14	250	38
29	231	154	129	b110	-	177	160	321	52	16	318	34
30	262	154	b96	b100	-	177	138	274	45	16	167	27
31	205	-	b84	b90	-	177	-	239	-	17	109	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,506	262	19	113	6,950
November	4,562	191	132	152	9,050
December	4,300	160	84	139	8,530
Calendar year 1946	33,423	291	8	91.6	66,290
January	2,995	120	76	96.6	5,940
February	4,288	184	100	153	8,510
March	4,928	187	135	159	9,770
April	4,188	184	86	140	8,310
May	8,846	516	112	285	17,550
June	3,681	205	45	123	7,300
July	528.1	35	9.1	17.0	1,050
August	2,025	316	18	65.3	4,020
September	1,146	86	21	38.2	2,270
Water year 1946-47	44,990	516	9.1	123	89,240

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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Piute Reservoir near Marysvale, Utah

Location.- Staff gage, lat. 38°20', long. 112°12', in NW¼ sec. 3, T. 29 S., R. 3 W., at Piute Dam, 9 miles south of Marysvale. Datum of gage is 5,900.8 feet above mean sea level.

Drainage area.- 2,440 square miles.

Records available.- March 1914 to September 1947.

Extremes.- Maximum contents during year, 72,250 acre-feet June 28 (gage height, 75.3 feet); minimum, 1,200 acre-feet Oct. 2 (gage height, 24.0 feet).
1914-47: Maximum contents, 82,300 acre-feet May 28, 1922 (gage height, 76.4 feet, original capacity table); no contents at times during several years.

Remarks.- Reservoir is formed by earth-fill dam; storage began in summer of 1910. Capacity, 74,010 acre-feet between gage heights 16 feet (approximate bottom of reservoir) and 76 feet (top of flashboards on spillway since 1941). Spillway crest is at gage height 70.2 feet. No dead storage. Water is used for irrigation. Contents correspond to gage readings about 4 p.m. daily.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,560	12,830	24,430	34,960	42,060	50,970	61,200	63,890	70,520	70,520	40,800	27,000
2	1,200	13,150	24,850	35,130	42,420	51,160	61,420	63,210	70,520	69,300	40,270	26,420
3	1,420	13,370	25,280	35,290	42,780	51,350	61,640	62,530	70,280	68,090	39,910	25,850
4	1,720	13,580	25,710	35,450	42,970	51,740	61,860	60,320	70,280	66,890	39,560	29,650
5	2,200	13,800	26,140	35,790	43,330	52,130	62,310	61,200	70,030	65,500	39,200	24,430
6	2,620	14,120	26,570	36,120	43,690	52,330	62,530	60,760	69,780	64,340	38,680	23,440
7	3,030	14,450	27,000	36,460	44,060	52,720	62,760	60,540	69,540	63,210	38,330	22,890
8	3,480	14,670	27,440	36,630	44,240	53,120	62,980	60,320	69,050	62,310	37,990	21,520
9	3,980	15,010	27,880	36,790	44,420	53,320	63,210	60,540	68,570	61,420	37,820	20,710
10	4,500	15,120	28,320	36,960	44,790	53,710	63,440	61,420	68,330	60,540	37,820	19,410
11	5,050	15,680	28,610	37,300	45,160	53,910	63,660	62,080	68,090	59,670	37,650	18,160
12	5,630	16,020	28,910	37,650	45,530	54,110	63,890	63,210	87,610	58,600	37,470	d17,200
13	5,850	16,490	29,200	37,990	45,900	54,310	64,340	64,340	68,330	57,340	37,650	16,600
14	6,070	16,950	29,500	38,160	46,450	54,710	64,570	65,260	68,570	56,120	37,650	15,910
15	6,300	17,310	29,950	38,330	47,000	54,910	64,800	66,190	68,810	54,910	37,820	15,230
16	6,530	17,680	30,260	38,510	47,380	55,310	64,800	66,890	68,810	53,910	37,650	14,670
17	6,760	18,040	30,710	38,680	47,740	55,710	64,570	67,370	69,050	52,530	37,300	14,230
18	6,990	18,410	31,020	38,850	47,930	55,910	64,570	67,850	69,050	50,780	36,700	13,580
19	7,310	18,910	31,330	39,030	48,120	56,320	64,570	68,090	69,050	49,810	36,120	13,150
20	7,710	19,410	31,630	39,200	48,310	56,530	64,570	68,330	69,050	49,430	34,800	12,510
21	8,130	19,930	31,940	39,380	48,490	56,930	64,340	68,570	69,540	48,870	33,670	12,090
22	8,550	20,320	32,250	39,560	48,680	57,140	64,110	68,570	70,030	47,930	32,880	11,370
23	8,990	20,710	32,570	39,740	48,870	57,340	64,110	68,810	70,520	47,380	32,250	10,770
24	9,520	21,250	32,880	40,090	49,250	57,750	64,110	68,570	71,010	47,000	31,480	10,180
25	10,000	21,790	33,040	40,270	49,620	58,170	63,890	68,570	71,500	46,640	30,710	9,620
26	10,470	22,340	33,200	40,440	50,000	58,600	63,890	68,810	71,750	46,080	30,110	9,160
27	10,970	22,750	33,510	40,800	50,390	59,030	64,110	69,050	72,000	45,340	29,500	8,720
28	11,370	23,160	33,830	41,160	50,780	59,450	64,110	69,300	72,250	44,240	28,910	8,380
29	11,780	23,580	34,150	41,520	-	60,100	64,340	69,540	71,750	43,330	28,460	7,960
30	12,090	24,000	34,480	41,700	-	60,540	64,110	70,030	71,010	42,420	28,020	7,550
31	12,410	-	34,640	41,880	-	60,980	-	70,280	-	41,520	27,580	-

d Computed from doubtful gage-height record.

Monthly gage height and contents, water year October 1946 to September 1947

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	26.1	2,020	-
Oct. 31	39.9	12,410	+10,390
Nov. 30	49.4	24,000	+11,590
Dec. 31	56.5	34,640	+10,640
Calendar year 1946	-	-	-7,780
Jan. 31	60.7	41,880	+7,240
Feb. 28	65.5	50,780	+8,900
Mar. 31	70.5	60,980	+10,200
Apr. 30	71.9	64,110	+3,130
May 31	74.5	70,280	+6,170
June 30	74.8	71,010	+730
July 31	60.5	41,520	-29,490
Aug. 31	51.9	27,580	-13,940
Sept. 30	34.7	7,550	-20,030
Water year 1946-47	-	-	+5,530

Sevier River below Piute Dam, near Marysvale, Utah

Location.- Water-stage recorder, lat. 38°20', long. 112°11', in NE¼ sec. 34, T. 28 S., R. 3 W., three-quarters of a mile downstream from Piute Dam and 8 miles south of Marysvale.

Drainage area.- 2,440 square miles.

Records available.- May 1911 to September 1947.

Average discharge.- 35 years (1912-47), 248 second-feet.

Extremes (regulated).- Maximum discharge during year, 769 second-feet Aug. 21 (gage height, 2.82 feet); minimum not determined, occurred during period of no gage-height record.
1911-47: Maximum discharge, 2,600 second-feet May 23, 24, 1922; practically no flow at times when reservoir gages were closed.

Remarks.- Records good except those for periods of no gage-height record, which are fair. One small diversion between gage and Piute Reservoir. Flow regulated by Piute Reservoir (see preceding page).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	301	66	a4.5					308	229	463	398	602
2	261	65	a4.5					406	255	527	321	606
3	206	60	4.3					500	255	603	321	618
4	150	59					a5.0	497	252	633	314	626
5	90	43	a4.3					508	258	650	311	626
6	47	43						478	292	603	261	634
7	29	43	4.3				14	434	295	662	209	658
8	31	40					a67	374	374	618	187	658
9	30	39					a5.4	190	340	558	215	654
10	24	39					a5.4	108	270	543	223	658
11	20	39					5.4	22	215	543	173	662
12	20	39					a5.4	a6.3	93	634	133	614
13	19	39					a5.4	6.3	13	650	130	535
14	19	39					a5.4	6.3	14	622	133	500
15	19	38					a67	a12	14	590	179	497
16	20	38		a4.5	a5.0	a5.0	140	a12	a14	550	206	445
17	20	38					140	16	42	508	330	395
18	19	37					135	42	106	570	314	334
19	19	38					119	81	79	546	626	314
20	19	40	a3.5				150	198	72	531	714	337
21	19	40					223	212	20	519	761	350
22	19	39					273	220	a20	445	707	384
23	15	39					246	258	a20	265	690	427
24	14	a30					220	314	a20	327	690	406
25	14	a10					182	295	a20	364	686	371
26	14	a10					192	215	a20	478	678	354
27	14	9.9					152	209	a20	582	674	350
28	40	4.3					121	168	a38	602	666	350
29	53	4.6			-		135	111	232	594	618	350
30	44	4.6			-		220	140	347	562	570	357
31	42	-			-		-	206	-	497	590	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,651	301	14	53.3	3,270
November	1,073.4	66	4.3	35.8	2,130
December	114.5	-	-	3.69	227
Calendar year 1946	76,028.1	769	-	208	150,800
January	139.5	-	-	4.5	277
February	140.0	-	-	5.0	278
March	155.0	-	-	5.0	307
April	2,848.4	273	-	94.9	5,650
May	6,552.9	508	6.3	211	13,000
June	4,239	374	13	141	8,410
July	16,830	662	285	543	33,380
August	13,028	761	130	420	25,840
September	14,672	662	314	489	29,100
Water year 1946-47	61,443.7	761	-	168	121,900

a No gage-height record; discharge computed on basis of 4 discharge measurements and occasional staff-gage readings.

Sevier River above Clear Creek, near Sevier, Utah

Location.- Water-stage recorder, lat. 38°34'20", long. 112°15'25", in NW¼NE¼ sec. 5, T. 26 S., R. 4 W., 0.6 mile upstream from bridge on U. S. Highway 89, 0.7 mile upstream from Clear Creek, and 1 mile south of Sevier.
Drainage area.- 2,700 square miles.
Records available.- April 1939 to September 1947. May 1911 to September 1929 at site 0.8 mile downstream, published as Sevier River at Sevier; those for Nov. 16, 1916, to September 1929 include flow of Clear Creek and are not equivalent.
Average discharge.- 12 years (1912-16, 1939-47), 301 second-feet.
Extremes (regulated).- Maximum discharge during year, 768 second-feet Aug. 22 (gage height, 3.05 feet); minimum not determined, occurred during period of ice effect.
1911-29, 1939-47: Maximum discharge, 2,800 second-feet during last week in May 1922, computed on basis of records for station near Marysvale; minimum, 10 second-feet Nov. 27, 1919 (including flow of Clear Creek).
Remarks.- Records excellent except those below 50 second-feet, which are good, and those for periods of ice effect, which are fair. Many diversions above station for irrigation. Flow regulated by Piute and Otter Creek Reservoirs.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 19 to Mar. 24)

0.9	28	1.3	80	2.3	388
1.0	38	1.5	121	2.7	574
1.1	50	1.7	174	3.0	738
1.2	64	1.9	236		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	339	66	35			24	29	286	293	467	490	616
2	316	86				24	29	359	347	569	405	632
3	286	84	b35			25	30	486	355	642	363	637
4	250	84				25	28	569	351	676	359	637
5	198	80	35			25	30	605	347	715	359	654
6	119	70	34			25	31	610	368	692	335	654
7	70	70	35			26	32	584	401	692	293	659
8	51	72	35			26	30	549	472	715	264	676
9	53	69	34			26	38	476	529	659	257	676
10	53	67	b34		b25	26	67	236	440	616	293	676
11	51	67	33			26	33	230	384	595	282	676
12	48	67	32			26	29	174	297	621	207	670
13	45	69	32			26	28	126	198	676	186	605
14	43	70	*32			26	28	114	141	681	183	539
15	42	69	32			25	30	99	136	654	198	524
16	48	66	32	*b25		25	90	91	141	637	236	514
17	48	64	32			25	131	90	154	574	324	444
18	45	64				25	134	91	236	574	347	401
19	42	*66			*26	26	131	131	250	595	422	359
20	42	63	b32		26	26	117	210	254	584	670	359
21	40	63			25	26	171	301	264	569	732	384
22	39	61	31		24	27	226	328	198	564	756	397
23	44	63	30		24	28	282	359	163	422	710	436
24	36	67	29		24	28	260	405	157	355	698	449
25	34	56			24	27	230	422	154	397	698	422
26	33	42			24	26	230	401	152	422	692	392
27	33	37	b28		24	26	226	372	152	524	692	388
28	33	38			24	28	207	339	149	616	692	384
29	60	37			-	30	157	260	201	621	664	388
30	75	37			-	29	154	226	401	616	621	388
31	69	-			-	29	-	250	-	554	605	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,685	339	33	86.6	5,330
November	1,914	86	37	63.8	3,800
December	986	-	-	31.8	1,960
Calendar year 1946	86,229	786	-	236	171,000
January	775	-	-	25.0	1,540
February	695	-	-	24.8	1,380
March	812	30	24	26.2	1,610
April	3,238	282	28	108	6,420
May	9,779	610	90	315	19,400
June	8,085	529	136	270	16,040
July	18,294	715	355	590	36,290
August	14,033	756	183	453	27,830
September	15,636	676	359	521	31,010
Water year 1946-47	76,932	756	-	211	152,600

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Sevier River near Sigurd, Utah

Location.- Water-stage recorder, lat. 38°52', long. 111°57', in SW¼ sec. 19, T. 22 S., R. 1 W., 200 feet downstream from bridge, half a mile downstream from Rockyford Dam, 2 miles northeast of Sigurd, and 5 miles upstream from Lost Creek.

Drainage area.- 3,340 square miles.

Records available.- July to September 1912, July 1914 to September 1947.

Average discharge.- 33 years (1914-47), 113 second-feet.

Extremes (regulated).- Maximum discharge during year, 274 second-feet June 23 (gage height, 2.54 feet): minimum, 1.0 second-foot Aug. 3.
1914-47: Maximum discharge, 2,400 second-feet May 30, 1922 (gage height, 8.1 feet, datum then in use), from rating curve extended above 600 second-feet on basis of maximum discharge for other Sevier River stations; practically no flow (seepage only) when Rockyford Reservoir gates are closed.

Remarks.- Records good above 10 second-feet and fair below. Extreme low flow during irrigation season represents seepage and return flow from canals. Flow also regulated by dams and reservoirs above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	109	123	87	125	129	97	4.0	2.2	27	2.0	4.8
2	34	104	111	87	125	131	86	4.0	2.0	9.5	1.4	4.8
3	48	98	105	87	129	135	78	4.2	1.6	5.0	1.2	4.6
4	48	102	104	95	131	135	69	3.6	1.6	4.6	1.4	4.4
5	67	102	111	100	131	137	62	3.4	1.4	4.4	1.4	4.0
6	93	104	121	109	133	143	49	3.4	1.2	4.4	1.4	4.0
7	102	105	127	112	135	137	47	3.2	1.2	4.4	1.4	4.0
8	97	109	131	111	135	120	47	3.0	1.6	4.0	1.8	4.0
9	86	114	133	111	135	118	47	2.6	1.4	3.8	2.0	3.8
10	80	112	133	112	137	118	53	2.2	1.4	3.6	2.0	3.6
11	78	102	131	116	141	118	53	2.2	1.8	3.2	2.0	4.0
12	75	102	137	120	143	120	48	3.4	1.8	2.8	2.0	3.6
13	84	107	139	116	139	112	44	34	1.8	2.4	2.4	4.8
14	92	109	135	118	131	111	42	57	4.0	2.2	2.4	46
15	90	109	131	114	133	118	37	84	20	2.2	2.8	74
16	89	109	127	112	135	121	25	78	31	2.2	4.4	59
17	90	112	127	105	137	120	18	57	34	2.2	5.8	54
18	90	111	123	111	125	120	12	39	28	2.4	5.0	47
19	90	107	118	112	112	120	12	23	21	2.6	4.6	42
20	90	102	118	112	112	143	11	15	15	2.6	4.4	35
21	92	104	125	114	114	152	6.2	7.0	93	2.4	4.4	29
22	90	105	127	112	135	152	4.4	4.0	190	2.4	4.4	22
23	90	112	125	111	158	156	4.2	3.0	262	2.0	4.4	18
24	90	131	125	114	143	163	4.2	2.8	254	1.8	4.2	34
25	90	137	125	114	139	156	4.0	2.8	234	1.8	4.2	47
26	92	139	125	120	97	143	3.8	2.6	226	1.8	4.2	54
27	90	141	125	125	90	98	3.8	2.6	205	2.0	4.4	60
28	89	139	127	129	123	10	3.8	2.6	121	2.6	4.6	38
29	97	135	121	131	-	7.0	3.8	2.6	92	2.6	4.6	24
30	107	131	107	129	-	15	3.8	2.2	121	2.6	4.6	21
31	107	-	82	121	-	53	-	2.2	-	2.6	4.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,563.6	107	6.6	82.7	5,080
November	3,403	141	98	113	6,750
December	3,799	139	82	122	7,540
Calendar year 1946	26,252.6	242	1	71.9	52,070
January	3,467	131	87	112	6,880
February	3,623	158	90	129	7,190
March	3,611.0	163	70	116	7,160
April	979.0	97	3.8	32.6	1,940
May	460.6	84	2.2	14.8	914
June	1,972	262	1.2	65.7	3,910
July	120.1	27	1.8	3.87	238
August	100.2	5.8	1.2	3.23	199
September	758.4	74	3.6	25.3	1,500
Water year 1946-47	24,856.9	262	1.2	68.1	49,300

Sevier River below San Pitch River, near Gunnison, Utah

Location.- Water-stage recorder, lat. 39°09', long. 111°52', in NE¼ sec. 14, T. 19 S., R. 1 W., 1,000 feet downstream from San Pitch River and 3 miles west of Gunnison.

Drainage area.- 4,880 square miles.

Records available.- October 1917 to September 1947.

Average discharge.- 30 years, 228 second-feet.

Extremes (regulated).- Maximum discharge during year, 742 second-feet June 23 (gage height, 3.68 feet); minimum, 31 second-feet July 14 (gage height, 1.00 foot).
1917-47: Maximum discharge, 2,620 second-feet June 1, 1922 (gage height, 5.68 feet, present datum); minimum daily, 8 second-feet July 13-17, Sept. 6, 1934.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow regulated by reservoirs and by many diversions for irrigation above station. Most of flow diverted above station during irrigation season.

Rating table, water year 1946-47, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.3	70	2.5	333
1.5	101	3.0	488
1.8	158	3.6	709
2.1	227		

Discharge, in second-fset, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	268	300	210	252	257	210	85	162	196	98	106
2	131	270	292	220	255	273	237	115	165	160	115	104
3	152	265	278	220	257	278	210	176	160	150	113	126
4	176	265	275	220	262	275	205	222	173	131	104	124
5	215	262	275	b220	268	273	192	270	167	133	110	116
6	225	257	281	222	273	268	180	257	135	118	108	111
7	255	255	300	227	275	289	192	213	122	110	111	99
8	250	262	308	222	273	283	176	215	101	106	120	99
9	247	281	300	220	270	275	187	215	72	95	126	106
10	242	281	289	220	275	273	222	192	73	88	150	104
11	240	268	289	230	297	278	192	192	90	88	208	99
12	237	260	289	234	300	292	171	213	158	82	178	98
13	a240	257	*294	242	297	297	154	247	185	82	167	93
14	a250	260	283	*242	297	302	150	237	173	84	162	110
15	242	260	278	252	286	281	150	250	178	72	152	129
16	240	252	273	255	286	294	152	252	171	82	148	169
17	244	250	260	252	289	300	143	242	156	87	148	148
18	250	257	247		*283	302	143	232	160	87	152	148
19	244	257	247		273	283	145	234	160	87	154	150
20	240	252	257		262	286	122	232	122	84	150	154
21	240	262	260		252	286	116	234	278	85	189	150
22	237	270	265	b250	247	297	137	232	615	90	173	148
23	232	281	268		270	302	131	201	717	99	143	145
24	232	353	270		286	313	113	185	701	118	111	145
25	227	365	270		273	311	104	167	697	122	111	152
26	227	327	273		268	302	101	167	638	113	110	158
27	227	325	273	252	230	297	98	176	550	106	106	158
28	230	322	273	257	247	242	96	167	426	111	111	167
29	260	316	255	260	-	187	91	171	305	110	115	165
30	273	305	240	257	-	165	90	156	247	91	110	139
31	265	-	225	257	-	180	-	141	-	93	104	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,085	273	115	229	14,050
November	8,365	365	250	279	16,590
December	8,487	308	225	274	16,830
Calendar year 1946	78,981	489	53	216	156,600
January	7,441	260	210	240	14,760
February	7,603	300	230	272	15,080
March	8,541	313	165	276	16,940
April	4,610	237	90	154	9,140
May	6,288	270	85	203	12,470
June	8,057	717	72	269	15,980
July	3,260	196	72	105	6,470
August	4,157	208	98	134	8,250
September	3,920	169	93	131	7,780
Water year 1946-47	77,814	717	72	213	154,300

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station near Sigurd.
b Stage-discharge relation affected by ice.

Sevier Bridge Reservoir near Juab, Utah

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

Drainage area.- 5,120 square miles.

Records available.- January 1914 to September 1947.

Extremes.- Maximum contents during year, 209,200 acre-feet Apr. 26 (gage height, 77.35 feet); minimum, 106,800 acre-feet Oct. 1 (gage height, 62.75 feet).
1914-47: Maximum contents, 251,000 acre-feet Apr. 19, 20, 1922 (gage height, 80.0 feet), from former capacity table; no contents at times during 1927-28, 1930-36.

Remarks.- Reservoir was formed by a 30-foot earth-fill dam and storage begar about 1904; dam ultimately raised to 90 feet by June 1916. Capacity, 236,000 acre-feet between gage heights 6 feet (approximate bottom of outlet tunnel) and 80.0 feet (top of flash-board on spillway). No dead storage. Figures given herein represent total contents. Water is used for irrigation. Gage read to half-tenths between 7 and 8 a.m. daily; contents are as of that time.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106,800	121,500	140,200	157,800	171,800	187,600	203,000	207,200	170,900	164,300	131,000	125,700
2	107,100	122,000	140,800	157,800	172,600	188,500	203,400	206,200	170,100	162,700	130,100	124,800
3	107,300	122,500	141,500	158,600	173,000	189,000	203,900	205,800	169,400	160,800	129,500	124,200
4	107,500	123,100	142,200	158,600	173,400	189,400	203,900	204,400	168,600	159,300	129,200	124,800
5	107,500	123,700	142,900	159,300	173,800	189,800	204,400	202,600	167,800	157,800	129,800	124,000
6	108,000	124,200	143,200	159,300	174,200	190,300	204,400	201,100	167,800	156,300	130,100	123,400
7	108,400	124,800	143,500	160,100	175,000	191,200	204,800	199,300	168,600	154,900	130,100	122,800
8	108,900	125,100	144,200	160,400	175,400	191,600	204,800	197,400	168,600	153,400	130,400	122,000
9	109,600	124,800	144,900	160,800	175,800	192,000	205,300	195,200	168,600	151,600	130,400	121,500
10	110,000	125,700	145,600	161,200	176,600	192,400	205,800	192,400	168,600	150,200	130,700	120,600
11	110,600	126,500	146,300	161,600	177,400	192,900	206,200	191,200	168,600	148,700	131,600	119,800
12	111,000	127,100	147,000	162,300	178,300	193,400	206,700	190,800	168,600	147,700	132,200	119,300
13	111,400	127,700	147,700	163,100	178,700	193,800	206,700	190,300	169,000	146,300	132,200	118,800
14	112,000	128,000	148,400	163,100	179,100	194,700	207,200	189,800	169,400	145,200	132,500	118,200
15	112,400	128,600	148,700	163,500	179,900	195,200	207,700	189,400	169,000	144,200	133,100	117,700
16	112,900	129,200	149,100	163,900	180,800	195,600	207,700	188,500	168,600	142,900	133,100	117,200
17	113,400	130,100	149,800	164,300	181,200	196,500	208,200	187,600	167,400	142,200	133,100	116,700
18	113,800	130,700	150,200	164,700	181,600	196,900	208,700	186,700	166,600	141,500	133,400	116,400
19	114,400	131,300	150,500	165,000	182,500	197,400	208,700	185,400	166,200	140,800	133,800	116,700
20	115,200	132,200	151,200	165,400	182,900	197,800	208,700	184,200	165,000	140,200	133,100	117,000
21	115,700	132,500	151,600	165,800	183,300	198,300	208,700	183,300	163,900	139,200	132,500	117,700
22	116,000	132,800	152,000	166,200	183,800	199,300	208,700	182,500	165,000	138,600	131,900	117,700
23	116,200	133,400	152,700	167,000	184,200	199,800	208,700	181,200	166,200	137,900	131,300	117,700
24	116,700	134,400	153,000	167,400	185,000	200,200	208,700	179,900	167,000	137,200	130,700	118,200
25	117,200	135,300	153,400	167,800	185,400	200,600	208,700	179,100	167,800	136,600	130,100	118,200
26	117,700	136,300	154,100	168,200	185,900	201,100	209,200	178,300	168,200	135,600	129,800	118,200
27	118,200	137,200	154,900	168,600	186,700	201,600	208,700	176,600	167,800	135,000	128,800	118,800
28	118,800	138,200	155,600	169,400	187,200	202,100	208,700	175,000	167,000	134,400	128,300	119,000
29	119,600	138,900	156,300	170,100	-	202,100	208,700	174,200	165,800	133,800	127,700	119,300
30	120,400	139,500	157,100	170,900	-	202,600	207,700	173,400	165,400	133,100	127,100	119,300
31	120,900	-	157,400	171,400	-	202,600	-	172,200	-	132,200	126,500	-

Monthly gage height and contents, water year October 1946 to September 1947

Date	Gage height (feet)	Contents (acre-feet)	Change in conterts during month (acre-feet)
Oct. 1	62.75	106,800	+14,700
Nov. 1	65.7	121,500	+18,700
Dec. 1	68.8	140,200	+17,600
Calendar year 1946	-	-	-44,300
Jan. 1	71.3	157,800	+14,000
Feb. 1	73.1	171,800	+15,800
Mar. 1	75.0	187,600	+15,400
Apr. 1	76.7	203,000	+4,200
May 1	77.15	207,200	-36,300
June 1	73.0	170,900	-6,600
July 1	72.15	164,300	-33,300
Aug. 1	67.35	131,000	-5,300
Sept.1	66.45	125,700	-6,400
Oct. 1	65.3	119,300	-
Water year 1946-47	-	-	+12,500

Sevier River near Juab, Utah

Location.- Water-stage recorder, lat. 39°22', long. 112°02', in NE¼ sec. 2, T. 17 S., R. 2 W., 1,600 feet downstream from Sevier Bridge Dam and 11 miles southwest of Juab.

Drainage area.- 5,120 square miles.

Records available.- September 1911 to September 1947.

Average discharge.- 36 years, 250 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 1,200 second-feet May 9, 10 (gage height, 4.95 feet); minimum daily, 5.3 second-feet on several days in October and November.

1911-47: Maximum discharge, 2,140 second-feet June 2, 1922 (gage height, 8.50 feet); practically no flow at times when reservoir gates were closed.

Remarks.- Records good except those for period of no gage-height record, which are fair. No diversions between this station and station near Gunnison. Flow regulated by Sevier Bridge Reservoir (see preceding page).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	6.1					19	486	546	892	431	394
2	74	5.3					19	549	525	898	349	394
3	74	5.3					19	637	528	895	293	394
4	74	5.3					19	902	388	892	69	391
5	47	5.3					19	1,010	129	892	17	385
6	26	5.3					19	1,120	26	892	15	383
7	19	5.3					17	1,170	26	892	15	383
8	12	5.3					17	1,190	28	755	15	380
9	12	5.3					17	1,200	30	692	15	374
10	12	6.1					17	1,200	34	692	17	377
11	11	6.1					17	800	34	689	17	374
12	11	6.1					17	498	34	692	17	374
13	12	6.1					17	465	184	612	17	374
14	15	7.0					17	465	259	549	17	322
15	12	6.1	12	16	20	18	17	576	284	546	17	292
16	6.1	7.0					17	679	436	504	17	276
17	5.3	7.0					17	663	439	422	19	268
18	5.3	7.0					19	685	434	380	19	164
19	5.3	7.0					19	728	465	383	263	19
20	5.3	8.0					19	725	549	385	408	17
21	5.3	8.0					21	725	210	388	405	17
22	5.3	8.0					21	728	193	434	405	17
23	5.3	8.0					21	725	303	460	357	17
24	5.3	9.2					21	728	303	408	313	17
25	5.3	9.2					19	725	332	385	311	17
26	5.3	9.2					121	725	451	388	360	17
27	5.3	9.5				15	174	728	568	385	397	17
28	6.1	9.5				17	174	728	712	385	397	17
29	7.0	9.5			-	17	231	728	822	383	394	85
30	6.1	9.5			-	17	369	728	874	556	394	133
31	5.3	-			-	19	-	644	-	559	394	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	544.9	74	5.3	17.6	1,080
November	211.6	9.5	5.3	7.05	420
December	372	-	-	12	738
Calendar year 1946	99,631.5	978	5.3	273	197,600
January	496	-	-	16	984
February	560	-	-	20	1,110
March	553	-	-	17.8	1,100
April	1,530	369	17	51.0	3,030
May	23,660	1,200	486	763	46,930
June	10,146	874	26	338	20,120
July	18,285	898	380	590	36,270
August	6,174	431	15	199	12,250
September	6,689	394	17	223	13,270
Water year 1946-47	69,221.5	1,200	5.3	190	137,300

Note.- No gage-height record Nov. 27 to Mar. 27; discharge computed on basis of discharge measurements made Nov. 27, Dec. 20, Jan. 22, Feb. 27, Mar. 27, records for station near Lyrndyl, and record of gage openings at Sevier Bridge Reservoir.

Sevier River near Lynndyl, Utah

Location.- Water-stage recorder, lat. 39°29', long. 112°24', in SE¼ sec. 27, T. 15 S., R. 5 W., 1½ miles downstream from highway bridge and 3½ miles southwest of Lynndyl.

Drainage area.- 6,270 square miles.

Records available.- April 1914 to October 1919. November 1942 to September 1947.

Extremes (regulated).- Maximum discharge during year, 842 second-feet May 12 (gage height, 6.14 feet); minimum recorded, 14 second-feet Apr. 2 (gage height, 1.74 feet). 1914-19, 1942-47: Maximum daily discharge, 1,820 second-feet June 9, 1914, based on records at Leamington; minimum recorded, 9.6 second-feet Jan. 22, 1945.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by Sevier Bridge Reservoir (see p. 127). Several diversions for irrigation between reservoir and station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	28	24			19	15	297	500	580	568	241
2	82	28	24			19	15	421	411	610	546	241
3	47	26	23		20	19	24	503	368	610	414	241
4	48	26	24			20	46	550	363	623	399	241
5	50	25	24			19	46	678	338	646	273	241
6	59	25	23			19	48	691	185	660	142	239
7	79	39	26			18	48	712	119	666	109	228
8	76	68	26			18	54	766	101	668	100	222
9	72	71	23			18	57	785	91	650	93	220
10	74	49	23			18	63	795	87	516	97	222
11	74	28	23		25	18	63	818	84	518	101	239
12	73	26	22			17	57	750	85	518	96	249
13	76	26	22			17	56	648	79	518	88	260
14	47	28	22			17	56	340	79	466	82	258
15	29	26	22			16	56	317	262	378	70	245
16	28	26	22	18	30	16	55	356	277	373	68	266
17	31	25	22		36	16	56	503	361	344	67	279
18	28	24	22		28	16	57	533	409	290	64	292
19	27	25	22		26	16	56	526	418	208	59	270
20	26	26	*22		22	16	58	570	428	196	63	131
21	25	26	21		20	16	58	553	516	193	230	95
22	24	25	21	(*)	20	16	60	530	425	196	288	87
23	24	26	21		20	16	63	536	152	206	310	81
24	24	39	21		20	16	64	543	308	264	268	78
25	24	29	21		19	16	61	546	319	438	216	73
26	23	26	22		19	16	58	523	333	426	212	71
27	24	26	25		*19	16	63	523	363	423	224	65
28	52	25	23		20	15	176	530	390	426	251	56
29	68	24	24		-	15	196	540	453	423	234	55
30	36	24	23		-	15	202	533	528	423	228	55
31	29	-	20		-	15	-	530	-	456	234	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,503	124	23	48.5	2,980
November	915	71	24	30.5	1,810
December	703	26	20	22.7	1,390
Calendar year 1946	70,917	738	16	194	140,700
January	558	-	-	18.0	1,110
February	649	-	-	23.2	1,290
March	524	20	15	16.9	1,040
April	1,987	202	15	66.2	3,940
May	17,446	818	297	563	34,600
June	8,832	528	79	294	17,520
July	13,912	668	193	449	27,590
August	6,194	568	59	200	12,290
September	5,541	292	55	185	10,990
Water year 1946-47	58,764	818	-	161	116,600

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 18, 19, Dec. 31 to Feb. 16.

East Fork Sevier River near Kingston, Utah

Location.- Water-stage recorder, lat. 38°12', long. 112°09', in SW¼NW¼ sec. 13, T. 30 S., R. 3 W., 1,000 feet downstream from bridge on State Highway 22, 1.7 miles east of Kingston, and 4.1 miles upstream from mouth.

Drainage area.- 1,260 square miles.

Records available.- March 1913 to September 1947. May to September 1912 at site 2½ miles downstream, below all diversions.

Average discharge.- 34 years, 88.4 second-feet.

Extremes (regulated).- Maximum discharge during year, 206 second-feet Oct. 1 (gage height, 1.93 feet); minimum, 6.6 second-feet Nov. 3.
1913-47: Maximum discharge, 2,030 second-feet May 12, 1941 (gage height, 5.05 feet); minimum, 3.8 second-feet Jan. 7, 1946.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above and below station for irrigation. Station is above diversions in vicinity of Kingston. Flow regulated by Otter Creek Reservoir (see p. 132).

Rating tables, water year 1946-47, except periods of ice effect (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Oct. 18 to Dec. 28, Sept. 10-30)

Oct. 1 to Feb. 14				Feb. 15 to Sept. 30			
0.3	12	1.2	82	0.4	15	0.9	46
.4	16	1.5	124	.5	19	1.1	68
.7	32	1.9	199	.6	25	1.3	95
.9	48			.7	31	1.6	140

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	14	63			15	17	22	49	43	39	153
2	201	12	62			15	17	24	46	44	39	154
3	199	11	62			15	17	29	49	43	40	153
4	197	12	64			16	17	50	51	44	40	153
5	197	13	66			16	17	61	52	43	42	153
6	150	13	67			15	18	58	50	44	44	151
7	a16	14	70			15	20	56	47	44	46	149
8		16	26		e15	16	19	54	46	44	47	149
9		16	20			16	19	54	46	45	45	151
10		57	b17			17	19	54	46	44	52	106
11		68	b17			17	18	52	50	43	47	24
12		68	b17			17	18	50	52	41	45	23
13	a14	72	17			16	17	44	48	42	44	24
14		85	*17			17	17	42	46	41	43	23
15		72	17		15	17	17	44	44	43	43	21
16		64	16	a13 (*)	14	17	17	45	44	46	45	19
17		61	17		14	17	17	45	43	44	46	18
18	14	61	b15		13	17	17	44	44	42	46	18
19	13	60	b16		13	17	18	47	44	41	44	18
20	14	*61	b16		*13	17	18	47	44	40	56	17
21	13	67	b16		14	17	20	47	76	38	142	17
22	13	66	b16		14	17	22	45	76	39	149	17
23	12	66	b16		14	18	22	44	61	40	156	17
24	12	70	16		15	18	21	44	58	40	145	17
25	12	64	16		14	18	20	44	56	40	145	17
26	12	61	16		14	17	20	49	52	38	144	16
27	12	64	17		15	17	21	50	47	40	145	16
28	14	64	16		15	17	22	48	40	40	149	27
29	17	64	a13		-	18	20	50	40	40	149	20
30	15	63	a13		-	17	20	57	40	40	144	17
31	14	-	a13		-	17	-	53	-	39	154	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,425	201	12	46.0	2,830
November	1,499	85	11	50.0	2,970
December	850	70	13	27.4	1,690
Calendar year 1946	34,538	363	11	95.6	68,520
January	403	-	-	13.0	799
February	407	-	-	14.5	807
March	516	18	15	16.6	1,020
April	562	22	17	18.7	1,110
May	1,453	61	22	46.9	2,880
June	1,487	76	40	49.6	2,950
July	1,295	46	38	41.8	2,570
August	2,515	156	39	81.1	4,990
September	1,858	154	16	61.9	3,690
Water year 1946-47	14,270	201	11	39.1	28,310

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 2 discharge measurements and records for nearby stations.
b Stage-discharge relation affected by ice.

Antimony Creek near Antimony, Utah

Location.- Water-stage recorder, lat. 38°06', long. 111°53', in NW¼ sec. 22, T. 31 S., R. 1 W., 5 miles upstream from mouth and 5 miles southeast of Antimony.

Drainage area.- 26 square miles.

Records available.- October 1946 to September 1947.

Extremes.- Maximum discharge during year, 164 second-feet May 3 (gage height, 3.22 feet); minimum, 11 second-feet Aug. 22.

Remarks.- Records good except those for periods of no gage-height record, which are fair.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				21	19	20	21	40	27	18	18	12
2				21	19	20	20	74	26	18	17	12
3				20	19	20	20	105	28	18	17	12
4				20	19	20	20	119	29	18	17	12
5			a20	20	19	20	20	114	25	18	17	13
6				20	19	20	20	98	25	18	17	13
7				20	19	20	20	97	24	19	18	14
8				20	19	20	20	114	23	19	17	14
9				20	19	20	20	105	23	18	16	14
10			21	20	19	20	20	77	23	18	15	14
11			20	20	19	20	20	55	24	18	15	14
12			20	20	19	20	20	55	25	18	18	14
13			20	20	19	20	20	64	24	18	a15	15
14			20	20	19	20	21	62	23	18	a14	15
15			20	20	19		21	52	23	18	a13	17
	a20	a20				a20						
16			20	20	19		21	51	23	18	a13	18
17			21	20	19		27	60	23	18	13	18
18			21	20	19	20	35	67	24	18	13	18
19			21	20	19	21	31	74	22	18	13	18
20			21	20	19	21	38	70	22	18	14	18
21			21	20	19	21	41	62	23	18	16	18
22			21	20	19	21	33	55	25	18	14	18
23			21	20	20	21	26	49	24	18	12	18
24			21	20	20	20	25	42	20	17	12	18
25			21	20	20	20	25	39	20	17	12	18
26			21	20	19	20	24	36	19	17	13	18
27			21	19	20	21	23	33	19	17	13	18
28			21	20	20	21	23	34	19	17	12	18
29			20	20	-	21	23	33	19	17	12	18
30			20	19	-	21	28	29	19	17	12	18
31			20	19	-	21	-	28	-	18	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	620	-	-	20	1,230
November	600	-	-	20	1,190
December	633	-	-	20.4	1,260
Calendar year	-	-	-	-	-
January	619	21	19	20.0	1,230
February	537	20	19	19.2	1,070
March	630	21	20	20.3	1,250
April	726	41	20	24.2	1,440
May	1,993	119	28	64.3	3,950
June	693	29	19	23.1	1,370
July	553	19	17	17.8	1,100
August	450	18	12	14.5	893
September	475	18	12	15.8	942
Water year 1946-47	8,529	119	-	23.3	16,920

a No gage-height record; discharge interpolated, or computed on basis of 1 discharge measurement and weather records.

Otter Creek Reservoir near Antimony, Utah

Location.- Staff gage, lat., 38°10'15", long. 112°00'00", in NW¼ sec. 28, T. 30 S., R. 2 W., near spillway on right side of dam on Otter Creek, 5 miles northwest of Antimony and 12 miles east of Kingston.

Records available.- January to September 1914, October 1945 to September 1947. 1915, 1934-45 available in files of Salt Lake City district office, Geological Survey (will be furnished upon application).

Extremes.- Maximum contents observed during year, 51,250 acre-feet June 1 (gage height, 35.5 feet); minimum observed, 12,520 acre-feet Oct. 10 (gage height, 15.4 feet).
1914-15, 1934-47: Maximum contents observed, 55,000 acre-feet May 1, 1946 (gage height, 37.0 feet); minimum, 400 acre-feet Aug. 1, Sept. 1, 20, Oct. 1, 1934.

Remarks.- Reservoir formed in 1891 by a 40-foot earth-fill, rock-faced dam, 5 feet added to height in 1901. Capacity, 52,500 acre-feet between gage height zero (bottom of outlet gate) and gage height 36.0 feet (top of flashboards on spillway). Spillway crest is at gage height 33.5 feet. Reservoir stores water from Otter Creek and water diverted from East Fork Sevier River, for irrigation in Sevier River Basin.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,300	17,200	20,100	24,420	28,200	33,400	39,680	46,160	51,250	50,000	47,360	44,720
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	12,520	18,860	21,180	26,040	29,820	34,800	42,080	49,040	51,000	48,800	46,880	42,560
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	14,740	19,200	22,800	27,120	31,800	36,600	44,240	50,750	50,000	48,320	46,400	42,560
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-

Monthly gage height and contents, water year October 1946 to September 1947

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	16.0	13,300	+3,900
Nov. 1	18.8	17,200	+2,900
Dec. 1	20.5	20,100	+4,320
Calendar year 1946	-	-	-15,980
Jan. 1	22.9	24,420	+3,780
Feb. 1	25.0	28,200	+5,200
Mar. 1	27.7	33,400	+6,280
Apr. 1	30.7	39,680	+6,480
May 1	33.4	46,160	+5,090
June 1	35.5	51,250	-1,250
July 1	35.0	50,000	-2,640
Aug. 1	33.9	47,360	-2,640
Sept. 1	32.8	44,720	-2,160
Oct. 1	31.9	42,560	-
Water year 1946-47	-	-	+29,260

Clear Creek at Sevier, Utah

Location.- Water-stage recorder, lat. 38°34'55", long. 112°15'35", in SW¼NW¼ sec. 32, T. 25 S., R. 4 W., 400 feet upstream from bridge on U. S. Highway 89, 1,000 feet upstream from mouth, and 0.3 mile south of Sevier.

Drainage area.- 169 square miles.

Records available.- February 1912 to September 1919 and October 1940 to September 1947 in reports of Geological Survey. April 1934 to September 1947 in reports of Sevier River water commissioner.

Average discharge.- 12 years (1912-17, 1940-47), 35.0 second-feet.

Extremes.- Maximum discharge during year, 237 second-feet May 12 (gage height, 3.38 feet); minimum daily, 2.4 second-feet Sept. 24.
1912-19, 1940-47: Maximum discharge observed, 487 second-feet Aug. 7, 1941 (gage height, 4.05 feet); no flow Aug. 26, 1913.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Practically entire flow is diverted above station each year during latter part of irrigation season.

Rating table, water year 1946-47, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 26 to Sept. 30)

0.6	2.4	1.1	14	2.1	90
.7	3.7	1.2	18	2.8	167
.8	5.4	1.3	22	3.3	227
.9	7.6	1.5	35		
1.0	10	1.7	50		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	21	24	7.0		20	60	69	113	91	12	7.6
2	8.5	21	22	7.5		20	54	98	108	81	12	5.8
3	4.9	18	21	8.5		17	50	135	116	80	12	5.2
4	4.6	21	22	9.5		21	45	175	109	74	12	5.6
5	5.6	21	22	10		19	39	198	97	71	12	5.1
6	6.9	20	22	12		17	38	195	92	64	11	5.2
7	6.3	20	22	13		19	38	207	98	61	12	5.4
8	6.7	20	20	15		20	38	226	122	58	13	5.2
9	6.7	19	15	15		19	38	217	136	54	12	4.9
10	6.3	14	15	15	16	20	36	190	124	48	15	4.7
11	5.2	21	18	16		21	40	193	128	39	19	4.4
12	5.1	20	20	16		19	41	219	122	34	17	5.1
13	8.1	22	20	16		17	45	187	109	32	17	4.4
14	14	22	*21	16		21	47	173	97	31	15	2.9
15	14	20	21	*15		22	54	162	93	31	15	4.4
16	15	14	19	15		27	60	150	99	31	14	5.4
17	16	15	13	14		33	68	150	108	30	13	5.1
18	17	18	10	15		37	87	149	112	28	12	4.7
19	17	21	10	16	19	44	84	158	108	26	11	4.6
20	17	21	18	17	20	54	89	165	115	25	11	3.3
21	17	20	17	18	16	62	94	172	138	22	11	2.7
22	16	20	18	18	19	67	103	177	136	23	11	2.5
23	16	24	19	19	21	67	90	177	121	22	11	2.5
24	16	39	19	17	20	53	75	169	119	22	10	2.4
25	14	27	18		18	54	65	167	124	19	11	2.5
26	9.8	24	18		19	58	58	162	128	15	11	3.2
27	7.6	27	19		21	57	63	163	126	17	10	2.8
28	9.3	25	16		20	63	61	163	119	17	11	2.7
29	24	25			-	66	55	141	110	15	11	2.7
30	18	24	6.0		-	68	58	122	102	14	8.7	2.5
31	21	-			-	64	-	118	-	13	8.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	356.2	24	2.6	11.5	706
November	644	39	14	21.5	1,280
December	537.0	24	-	17.3	1,070
Calendar year 1946	9,788.2	120	1.1	26.8	19,430
January	452.5	19	7	14.6	898
February	481	21	16	17.2	954
March	1,166	68	17	37.6	2,310
April	1,773	103	36	59.1	3,520
May	5,147	226	69	166	10,210
June	3,429	138	92	114	6,800
July	1,188	91	13	38.3	2,360
August	381.4	19	8.7	12.3	756
September	125.5	7.6	2.4	4.18	249
Water year 1946-47	15,680.6	226	2.4	43.0	31,110

* Winter discharge measurement made on this day.
Note.- No gage-height record Jan. 24 to Feb. 18; discharge computed on basis of weather records and records for nearby streams. Stage-discharge relation affected by ice Dec. 29 to Jan. 7.

Salina Creek at Salina, Utah

Location.- Water-stage recorder and concrete control, lat. 38°57', long. 111°52', in NW¼ sec. 25, T. 21 S., R. 1 W., at Salina, 150 feet upstream from bridge on U. S. Highway 89 and three-quarters of a mile upstream from mouth.

Drainage area.- 298 square miles.

Records available.- April 1914 to September 1919, November 1942 to September 1947. July 1900 to April 1901 at site 5 miles upstream, published as Salina Creek near Salina.

Extremes.- Maximum discharge during year, 756 second-feet Aug. 20 (gage height, 3.46 feet), from rating curve extended above 400 second-feet; minimum, 0.5 second-foot Oct. 15, Aug. 26.

1914-19, 1942-47: Maximum discharge, 804 second-feet Aug. 7, 1943 (gage height, 3.44 feet), from rating curve extended above 400 second-feet; minimum, 0.1 second-foot Aug. 9, 1946.

Remarks.- Records good except those below 10 second-feet and those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	14	16			24	7.0	29	11	3.0	1	1.3
2	6.5	14	12			24	6.0	60	11	2.4	1	3.6
3	2.7	13	13			23	4.0	56	15	2.4	1	16
4	1.5	16	16			24	1.9	179	16	3.6	1	3.0
5	1.7	16	16			18	1.7	215	10	6.0	1	7.0
6	1.9	16	16			16	2.2	176	5.0	6.5	1	1.3
7	1.7	16	17			14	1.9	130	4.5	4.5	2	.7
8	1.7	21	13			14	1.9	195	7.0	5.0	4	1.1
9	1.7	18	6.5			12	4.0	173	6.0	3.6	3	.7
10	1.7	20	7.0			13	2.4	102	6.0	3	5	.7
11	1.7	23	12			16	2.2	94	20	3	3	.9
12	1.5	23	13			13	1.9	104	50	2	2	1.3
13	1.5	25	*13			14	1.9	92	24	2	2.4	1.1
14	1.1	17	12			20	4.5	106	43	1	2.2	1.3
15	.7	14	12	*b14	b18	26	6.5	76	22	1	2.2	.9
16	1.3	16	11			39	7.5	76	8.1	3	2.2	1.1
17	2.2	12	7.5			43	5.5	83	3.0	1	2.2	1.1
18	1.9	18	4.5		(*)	47	9.4	90	5.0	1	1.5	1.1
19	4.0	16	8.1			*52	3.3	124	4.0	1	1.5	1.1
20	15	15	10			48	5.5	112	9.4	1	63	.9
21	13	11	14			40	17	116	278	1	21	.9
22	13	11	12			35	18	112	250	1.1	3.6	.9
23	14	21	12			40	4.5	92	208	1	2.7	.9
24	14	42	12			24	4.5	70	202	1	5.5	1.5
25	14	16	14			12	5.0	64	170	1	1.3	1.1
26	14	13	15			8.1	5.5	45	92	1	.7	1.1
27	14	21	15			7.5	6.0	47	47	5	1.7	1.9
28	15	16	12			15	4.0	52	26	3	2.4	2.4
29	18	15	7.5		-	14	3.0	35	20	1	2.2	2.2
30	16	12	b5.0		-	12	4.0	25	8.1	1	2.2	1.1
31	15	-	b5.0		-	7.0	-	16	-	1	2.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	215.0	18	0.7	6.94	426
November	521	42	11	17.4	1,030
December	359.1	17	4.5	11.6	712
Calendar year 1946	6,657.1	149	.2	18.2	13,200
January	434	-	-	14	861
February	504	-	-	18	1,000
March	714.6	52	7.0	23.1	1,420
April	152.7	18	1.7	5.09	303
May	2,946	215	16	95	5,840
June	1,581.1	278	3	52.7	3,140
July	73.1	6.5	1	2.36	145
August	147.7	63	.7	4.76	293
September	60.2	16	.7	2.01	119
Water year 1946-47	7,708.5	278	.7	21.1	15,290

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record July 10 to Aug. 12; discharge computed on basis of weather records and 1 staff-gage reading.

Chalk Creek near Fillmore, Utah

Location.- Water-stage recorders, lat. 38°58', long. 112°18', in NE¼ sec. 28, T. 21 S., R. 4 W., 1 mile east of Fillmore and 2¼ miles downstream from South Fork.

Drainage area.- 60 square miles.

Records available.- March 1944 to September 1947. May to July 1914 at site 1¼ miles upstream.

Extremes.- Maximum discharge during year, 312 second-feet May 6; minimum daily, 9.7 second-feet Oct. 15.
1914, 1944-47: Maximum discharge, 490 second-feet May 9, 1914 (gage height, 3.40 feet, site and datum then in use); minimum daily, 8.4 second-feet Jan. 12, 1946.

Remarks.- Records good. Records include flow of Fillmore Canal which diverts on left bank at flood-control dam 400 feet upstream. During low-water periods flow is diverted 2 miles upstream and carried in a lined ditch to the head of the Fillmore Canal. One small irrigation diversion above gage.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	14	36		19	24	92	142	103	57	25	16
2	16	13	33		19	24	95	185	100	54	24	16
3	12	13	30		19	24	97	241	96	52	23	16
4	12	14	29		20	24	94	285	90	50	24	16
5	13	14	29		20	23	86	300	82	48	23	15
6	14	13	29		20	22	77	304	77	48	23	15
7	13	14	31		21	22	70	298	74	46	22	15
8	13	15	29		22	22	66	293	72	44	22	15
9	12	12	27		22	22	67	267	74	44	29	15
10	12	13	25		24	22	66	229	66	40	40	16
11	11	15	24	15	24	24	65	216	75	39	26	15
12	11	16	24		24	23	64	193	73	38	25	15
13	11	17	22		24	22	68	174	66	37	24	14
14	11	20	22		24	24	86	172	62	36	23	14
15	9.7	20	22		26	25	104	171	63	36	22	14
16	11	18	21		28	29	114	178	67	34	21	14
17	12	17	19		30	35	128	194	79	32	20	14
18	12	17	18		30	44	140	212	69	31	20	14
19	11	17	18		29	54	139	232	66	30	19	14
20	11	19	18		28	63	147	237	67	29	19	14
21	11	19	18	15	27	69	162	226	89	30	19	14
22	11	20	18	15	26	76	167	213	75	29	18	14
23	11	33	18	15	26	85	150	198	74	28	18	13
24	11	60	17	15	25	78	133	180	76	27	18	13
25	11	41	17	15	24	72	115	169	73	26	17	13
26	11	38	18	16	24	69	103	154	72	26	17	13
27	11	40	18	16	24	66	101	151	69	25	18	13
28	14	40	17	17	24	68	95	140	67	24	18	13
29	19	39		18	-	75	92	124	64	25	17	13
30	15	38	15	20	-	87	103	114	60	25	17	13
31	15	-		20	-	91	-	108	-	25	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	381.7	19	9.7	12.3	757
November	679	60	13	22.6	1,350
December	692	36	-	22.3	1,370
Calendar year 1946	10,521.0	139	8.4	28.8	20,870
January	482	20	-	15.5	956
February	673	30	19	24.0	1,330
March	1,408	91	22	45.4	2,790
April	3,086	167	64	103	6,120
May	6,300	304	108	203	12,500
June	2,240	103	60	74.7	4,440
July	1,115	57	24	36.0	2,210
August	667	40	16	21.5	1,320
September	429	16	13	14.3	851
Water year 1946-47	18,152.7	304	9.7	49.7	36,000

Note.- No gage-height record Dec. 28 to Jan. 20; discharge computed on basis of weather records and records for nearby streams.

Beaver River near Beaver, Utah

Location.- Water-stage recorder, lat. 38°17', long. 112°34', in SW¼SW¼ sec. 17, T. 29 S., R. 6 W., at Fishlake National Forest boundary, three-quarters of a mile downstream from Bakers Canyon and 4¼ miles east of Beaver.

Drainage area.- 89 square miles.

Records available.- June to September 1906, March 1914 to September 1947.

Average discharge.- 33 years (1914-47), 56.8 second-feet.

Extremes.- Maximum discharge during year, 676 second-feet Aug. 12 (gage height, 4.27 feet); minimum not determined, probably occurred during period of ice effect.
1914-47: Maximum discharge 1,080 second-feet July 22, 1936 (gage height, 7.27 feet, site and datum then in use), from rating curve extended above 500 second-feet; minimum, 5 second-feet Aug. 29, 1931, Nov. 30, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair. No diversion above station for irrigation. Water diverted for hydroelectric power, but returned to stream above station. Some regulation by power plants and several small reservoirs.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	24	23		b18	22	51	145	190	107	45	36
2	54	25	23		18	21	51	213	187	101	42	40
3	28	26	22		19	20	50	290	196	97	46	41
4	22	25	22		19	19	44	335	182	93	46	39
5	22	23	23		19	19	42	369	172	84	45	39
6	26	22	22		19	22	39	358	169	82	43	37
7	26	23	22		18	22	37	401	176	84	40	36
8	26	23	22		19	19	36	450	199	86	39	36
9	25	24	b20		19	19	36	438	193	84	54	36
10	25	b22	b21		19	19	35	335	176	86	136	36
11	22	22	b21		22	19	35	269	179	87	53	36
12	23	22	23		22	19	33	226	162	86	132	35
13	24	23	22		23	20	35	201	145	84	84	34
14	25	23	22		22	21	47	210	138	84	60	33
15	23	22	22		21	23	70	204	136	84	52	31
16	23	b21	22	b18	21	25	88	238	129	80	47	33
17	25	23	b20		20	30	106	269	154	77	49	33
18	26	22	b21		20	32	114	276	162	75	45	34
19	22	22	*b21		19	34	121	323	149	72	40	33
20	23	22	b21		19	36	132	393	149	69	52	33
21	*24	23	b21	(*)	21	37	132	413	154	69	60	32
22	24	24	22		19	43	123	429	142	75	50	31
23	24	25	22		18	44	104	425	127	69	43	31
24	23	26	22		20	38	94	385	120	66	42	29
25	22	26	22		21	37	86	350	116	62	39	28
26	22	*24	22		*21	37	82	319	116	49	40	28
27	22	25	22		21	36	79	304	145	47	41	28
28	26	23	b20		22	41	77	276	136	46	47	29
29	30	24	b19		-	43	80	232	127	45	40	27
30	26	22	b19		-	47	102	213	116	43	40	26
31	26	-	b19		-	47	-	201	-	43	39	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	781	54	22	25.2	1,550
November	701	26	21	23.4	1,390
December	665	23	19	21.5	1,320
Calendar year 1946	15,610	192	19	42.8	30,960
January	558	-	-	18	1,110
February	559	23	18	20.0	1,110
March	911	47	19	29.4	1,810
April	2,161	132	33	72.0	4,290
May	9,490	450	145	306	18,820
June	4,642	199	116	155	9,210
July	2,316	107	43	74.7	4,590
August	1,635	136	39	52.7	3,240
September	1,000	41	26	33.3	1,980
Water year 1946-47	25,419	450	-	69.6	50,420

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Beaver River at Adamsville, Utah

Location.- Water-stage recorder, lat. 38°16', long. 112°48', in S½ sec. 30, T. 29 S., R. 8 W., 600 feet downstream from bridge on State Highway 21, a quarter of a mile upstream from Indian Creek, and three-quarters of a mile south of Adamsville.

Drainage area.- 272 square miles.

Records available.- December 1913 to September 1936, October 1937 to September 1947.

Average discharge.- 31 years (1914-36, 1938-47), 38.3 second-feet.

Extremes.- Maximum discharge during year, 465 second-feet May 11; minimum, 5.8 second-feet Apr. 18.

1913-36, 1937-47: Maximum discharge, 1,090 second-feet July 23, 1941, from rating curve extended above 500 second-feet; no flow during periods in 1924, 1931, 1934, 1935, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair. No diversion between station and Rockyford Reservoir. Several ditches above station divert practically entire flow during irrigation season to supply Adamsville and Beaver districts.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	35	43		43	40	53	16	99	33	15	21
2	20	35	42		42	41	29	26	86	31	19	18
3	10	35	43		42	40	23	81	89	25	20	17
4	9.7	43	44		44	40	17	126	85	18	22	17
5	13	43	43		46	40	11	189	69	18	23	15
6	29	41	40		46	39	9.9	165	68	18	50	14
7	28	41	47		43	39	9.9	163	67	19	62	11
8	23	44	45		42	39	8.6	215	61	19	37	12
9	26	44	44		41	39	14	212	60	20	32	13
10	29	43	43		45	38	16	163	57	16	85	12
11	17	47	45		46	39	13	323	78	15	50	13
12	17	53	44	b38	49	38	11	254	69	13	61	13
13	17	57	44		49	36	9.5	143	65	14	65	13
14	17	60	42		46	38	8.6	112	56	21	43	13
15	16	53	42		43	39	8.2	87	47	26	38	13
16	17	49	42		41	39	7.8	92	38	18	36	12
17	18	50	40		40	40	6.1	114	36	18	36	12
18	18	49	40		40	44	6.4	115	45	20	34	9.9
19	17	45	*40		40	44	7.0	128	38	16	30	10
20	17	43	40		37	45	10	167	48	15	34	11
21	18	41	43	(*)	38	46	15	196	106	16	31	11
22	18	44	42		39	48	16	206	97	23	27	11
23	17	46	42		40	57	14	212	81	20	26	11
24	17	52	41	40	40	55	12	196	69	18	24	11
25	18	46	41	40	39	54	10	208	63	16	21	11
26	20	46	46	44	*39	52	8.6	189	52	15	16	12
27	20	45	53	46	40	49	14	187	47	16	16	12
28	32	44	46	45	42	53	20	187	44	16	21	12
29	64	43	b42	42	-	59	15	162	36	15	22	14
30	44	42	b39	46	-	62	13	126	35	18	20	12
31	35	-	b36	45	-	65	-	112	-	16	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	660.0	64	7.3	21.3	1,310
November	1,359	60	35	45.3	2,700
December	1,324	53	36	42.7	2,630
Calendar year 1946	9,276.5	66	2.1	25.4	18,410
January	1,222	46	-	39.4	2,420
February	1,182	49	37	42.2	2,340
March	1,397	65	36	45.1	2,770
April	416.6	53	6.1	13.9	826
May	4,872	323	16	157	9,660
June	1,891	106	35	63.0	3,750
July	582	33	13	18.8	1,150
August	1,036	85	15	33.4	2,050
September	386.9	21	9.9	12.9	767
Water year 1946-47	16,328.5	323	6.1	44.7	32,370

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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Rockyford Reservoir near Minersville, Utah

Location.- Staff gage, lat. 38°14', long. 112°50', in NE¼ sec. 11, T. 30 S., R. 9 W., at Rockyford Dam on Beaver River and 5 miles east of Minersville.

Drainage area.- 510 square miles.

Records available.- October 1937 to September 1947.

Extremes.- Maximum contents observed during year, 21,500 acre-feet May 31, June 26, 28 (gage height, 49.4 feet); minimum observed, 5,420 acre-feet Oct. 2 (gage height, 27.2 feet).
1937-47: Maximum contents observed, 23,810 acre-feet Apr. 22, 25, 28, 30, May 1, 1945; no contents Oct. 16, 31, 1939.

Remarks.- Reservoir is formed by earth-fill dam completed in 1914. Capacity, 23,260 acre-feet between gage heights 0.0 foot (bottom of outlet tunnel) and 51.0 feet (spillway crest). Prior to fall of 1937 spillway crest was at elevation 52.5 feet. Dead storage negligible. Water is used for irrigation on lands of Delta Land & Water Co.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	-	-	-	-
2	5,420	-	-	-	-	-	-	-	-	-	17,190	-
3	-	-	-	-	-	-	-	-	-	21,060	-	-
4	-	-	-	-	-	-	17,280	16,720	-	-	-	-
5	5,500	-	10,000	-	-	-	-	-	-	-	-	15,290
6	-	-	-	-	-	15,770	-	-	-	-	-	-
7	-	7,380	-	-	14,400	-	-	-	-	20,690	16,910	-
8	-	-	-	-	-	-	17,280	-	-	-	-	14,890
9	5,750	-	10,400	12,300	-	-	-	17,760	21,280	-	-	-
10	-	-	-	-	-	-	-	-	-	20,210	16,910	-
11	-	-	10,540	-	-	-	-	-	-	-	17,000	-
12	-	7,920	-	-	-	-	-	-	21,180	-	-	14,720
13	-	-	-	-	14,720	16,180	-	-	21,180	19,740	-	-
14	5,920	-	10,740	-	-	-	-	19,270	21,180	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	10,880	12,780	-	-	-	19,360	21,060	-	17,000	-
17	6,090	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	14,480
19	-	8,640	-	-	-	-	-	-	-	-	16,720	-
20	-	-	-	13,030	-	-	17,100	-	-	-	-	-
21	-	-	11,150	-	15,290	-	-	19,930	20,970	-	-	-
22	6,170	-	-	-	-	16,530	-	-	-	-	-	-
23	-	9,050	-	-	-	-	-	-	21,180	-	16,340	-
24	6,280	-	-	-	-	-	-	-	-	-	-	14,240
25	-	-	-	13,270	-	-	-	20,780	21,390	-	-	-
26	-	9,450	-	-	-	-	-	-	21,500	-	-	-
27	-	-	11,620	-	-	-	-	-	-	17,950	-	-
28	6,500	-	-	-	15,610	-	-	21,280	21,500	-	15,860	-
29	-	9,590	-	-	-	-	-	-	-	-	-	-
30	6,830	9,620	-	-	-	-	16,430	-	21,390	-	-	14,160
31	a6,900	-	11,960	13,750	-	17,190	-	21,500	-	17,380	15,690	-

a No gage-height record; contents interpolated.

Monthly gage height and contents, water year October 1946 to September 1947

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	26.8	5,250	-
Oct. 31	-	6,900	+1,650
Nov. 30	35.05	9,620	+2,720
Dec. 31	38.5	11,960	+2,340
Calendar year 1946	-	-	-8,440
Jan. 31	40.8	13,750	+1,790
Feb. 28	43.1	15,610	+1,860
Mar. 31	44.9	17,190	+1,580
Apr. 30	44.1	16,430	-760
May 31	49.4	21,500	+5,070
June 30	49.3	21,390	-110
July 31	45.1	17,380	-4,010
Aug. 31	43.2	15,690	-1,690
Sept.30	41.3	14,160	-1,530
Water year 1946-47	-	-	+8,910

Beaver River at Rockyford Dam, near Minersville, Utah

Location.- Water-stage recorder and concrete control, lat. 38°14', long. 112°50', in NW¼ sec. 11, T. 30 S., R. 9 W., half a mile downstream from Rockyford Dam and 4¾ miles east of Minersville.

Drainage area.- 512 square miles.

Records available.- December 1913 to September 1947.

Average discharge.- 32 years (1914-36, 1937-47), 39.8 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 124 second-feet July 10; minimum daily, 4.6 second-feet Oct. 15, Nov. 12.
1913-47: Maximum discharge, 727 second-feet June 10, 1921 (gage height, 3.53 feet); minimum, 0.3 second-foot Mar. 19, 1914.

Remarks.- Records good. One small diversion between dam and station. Flow regulated by Rockyford Reservoir (see preceding page). Several diversions above reservoir for irrigation and municipal supply.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	6.4	5.8	7.0	8.2	9.4	9.4	50	94	61	63	64
2	6.4	6.4	5.8	7.0	8.2	9.4	10	54	93	64	61	64
3	6.4	6.4	5.8	7.0	8.2	9.4	10	56	93	72	61	64
4	6.4	6.4	5.8	7.0	8.2	9.4	10	56	81	72	56	72
5	6.4	6.4	5.8	7.0	8.2	9.4	10	57	81	72	50	74
6	6.4	6.4	5.8	7.0	8.8	9.4	11	61	79	72	51	73
7	6.4	6.4	6.4	7.6	8.8	9.4	12	68	79	78	53	73
8	5.8	a6.0	7.0	7.6	8.8	9.4	12	74	81	93	56	63
9	5.8	a5.7	7.0	7.6	8.2	10	12	74	70	110	57	44
10	5.8	a5.3	7.0	7.8	8.2	10	12	74	68	124	45	37
11	5.8	a5.0	7.0	7.6	8.2	9.4	11	63	68	120	53	36
12	5.8	4.6	7.0	7.6	8.2	10	11	53	70	109	67	31
13	5.8	5.2	7.0	7.6	8.2	10	11	61	68	98	66	31
14	5.8	5.2	7.0	7.6	8.2	10	12	66	64	81	67	30
15	4.6	5.2	7.0	7.6	8.2	9.4	12	a70	60	76	70	29
16	5.2	5.2	7.0	7.6	8.8	9.4	12	73	60	74	68	29
17	5.2	5.2	7.0	7.6	8.8	10	12	73	60	74	68	27
18	5.2	5.8	7.0	7.6	8.8	10	12	73	60	74	70	27
19	5.8	5.8	7.0	7.6	8.8	10	12	76	60	76	81	27
20	5.8	5.8	7.0	7.6	8.8	10	12	79	61	78	79	27
21	5.8	5.8	7.0	7.6	8.8	10	12	86	53	78	79	25
22	5.8	5.8	7.0	7.6	8.8	11	13	88	46	74	79	23
23	5.8	5.8	7.0	8.2	8.8	11	29	88	42	76	79	24
24	5.8	5.8	7.0	8.2	8.8	10	45	88	28	81	79	29
25	5.8	5.8	7.0	8.2	9.4	10	46	89	12	86	79	a28
26	5.8	5.8	7.0	8.2	8.8	10	48	96	13	88	79	a27
27	5.2	5.8	7.0	8.2	8.8	10	48	98	14	79	76	a26
28	5.8	5.8	7.6	8.2	8.8	10	49	98	43	74	40	a25
29	6.4	5.8	7.0	8.2	-	11	49	98	56	73	42	a24
30	6.4	5.8	7.0	8.2	-	11	50	96	61	68	58	24
31	6.4	-	7.0	8.2	-	10	-	94	-	63	64	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	182.2	6.4	4.6	5.88	361
November	172.8	6.4	4.6	5.76	343
December	209.8	7.6	5.8	6.77	416
Calendar year 1946	14,877.0	105	4.6	40.8	29,520
January	237.4	8.2	7.0	7.66	471
February	239.8	9.4	8.2	8.56	476
March	307.4	11	9.4	9.92	610
April	614.4	50	9.4	20.5	1,220
May	2,330	98	50	75.2	4,620
June	1,818	94	12	60.6	3,610
July	2,518	124	61	81.2	4,990
August	1,996	81	40	64.4	3,960
September	1,177	74	23	39.2	2,330
Water year 1946-47	11,802.8	124	4.6	32.3	23,410

a No gage-height record; discharge interpolated.

Center Creek near Parowan, Utah

Location.- Water-stage recorder, lat. 37°50', long. 112°49', in SE¼ sec. 24, T. 34 S., R. 9 W., 600 feet downstream from Parowan municipal power plant, 1½ miles south of Parowan, and 2¼ miles downstream from Left Fork.

Drainage area.- 60 square miles.

Records available.- October 1942 to September 1947.

Extremes.- Maximum discharge during year, 136 second-feet (regulated) May 4 (gage height, 3.00 feet), from rating curve extended above 50 second-feet; minimum, 6.0 second-feet (regulated) Feb. 21.

1942-47: Maximum discharge, 386 second-feet Aug. 5, 1945 (gage height, 4.59 feet) from rating curve extended above 50 second-feet by logarithmic plotting; minimum, 3.9 second-feet Mar. 5, 1944.

Remarks.- Records good. Flow slightly regulated by Yankee Meadows Reservoir (capacity, about 700 acre-feet) and by power plant above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	9.4	10	b7.5	9.4	9.1	14	32	29	a36	20	17
2	12	9.1	10	b8.0	9.4	9.1	13	48	29	35	20	17
3	9.4	9.8	10	b8.5	9.1	9.1	13	63	30	35	20	16
4	9.8	9.4	10	b9.0	8.8	9.1	13	63	28	34	21	17
5	10	9.4	10	9.1	8.8	9.1	12	68	28	33	20	17
6	10	9.4	10	9.4	9.1	b9.1	12	66	27	34	20	17
7	10	9.4	10	9.8	9.1	9.1	12	68	27	34	20	16
8	11	9.4	9.8	9.8	8.8	9.1	12	61	28	a33	19	16
9	9.8	9.4	9.8	9.8	8.8	9.1	12	51	30	a33	19	16
10	9.1	10	9.4	9.8	8.8	9.1	12	44	31	a32	22	16
11	8.5	9.4	10	9.4	8.8	9.1	13	37	37	a31	21	16
12	8.5	9.4	10	b9.0	8.8	9.1	13	37	37	a31	20	16
13	8.8	9.8	10	9.1	9.1	9.1	13	33	35	a30	19	17
14	8.5	9.8	10	b9.0	9.1	9.1	15	29	33	a29	20	17
15	8.8	9.8	10	9.4	9.1	9.4	16	28	33	28	19	17
16	9.1	9.8	10	8.8	9.1	9.4	17	28	33	27	19	16
q17	8.5	9.8	b9.0	9.4	9.1	9.8	19	29	35	26	19	16
18	8.5	9.8	*b8.5	9.8	8.8	10	21	29	37	25	18	16
19	8.2	9.8	b9.0	9.8	8.8	10	23	33	35	25	18	16
20	8.5	9.8	9.1	*9.8	9.1	10	25	35	34	25	19	15
21	8.5	9.4	9.1	9.4	b9.1	10	25	38	54	24	18	15
22	8.8	9.4	9.1	9.4	9.1	10	27	38	53	24	18	15
23	9.4	11	9.1	9.4	9.1	11	23	38	46	23	18	14
24	8.8	11	9.1	9.4	9.1	10	20	37	41	23	18	14
25	8.8	*10	9.4	8.8	9.1	*11	18	37	39	22	17	14
26	8.8	11	9.4	9.1	*9.1	11	18	35	36	21	17	14
27	9.1	11	9.4	8.8	8.8	11	18	36	a35	22	18	14
28	13	11	b7.5	9.1	8.8	12	17	37	a37	21	18	14
29	16	11	b7.0	9.1	-	13	16	33	a38	20	19	14
30	10	10	b7.0	b9.0	-	13	17	32	a37	20	17	14
31	9.8	-	b7.0	b9.0	-	14	-	31	-	20	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	298.0	16	8.2	9.61	591
November	296.7	11	9.1	9.89	588
December	287.7	10	7.0	9.28	571
Calendar year 1946	4,568.6	44	6.4	12.5	9,060
January	284.7	9.8	7.5	9.18	565
February	252.1	9.4	8.8	9.00	500
March	312.0	14	9.1	10.1	619
April	499	27	12	16.6	990
May	1,274	68	28	41.1	2,530
June	1,052	54	27	35.1	2,090
July	856	36	20	27.6	1,700
August	588	22	17	19.0	1,170
September	469	17	14	15.6	930
Water year 1946-47	6,469.2	68	7.0	17.7	12,840

* Winter discharge measurement made on this day.

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

b Stage-discharge relation affected by ice.

Coal Creek near Cedar City, Utah

Location.- Water-stage recorder, lat. 37°40'15", long. 113°00'20", in SE¼ sec. 17, T. 36 S., R. 10 W., 2 miles downstream from South Creek and 3.3 miles southeast of Cedar City.
Records available.- May 1935 to September 1947. May 1915 to November 1919 at approximately same site as May 1935 to May 1945, but records do not include flow of power canal operated during this period (abandoned since 1919). Records for May 1915 to November 1919 equivalent if flow of power canal is added.
Average discharge.- 11 years (1935-37, 1938-47), 34.9 second-feet.
Extremes.- Maximum discharge during year, 410 second-feet May 6 (gage height, 3.85 feet), from rating curve extended above 200 second-feet; minimum not determined, occurred during period of no gage-height record.
1935-47: Maximum discharge observed, 2,910 second-feet July 9, 1936 (gage height, 6.4 feet, site and datum then in use), from rating curve extended by broad-crested weir formula; minimum observed, 4 second-feet Dec. 15, 1935, but may have been less during periods of ice effect or no gage-height record.
Remarks.- Records poor. No diversion above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	19	25		12	13	50	205	83	25	18	10
2	70	16	22		13	14	47	255	78	24	18	
3	25	24	22		13	14	44	282	73	23	17	
4	14	27	22		14	16	40	301	68	23	17	
5	15	22	21		15	17	36	298	64	22	15	
6	15	21	21		15	19	35	322	60	22	13	9
7	16	19	19		16	18	35	300	56	21	13	
8	17	18	19		16	14	35	260	53	21	13	
9	15	16	17		17	14	35	230	50	21	13	
10	13	24	18		18	17	35	200	52	20	27	
11	12	20	18		20	16	36	168	56	20	24	
12	12	19	19		25	15	39	185	60	20	23	
13	12	24	19		30	18	43	178	56	20	21	
14	12	20	19		28	22	60	154	53	20	20	
15	12	18	19		25	24	71	146	50	23	19	
16	12	21	18	12	22	28	85	142	48	22	18	8.6
17	13	22	15		20	34	101	140	47	20	17	
18	13	20	(*)		19	36	104	137	44	19	16	
19	12	19			19	36	103	146	42	19	16	
20	11	19		(*)	19	32	135	154	40	19	15	
21	10	19	12		14	25	154	154	65	19	15	
22	9.8	22			15	38	142	154	68	19	14	8.6
23	9.5	19			19	37	103	140	47	19	12	8.6
24	9.2	*18	13		21	29	82	135	39	19	11	8.6
25	8.9	16	13		*22	32	74	127	35	19	11	8.2
26	8.6	20	14		20	33	68	120	31	19	10	7.9
27	15	25	14		19	36	64	120	29	19	15	7.9
28	64	29	11		14	42	62	110	27	19	23	8.2
29	45	28			-	51	83	100	26	19	15	8.2
30	30	27	11		-	51	136	95	25	18	12	8.2
31	22	-			-	52	-	90	-	18	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	615.0	70	8.6	19.8	1,220
November	631	29	16	21.0	1,250
December	503	25	-	16.2	998
Calendar year 1946	6,997.8	100	-	19.2	13,870
January	372	-	-	12.0	738
February	520	30	12	18.6	1,030
March	843	52	13	27.2	1,670
April	2,137	154	35	71.2	4,240
May	5,548	322	90	179	11,000
June	1,525	83	25	50.8	3,020
July	631	25	18	20.4	1,250
August	502	27	10	16.2	996
September	260.0	-	-	8.7	516
Water year 1946-47	14,087.0	322	-	38.6	27,930

* Winter discharge measurement made on this day.
Note.- No gage-height record Oct. 2-19, 29, 30, Feb. 1-12, May 7-10, May 26 to June 16, June 27 to July 13, Aug. 11-20, Aug. 29 to Sept. 21; doubtful gage-height record Apr. 4-8; discharge computed on basis of weather records and records for nearby stations. Stage-discharge relation affected by ice Dec. 9-14, 18-23, Dec. 29 to Jan. 31.

SALTON SEA BASIN

Salton Sea, Calif.

Location.- Bench mark set by Imperial Irrigation District, lat. 33°26'55", long. 116°02'20", in NW¼ sec. 27, T. 8 S., R. 9 E., 1 mile northeast of Figtree John Spring and about 9 miles south of Mecca. Elevation is 242.44 feet below mean sea level.
Drainage area.- 8,360 square miles.
Records available.- November 1904 to September 1947. Records prior to September 1932 are published in Water-Supply Paper 735.
Extremes.- Maximum stage, 195.0 feet below mean sea level in February and March 1907; minimum since 1906, 250.7 feet below mean sea level in November 1924; bottom of sea (from 1904-5 determinations). 273.5 feet below mean sea level.
Remarks.- Area of water surface of sea at elevation 250 feet below mean sea level, 266 square miles; area at 240 feet below mean sea level, 328 square miles. See Water-Supply Paper 735 for condensed history of Salton Sea. Elevations in the following table, furnished by Imperial Irrigation District, were determined by leveling from above mentioned bench mark.

Elevation, in feet, below mean sea level, of Salton Sea, Calif., water year October 1946 to September 1947

Oct. 1	240.65	Feb. 1	240.05	May 31	239.80
Nov. 1	240.70	28	239.80	July 1	240.05
30	240.55	Apr. 1	239.60	31	240.25
Dec. 31	240.45	May 1	239.60	Aug. 11	240.20
				Sept. 2	240.60

MOJAVE RIVER BASIN

Deep Creek near Hesperia, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°20'30", long. 117°13'40", in SE¼ sec. 18, T. 3 N., R. 3 W., 0.5 mile upstream from confluence with West Fork Mojave River and 8 miles southeast of Hesperia. Altitude of gage, about 3,050 feet.

Drainage area.- 137 square miles.

Records available.- December 1929 to September 1947.

Average discharge.- 17 years (1930-47), 68.8 second-feet.

Extremes.- Maximum discharge during year, 2,740 second-feet Nov. 23 (gage height, 4.83 feet); minimum daily, 0.7 second-foot July 29, Aug. 16, Sept. 5-7.
1929-47: Maximum discharge, 46,600 second-feet Mar. 2, 1938, by slope-area method; minimum, 0.1 second-foot at times during 1932-34, 1936.

Remarks.- Records good. Flow partly regulated by Lake Arrowhead. Hesperia Water Co.'s canal diverts water about 2 miles above station for irrigation and domestic use.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	19	69	194	38	42	34	19	5.4	1.0	0.8	0.8
2	27	18	63	92	36	41	33	14	4.0	1.0	.8	.8
3	12	15	55	75	36	39	33	14	4.2	1.0	.8	.8
4	8.0	14	53	71	38	45	35	14	4.2	.9	.8	.8
5	5.3	14	55	67	42	44	34	12	3.7	.8	4.6	.7
6	4.4	13	59	63	42	38	32	12	3.7	.8	1.1	.7
7	4.3	12	96	59	47	34	30	13	3.5	.8	.9	.7
8	4.1	18	69	53	47	34	26	14	3.2	.8	1.0	.8
9	4.1	18	57	52	47	34	24	14	2.8	.8	.9	.8
10	4.1	16	50	79	72	33	23	14	2.2	.8	1.1	.8
11	4.1	18	47	150	61	34	23	14	2.1	.8	1.0	.8
12	3.8	29	44	52	57	34	22	14	1.9	.8	1.0	.9
13	3.5	397	45	47	53	34	21	13	1.8	.8	.8	.9
14	3.7	234	38	44	53	32	20	13	1.8	.8	.8	1.0
15	3.7	77	36	39	49	32	23	13	1.7	.8	.8	1.0
16	4.1	50	35	29	45	32	20	12	1.7	.8	.7	1.0
17	4.9	42	33	38	50	32	20	11	1.6	.8	.8	1.1
18	5.3	39	32	36	50	32	21	10	1.6	.8	.8	1.1
19	5.1	38	30	34	45	33	20	9.1	1.5	.8	.8	1.1
20	5.3	419	30	36	44	34	19	7.3	1.5	.8	.9	1.2
21	5.1	425	30	35	42	41	23	6.1	1.4	.8	.9	1.2
22	4.9	236	30	34	62	41	22	4.7	1.8	.8	.9	1.2
23	4.9	873	29	33	137	38	21	4.0	1.7	.8	1.0	1.2
24	5.1	538	59	33	111	33	21	4.0	1.6	.8	1.0	1.1
25	6.2	211	161	32	42	29	22	3.7	1.4	.8	1.0	1.1
26	6.6	137	541	32	42	27	22	3.5	1.4	.8	1.0	1.2
27	7.1	109	679	32	44	26	27	3.8	1.4	.8	1.0	1.2
28	92	95	483	39	44	34	28	4.3	1.4	.8	1.0	1.2
29	108	88	219	37	-	52	26	4.4	1.2	.7	.9	1.2
30	41	80	159	40	-	42	23	4.1	1.1	.8	.8	1.2
31	23	-	136	38	-	38	-	4.7	-	.8	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	424.9	108	3.5	13.7	843
November	4,292	873	12	143	8,510
December	3,522	679	29	114	6,990
Calendar year 1946	22,189.3	2,240	.5	60.8	44,000
January	1,695	194	29	54.7	3,360
February	1,476	137	36	52.7	2,930
March	1,114	52	26	35.9	2,210
April	748	35	19	24.9	1,480
May	303.7	19	3.5	9.80	602
June	68.5	5.4	1.1	2.28	136
July	25.4	1.0	.7	.82	50
August	31.5	4.6	.7	1.02	62
September	29.6	1.2	.7	.99	59
Water year 1946-47	13,730.6	873	.7	37.6	27,230

Peak discharge.- Nov. 13 (5:45 p.m.) 1,020 sec.-ft.; Nov. 20 (6:45 p.m.) 1,110 sec.-ft.; Nov. 23 (4 p.m.) 2,740 sec.-ft.; Dec. 26 (11 a.m.) 850 sec.-ft.; Dec. 27 (4:30 p.m.) 850 sec.-ft.

Mojave River at lower narrows, near Victorville, Calif.

Location.- Water-stage recorder, lat. 34°34'25", long. 117°19'10", in SW¼SE¼ sec. 29, T. 6 N., R. 4 W., 500 feet upstream from bridge on U. S. Highway 66 and 3 miles northwest of Victorville.

Drainage area.- 530 square miles.

Records available.- October 1936 to September 1947. February 1899 to July 1906 and November 1930 to September 1936 at site 3 miles upstream.

Average discharge.- 11 years (1936-47), 114 second-feet.

Extremes.- Maximum discharge during year, 1,500 second-feet Nov. 24 (gage height, 3.48 feet); minimum daily, 13 second-feet July 30, Aug. 5.
1930-47: Maximum discharge, 70,600 second-feet Mar. 2, 1938 (gage height, 18.7 feet, present datum), by slope-area method; minimum, 9 second-feet July 28, 1942.

Remarks.- Records fair. Diversions above station principally for irrigation. Minor regulation by Lake Arrowhead.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	29	35	250	49	42	35	40	26	18	16	20
2	20	29	35	195	47	40	32	35	28	16	20	19
3	23	32	38	120	49	40	35	38	24	16	18	19
4	24	34	38	102	49	38	31	38	22	16	15	18
5	20	38	44	99	47	42	34	35	22	16	13	18
6	23	42	35	93	49	42	32	34	24	15	14	20
7	24	40	44	75	47	42	35	35	24	19	f18	19
8	28	38	42	70	53	40	42	32	25	19	f14	19
9	26	42	42	73	53	47	37	35	28	21	f14	20
10	28	38	40	64	57	47	42	31	28	20	f14	20
11	28	45	44	125	55	47	37	34	25	21	f18	20
12	32	49	42	115	59	53	38	34	24	24	f16	21
13	31	64	47	66	51	45	40	35	21	24	f20	22
14	32	190	40	62	53	47	38	37	21	20	f25	22
15	34	75	42	45	55	45	37	35	21	20	f25	22
16	36	68	42	45	57	47	28	35	24	22	f25	24
17	36	64	40	49	55	44	31	37	24	20	f24	21
18	34	62	44	53	47	44	34	35	25	22	f21	25
19	42	60	40	53	49	38	34	32	26	22	f21	24
20	32	170	40	40	51	35	34	28	28	28	f19	20
21	32	590	42	38	51	45	35	26	25	25	18	22
22	32	215	42	42	51	38	35	31	24	f22	20	20
23	32	175	44	38	58	40	35	29	25	a19	19	22
24	29	900	47	42	100	37	37	29	22	a17	20	22
25	29	320	53	32	67	37	42	29	22	f14	21	25
26	28	150	480	38	42	42	40	29	21	14	22	25
27	29	85	860	45	45	35	40	29	21	18	22	25
28	31	62	970	44	47	37	38	28	19	15	20	25
29	26	49	520	44	-	40	35	25	18	14	20	25
30	29	42	310	49	-	34	38	24	15	13	20	19
31	28	-	220	45	-	34	-	29	-	14	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	898	42	20	29.0	1,780
November	3,827	900	29	128	7,590
December	4,402	970	35	142	8,730
Calendar year 1946	26,000	2,220	13	71.2	51,550
January	2,251	250	32	72.6	4,460
February	1,493	100	42	53.3	2,960
March	1,284	53	34	41.4	2,550
April	1,081	42	28	36.0	2,140
May	1,003	40	24	32.4	1,990
June	702	28	15	23.4	1,390
July	584	28	13	18.8	1,160
August	590	25	13	19.0	1,170
September	643	25	18	21.4	1,280
Water year 1946-47	18,758	970	13	51.4	37,200

Peak discharge.- Nov. 14 (2 a.m.) 460 sec.-ft.; Nov. 21 (2:30 a.m.) 900 sec.-ft.; Nov. 24 (12:30 a.m.) 1,500 sec.-ft.; Dec. 26 (4:30 p.m.) 1,350 sec.-ft.; Dec. 27 (6 p.m.) 1,120 sec.-ft.
a No gage-height record; discharge interpolated.
f Computed on basis of partly estimated gage-height record.

Mojave River at Barstow, Calif.

Location.- Water-stage recorder, lat. 34°54'25", long. 117°01'20", in SW¼SE¼ sec. 31, T. 10 N., R. 1 W., 75 feet upstream from bridge on U. S. Highway 91 at Barstow. Altitude of gage, about 2,090 feet.

Records available.- October 1930 to September 1947.

Average discharge.- 17 years, 44.3 second-feet.

Extremes.- Maximum discharge during year, 500 second-feet Dec. 28 (gage height, 2.93 feet); no flow for several months.
1930-47: Maximum discharge, 64,300 second-feet Mar. 3, 1938 (gage height, 8.60 feet), by slope-area method; no flow for several months each year.

Remarks.- Records poor. Minor storage and many diversions above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	73	0.3	0.3						
2		0	0	78	.3	.1						
3		0	0	58	.3	.2						
4		0	0	30	.2	.2						
5		0	0	19	.1	.3						
6		0	0	13	a.1	.3						
7		0	0	12	a.1	.2						
8		0	0	7.7	a.1	.2						
9		0	0	2.7	a.2	.2						
10		0	0	1.5	a.3	.2						
11		0	0	.8	a.4	.2						
12		0	0	7.0	a.5	.1						
13		0	0	19	.5	.2						
14		0	0	6.0	.5	.3						
15		0	0	2.3	.5	.2						
16		0	0	.5	.5	.2						
17		0	0	.4	.3	.2						
18		0	0	.3	.5	.1						
19		0	0	.3	.6	.1						
20		0	0	.2	a.6	.2						
21		0	0	.2	a.6	1.5						
22		1.8	0	.3	a.6	.4						
23		.3	0	.3	a.6	.1						
24		60	0	.3	a.6	0						
25		65	0	.3	a1.0	0						
26		2.0	0	.3	a.8	0						
27		0	32	.2	.5	0						
28		0	350	1.0	.2	0						
29		0	335	.6	-	0						
30		0	160	.5	-	0						
31		-	90	.3	-	0						

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	129.1	65	0	4.30	256
December	967	350	0	31.2	1,920
Calendar year 1946	7,344.4	1,890	0	20.1	14,570
January	336.0	78	.2	10.8	666
February	11.8	1.0	.1	.42	23
March	6.0	1.5	0	.19	12
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	1,449.9	350	0	3.97	2,880

a No gage-height record; discharge computed on basis of records for station at lower narrows, near Victorville.

West Fork Mojave River near Hesperia, Calif.

Location.- Water-stage recorder, lat. 34°20'20", long. 117°14'35", in SE¼ sec. 13, T. 3 N., R. 4 W., at highway bridge, 0.5 mile upstream from confluence with Deep Creek and 7 miles southeast of Hesperia. Altitude of gage, about 3,050 feet.

Drainage area.- 74.8 square miles.

Records available.- January 1930 to September 1947.

Average discharge.- 17 years, 36.2 second-feet.

Extremes.- Maximum discharge during year, 3,000 second-feet Nov. 13, 20 (gage height, 6.50 feet); no flow during several months.
1930-47: Maximum discharge, 26,100 second-feet Mar. 2, 1938, by slope-area method; no flow during several months of each year.

Remarks.- Records good except those for periods of no gage-height record, which are fair. One small diversion for irrigation above station; water diverted from Lake Gregory above station for domestic use and fire protection. No regulation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	60	140	46	f26	17	f2.2				
2		0	55	115	45	a23	12	f1.2				
3		0	50	93	42	a22	13	1.1				
4		0	45	82	35	a22	18	.6				
5		0	43	72	36	a25	12	.5				
6		0	62	68	35	f28	11	.4				
7		0	63	61	34	27	10	.4				
8		0	48	57	33	25	10	.4				
9		0	43	53	35	24	10	.4				
10		0	38	51	53	21	12	.2				
11		1	37	50	45	20	16	.2				
12		80	35	50	42	20	15	.1				
13		1,000	32	50	40	19	11	.1				
14		350	31	46	38	16	11	.1				
15		135	29	42	36	12	10	.1				
16		75	27	40	35	12	10					
17		40	25	38	40	11	11					
18		38	25	37	45	10	9.2	.05				
19		30	24	36	38	10	8.7					
20		1,100	23	35	36	11	9.7					
21		355	22	34	35	15	8.7					
22		160	22	33	33	19	8.2					
23		340	21	31	26	20	7.8	.02				
24		310	26	27	24	19	7.4					
25		200	112	26	23	16	6.2					
26		140	575	26	23	13	5.2					
27		115	575	25	24	18	4.9					
28		97	455	70	29	35	4.3	.01				
29		82	300	72	-	38	4.0					
30		69	220	53	-	29	3.2					
31		-	165	48	-	24	-					

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	4,727	1,100	0	158	9,380
December	3,288	575	21	106	6,520
Calendar year 1946	14,063.5	2,330	0	38.5	27,890
January	1,661	140	25	53.6	3,290
February	1,006	53	23	35.9	2,000
March	630	38	10	20.3	1,250
April	296.5	18	3.2	9.88	588
May	8.41	2.2	-	.27	17
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	11,616.91	1,100	0	31.8	23,040

Peak discharge.- Nov. 13 (1:15 p.m.) 3,000 sec.-ft.; Nov. 20 (1:30 p.m.) 3,000 sec.-ft.; Nov. 23 (6 p.m.) 750 sec.-ft.; Dec. 26 (8 a.m.) 1,200 sec.-ft.; Dec. 27 (2:30 p.m.) 740 sec.-ft.

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

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

Rock Creek near Valyermo, Calif.

Location.- Water-stage recorder, lat. 34°25'10", long. 117°50'25", in NE¼ sec. 20, T. 4 N., R. 9 W., 1.8 miles southeast of Valyermo. Altitude of gage, about 4,050 feet.

Drainage area.- 23.0 square miles.

Records available.- January 1923 to September 1937, May 1938 to September 1947.

Average discharge.- 23 years (1923-37, 1938-47), 17.1 second-feet.

Extremes.- Maximum discharge during year, 900 second-feet Dec. 26 (gage height, 4.58 feet); minimum daily, 5.5 second-feet Oct. 20-27.
1923-47: Maximum discharge, 8,300 second-feet Mar. 2, 1938, by slope-area method; minimum, 1.2 second-feet Aug. 22, 1925.

Remarks.- Records fair. No diversion above station.

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	6.5	23	69	32	21	22	21	15	13	11	6.5
2	7.6	6.5	20	60	30	20	21	21	15	12	11	6.5
3	7.6	6.5	20	54	29	20	21	21	15	12	11	6.5
4	7.0	6.0	22	48	28	19	21	19	15	12	11	6.1
5	6.5	6.0	24	41	27	18	21	19	15	12	10	6.5
6	6.5	6.0	34	36	26	18	20	19	15	12	10	6.5
7	6.5	6.5	35	33	26	18	20	20	15	12	10	6.8
8	6.5	7.0	29	33	26	18	20	19	15	12	10	6.8
9	6.5	7.0	26	33	26	18	21	19	15	13	10	7.2
10	6.5	7.0	23	33	26	19	21	19	14	13	9.7	7.2
11	6.0	7.6	20	33	23	19	21	18	14	13	9.7	7.2
12	6.5	10	19	35	22	20	20	17	14	13	9.2	7.2
13	6.5	42	18	36	22	20	21	17	14	13	9.2	6.8
14	6.0	14	18	36	22	19	21	16	14	13	9.2	6.5
15	6.0	9.1	18	37	22	18	21	16	14	13	9.2	6.5
16	6.5	8.5	18	37	23	17	21	15	14	13	8.8	6.1
17	6.5	7.8	19	36	23	17	21	15	14	13	8.8	6.5
18	6.0	7.2	18	35	24	16	21	15	14	12	8.4	6.8
19	6.0	7.8	18	32	24	17	20	16	14	12	8.4	6.5
20	5.5	146	18	31	24	18	19	17	14	12	8.8	6.5
21	5.5	61	18	30	23	28	19	17	14	12	9.2	6.5
22	5.5	29	17	28	24	25	18	17	14	12	8.8	6.5
23	5.5	215	18	29	23	23	18	17	14	12	8.8	6.5
24	5.5	115	36	30	23	23	18	16	14	12	8.4	6.1
25	5.5	52	370	29	22	23	19	16	14	12	8.0	6.1
26	5.5	47	540	60	21	21	18	16	14	12	8.0	5.7
27	5.5	34	a225	31	21	21	19	17	14	12	8.0	5.7
28	6.0	29	150	33	21	22	19	17	13	11	7.2	5.7
29	6.5	27	105	33	-	25	19	17	13	11	7.2	5.7
30	6.5	24	84	33	-	23	20	17	13	11	7.2	5.7
31	6.5	-	75	33	-	22	-	16	-	11	6.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	193.7	7.6	5.5	6.25	384
November	958.0	215	6.0	31.9	1,900
December	2,078	540	17	67.0	4,120
Calendar year 1946	9,008.8	540	5.5	24.7	17,870
January	1,127	69	28	36.4	2,240
February	683	32	21	24.4	1,350
March	626	28	16	20.2	1,240
April	601	22	18	20.0	1,190
May	542	21	15	17.5	1,080
June	426	15	13	14.2	845
July	378	13	11	12.2	750
August	281.0	11	6.8	9.06	557
September	193.4	7.2	5.7	6.45	384
Water year 1946-47	8,087.1	540	5.5	22.2	16,040

Peak discharge.- Nov. 13 (12 m.) 75 sec.-ft.; Nov. 20 (2:30 p.m.) 300 sec.-ft.; Nov. 23 (12 m.) 410 sec.-ft.; Dec. 26 (2 a.m.) 900 sec.-ft.
a No gage-height record; discharge computed on basis of normal recession.

Little Rock Creek near Little Rock, Calif.

Location.- Water-stage recorder, lat. 34°27'50", long. 118°01'05", 0.2 mile upstream from Santiago Creek and 5 miles south of Little Rock, Los Angeles County. Altitude of gage, about 3,290 feet.

Drainage area.- 49.0 square miles.

Records available.- October 1930 to September 1947 (1937-38, 1938-39 incomplete).

Average discharge.- 15 years (1930-37, 1939-47), 22.9 second-feet.

Extremes.- Maximum discharge during year, 3,180 second-feet Dec. 26 (gage height, 9.50 feet); no flow Oct. 1-7, Aug. 15 to Sept. 30.
1930-47: Maximum discharge, 17,000 second-feet (estimated) Mar. 2, 1938; no flow during periods in most years.

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	2.2	44	82	16	11	19	8.3	3.8	0.1	0.1	
2	0	2.0	41	68	16	11	17	7.5	3.6	.1	.1	
3	0	1.6	39	54	16	10	16	6.9	3.6	.1	.1	
4	0	1.4	42	51	16	10	16	6.6	3.4	.1	.1	
5	0	1.6	44	48	16	10	14	6.3	3.4	.1	.1	
6	0	1.4	56	44	15	10	13	5.6	3.2	.1	.1	
7	0	1.4	56	40	15	9.6	13	5.6	2.8	.1	.1	
8	.1	1.8	45	38	14	10	12	5.6	2.8	.2	.1	
9	.2	1.9	37	35	14	10	12	5.6	2.6	.2	.1	
10	.4	1.9	32	31	14	10	11	5.6	2.2	.2	.1	
11	.4	2.4	27	29	14	9.6	11	5.0	1.9	.2	.1	
12	.4	8.5	24	27	13	9.6	10	5.6	1.6	.2	.1	
13	.4	78	23	26	13	9.6	11	5.3	1.4	.2	.1	
14	.4	37	22	24	13	9.6	11	5.0	1.2	.2	.1	
15	.4	20	21	23	13	10	11	5.0	.8	.2	0	
16	.4	15	20	22	12	9.6	11	5.3	.7	.2	0	
17	.5	14	19	21	12	9.6	12	4.7	.6	.2	0	
18	.6	15	15	20	12	10	12	4.4	.6	.2	0	
19	.7	16	17	20	11	11	12	4.2	.5	.2	0	
20	.8	225	16	19	11	13	12	4.2	.4	.2	0	
21	.8	117	16	19	11	26	12	4.2	.4	.2	0	
22	.8	63	16	19	11	23	12	4.0	.3	.2	0	
23	1.0	425	17	18	11	20	12	3.6	.2	.2	0	
24	.8	188	50	18	11	20	11	3.4	.2	.2	0	
25	.7	89	780	18	11	18	11	3.2	.2	.2	0	
26	.7	60	1,740	17	11	17	11	3.0	.2	.2	0	
27	.8	54	269	17	11	17	11	3.4	.2	.2	0	
28	1.4	52	202	17	11	22	10	4.0	.2	.1	0	
29	4.0	50	150	17	-	27	9.6	4.0	.2	.1	0	
30	3.4	48	117	16	-	23	9.1	3.6	.2	.1	0	
31	2.8	-	95	16	-	20	-	3.8	-	.1	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	22.9	4.0	0	0.74	45
November	1,594.1	425	1.4	53.1	3,160
December	4,092	1,740	15	132	8,120
Calendar year 1946	10,164.74	1,740	0	27.8	20,160
January	914	82	16	29.5	1,810
February	364	16	11	13.0	722
March	436.2	27	9.6	14.1	865
April	364.7	19	9.1	12.2	723
May	152.5	8.3	3.0	4.92	302
June	43.4	3.8	.2	1.45	86
July	5.1	.2	.1	.16	10
August	1.4	.1	0	.05	2.8
September	0	0	0	0	0
Water year 1946-47	7,990.3	1,740	0	21.9	15,850

Mono Lake near Mono Lake, Calif.

Location.- Staff gage, lat. 38°00', long. 119°08', in NE¼ sec. 31, T. 2 N., R. 26 E., 1 mile south of Mono Lake post office. Datum of gage is 6,410.73 feet above mean sea level (datum of 1929); gage readings have been reduced to elevations above mean sea level.

Records available.- June 1912 to September 1947. Records prior to September 1934 are published in Water-Supply Paper 765.

Extremes.- 1912-47: Maximum elevation observed, 6,428.1 feet July 18, 1919; minimum observed, 6,414.5 feet Nov. 18, 1935.

Cooperation.- Gage-height record furnished by city of Los Angeles.

Elevation, in feet, above mean sea level, water year October 1946 to September 1947

Oct. 4	6,416.9	Feb. 25	6,417.8
8	6,417.0	Mar. 7	6,417.9
15	6,416.9	14	6,417.9
23	6,416.9	18	6,418.0
31	6,416.8	25	6,418.0
Nov. 15	6,417.0	Apr. 1	6,418.0
22	6,417.0	9	6,418.1
29	6,417.1	16	6,418.0
Dec. 2	6,417.1	25	6,418.0
11	6,417.2	May 2	6,418.0
12	6,417.3	8	6,418.0
23	6,417.3	Aug. 18	6,416.9
30	6,417.3	25	6,416.7
Jan. 7	6,417.5	Sept. 2	6,416.6
17	6,417.5	10	6,416.5
21	6,417.5	12	6,416.5
31	6,417.6	17	6,416.5
Feb. 7	6,417.6	26	6,416.4
11	6,417.6	29	6,416.3
18	6,417.7		

WALKER LAKE BASIN

Walker Lake near Hawthorne, Nev.

Location.- Bench mark at United States naval depot, lat. 38°35', long. 118°42', in NE¼NE¼ sec. 2, T. 8 N., R. 29 E., 3 miles northwest of Hawthorne. Bench mark is 4,053.41 feet above mean sea level, adjustment of 1912.

Records available.- August 1928 to September 1947. Occasional readings prior to August 1928.

Extremes.- 1928-47: Maximum elevation observed, 4,051.8 feet Mar. 13, 1928 (Indian Service); minimum observed, 4,010.0 feet Sept. 2, 1947.
An elevation of 4,078.0 feet, adjustment of 1912, was observed Sept. 27, 1908, by Geological Survey.

Remarks.- Elevations determined by spirit leveling.

Cooperation.- Records furnished by U. S. Navy Department.

Elevation, in feet, above mean sea level, water year October 1946 to September 1947

Oct. 11	4,012.2	May 5	4,011.6
Nov. 6	4,011.9	June 5	4,011.3
Jan. 14	4,011.9	July 8	4,010.9
Feb. 11	4,011.7	Aug. 13	4,010.4
Mar. 4	4,011.8	Sept. 2	4,010.0

Bridgeport Reservoir near Bridgeport, Calif.

Location.- Reference point, lat. 38°19'30", long. 119°13'50", in SE¼ sec. 34, T. 6 N., R. 25 E., at Bridgeport Dam on East Walker River and 4½ miles north of Bridgeport. Elevations are computed above mean sea level.

Drainage area.- 362 square miles.

Records available.- October 1931 to September 1947 in reports of Geological Survey. March 1926 to September 1946 in files of Walker River Irrigation District.

Extremes.- Maximum contents during year, 43,980 acre-feet Mar. 20 to Apr. 3 (elevation, 6,460.5 feet); minimum, 7,980 acre-feet Sept. 18-20 (elevation, 6,441.9 feet).
1926-47: Maximum contents, 44,580 acre-feet June 12, 1938 (elevation, 6,460.7 feet); no contents during fall of 1929, 1930.

Remarks.- Reservoir is formed by earth-fill, rock-faced dam; storage began Dec. 8, 1923; dam completed in November 1924. Capacity, 42,460 acre-feet between elevations 6,412 feet (sill of outlet gate) and 6,460 feet (crest of spillway). No dead storage. Water is used for irrigation in Walker River Irrigation District. Contents correspond to gage readings made about 8 a.m. daily.

Cooperation.- Elevations and capacity table furnished by Walker River Irrigation District.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,820	14,360	21,600	28,930	33,220	41,150	43,980	37,320	35,700	32,710	19,330	11,440
2	12,940	14,430	21,990	29,160	33,480	41,440	43,980	36,900	35,700	32,460	18,870	11,140
3	11,880	14,580	22,380	29,280	33,730	41,730	43,980	36,630	35,700	32,080	18,260	10,850
4	11,880	14,660	22,790	29,400	33,860	42,020	43,820	36,500	35,700	31,700	18,010	10,610
5	11,880	14,730	23,200	29,520	33,980	42,310	43,670	36,500	35,700	31,330	17,750	10,380
6	11,880	14,880	23,720	29,640	34,240	42,610	43,670	36,360	35,700	30,970	17,400	10,040
7	11,880	14,950	24,240	29,760	34,510	42,920	43,670	35,830	35,700	30,360	17,060	9,700
8	11,880	15,100	24,770	29,880	34,770	43,220	43,670	35,570	35,700	30,000	16,740	9,380
9	11,880	15,170	25,210	30,000	35,040	43,370	43,670	35,570	35,570	29,640	16,580	9,100
10	11,880	15,320	25,430	30,120	35,300	43,520	43,520	35,570	35,570	29,160	16,340	8,950
11	12,000	15,400	25,650	30,240	35,570	43,670	43,520	35,570	35,440	28,700	15,950	8,740
12	12,130	15,470	25,870	30,360	35,830	43,520	43,220	35,440	35,440	28,240	15,870	8,640
13	12,260	15,630	26,090	30,490	36,100	43,520	42,760	35,440	35,300	27,780	15,710	8,490
14	12,380	15,790	26,310	30,610	36,360	43,520	42,460	35,170	35,170	27,320	15,550	8,390
15	12,500	16,030	26,420	30,730	36,630	43,520	42,170	35,040	35,170	26,860	15,400	8,280
16	12,570	16,190	26,530	30,850	36,900	43,670	41,730	35,040	35,040	26,420	15,250	8,180
17	12,700	16,260	26,640	30,970	37,180	43,670	41,290	34,900	35,040	25,980	15,100	8,080
18	12,830	16,420	26,750	31,090	37,460	43,820	41,000	34,900	35,040	25,540	14,950	7,980
19	12,900	16,580	26,860	31,210	37,870	43,820	41,150	34,900	35,040	25,100	14,800	7,980
20	12,970	16,820	26,980	31,330	38,150	43,980	41,150	34,900	35,040	24,660	14,510	7,980
21	13,040	16,980	27,090	31,570	38,570	43,980	41,000	34,770	34,900	24,240	14,360	8,080
22	13,170	17,230	27,200	31,700	38,980	43,980	41,000	34,770	34,510	23,830	14,060	8,080
23	13,240	17,490	27,320	31,820	39,400	43,980	40,710	34,900	34,240	23,310	13,850	8,130
24	13,310	17,920	27,440	31,950	39,690	43,980	40,710	35,040	33,980	22,790	13,650	8,180
25	13,450	18,780	27,660	32,080	39,980	43,980	40,120	35,040	33,860	22,380	13,450	8,230
26	13,580	19,240	27,900	32,200	40,270	43,980	39,540	35,040	33,730	21,990	13,310	8,280
27	13,720	19,610	28,120	32,460	40,560	43,980	38,710	35,040	33,600	21,400	13,040	8,340
28	13,850	20,160	28,360	32,590	40,850	43,980	38,150	35,170	33,350	21,010	12,770	8,390
29	13,990	20,620	28,580	32,710	-	43,980	37,870	35,300	33,220	20,440	12,380	8,440
30	14,140	21,210	28,700	32,840	-	43,980	37,460	35,440	33,220	20,070	12,130	8,490
31	14,290	-	28,820	32,970	-	43,980	-	35,440	-	19,700	11,760	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	6,445.35	11,820	+2,540
Nov. 1	6,447.25	14,360	+7,240
Dec. 1	6,451.5	21,600	+7,330
Calendar year 1946	-	-	-12,360
Jan. 1	6,454.9	28,930	+4,290
Feb. 1	6,456.65	33,220	+7,930
Mar. 1	6,459.55	41,150	+2,630
Apr. 1	6,460.5	43,980	-6,660
May 1	6,458.2	37,320	-1,620
June 1	6,457.6	35,700	-2,990
July 1	6,456.45	32,710	-13,380
Aug. 1	6,450.3	19,330	-7,890
Sept.1	6,445.05	11,440	-2,900
Oct. 1	6,442.45	8,540	-
Water year 1946-47	-	-	-3,280

East Walker River near Bridgeport, Calif.

Location.- Water-stage recorder, lat. 38°19'40", long. 119°12'50", in SW¼NE¼ sec. 34, T. 6 N., R. 25 E., 1,500 feet downstream from Bridgeport Reservoir, 5 miles north of Bridgeport, and 10 miles upstream from Sweetwater Creek.

Drainage area.- 362 square miles.

Records available.- October 1921 to September 1947. July 1911 to September 1914 at site 1½ miles upstream (gage heights only).

Average discharge.- 24 years (1922-24, 1925-47), 130 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 279 second-feet May 7; minimum daily, 3.6 second-feet Jan. 19, 20.
1921-47: Maximum discharge, 1,240 second-feet Jan. 22, 1943; minimum daily recorded, 1.8 second-feet Nov. 20-24, 1944.

Remarks.- Records excellent. Diversions for irrigation of meadow and pasture lands near Bridgeport. Flow regulated by Bridgeport Reservoir (see preceding page).

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-9)

0.1	2.0	0.5	20	1.0	91
.2	4.0	.6	30	1.3	154
.3	7.5	.7	42	1.6	229
.4	13	.8	56	1.8	288

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	5.0	5.0	5.0	4.4	6.4	122	238	238	207	232	192
2	89	5.0	5.0	5.0	4.7	6.4	115	229	235	218	232	190
3	89	5.0	5.0	5.0	4.7	6.8	103	224	216	226	229	190
4	81	5.0	5.0	5.0	4.7	6.4	93	224	213	244	221	187
5	66	5.0	5.0	5.0	4.7	6.4	93	224	213	244	200	184
6	64	5.0	5.0	5.0	4.7	6.4	122	255	213	249	187	184
7	64	5.0	5.0	4.7	5.0	6.8	141	279	213	276	168	184
8	64	5.0	5.0	4.7	5.0	8.6	136	270	213	276	168	175
9	34	5.0	5.0	4.7	5.4	11	134	244	213	276	150	147
10	14	5.0	5.0	4.7	5.4	14	143	238	200	276	141	128
11	12	5.0	5.0	5.0	5.4	19	172	255	194	273	141	126
12	12	5.0	5.0	5.0	5.4	29	194	246	194	273	134	111
13	11	5.0	5.0	5.0	5.4	40	202	229	194	273	113	105
14	11	5.0	5.0	5.0	5.4	49	200	229	194	273	113	91
15	10	5.0	5.0	5.0	5.8	58	202	229	192	273	113	91
16	10	5.0	5.0	5.0	5.8	71	207	232	192	273	115	91
17	10	5.0	5.0	5.0	5.8	89	192	232	192	273	115	84
18	7.3	5.0	5.0	5.0	5.8	109	150	232	192	273	115	56
19	4.4	5.0	5.0	3.6	5.8	126	136	232	192	270	132	31
20	5.8	5.0	5.0	3.6	5.8	128	136	255	192	267	139	30
21	5.4	5.0	5.0	3.8	5.8	136	136	267	197	267	136	28
22	5.4	5.0	5.0	3.8	5.8	143	136	267	210	267	136	27
23	5.4	5.0	5.0	3.8	5.8	152	136	267	210	264	136	26
24	5.4	5.0	5.0	3.8	5.8	143	163	267	210	264	139	26
25	5.0	5.0	5.0	4.0	5.8	134	238	267	192	264	139	26
26	5.0	5.0	5.0	4.0	5.8	126	258	267	192	264	145	26
27	5.0	5.0	5.0	4.0	6.1	126	258	267	192	261	168	25
28	5.0	5.0	5.0	3.8	6.1	126	258	267	192	261	184	25
29	5.4	5.0	5.0	3.8	-	134	258	255	192	258	194	25
30	5.4	5.0	5.0	4.0	-	126	252	238	192	244	192	25
31	5.0	-	5.0	4.0	-	126	-	238	-	272	192	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	804.9	89	4.4	26.0	1,600
November	150.0	5.0	5.0	5.00	298
December	155.0	5.0	5.0	5.00	307
Calendar year 1946	57,107.9	325	4.4	156	113,300
January	138.8	5.0	3.6	4.48	275
February	152.1	6.1	4.4	5.43	302
March	2,269.2	152	6.4	73.2	4,500
April	5,086	258	93	170	10,090
May	7,663	279	224	247	15,200
June	6,074	238	192	202	12,050
July	8,059	276	207	260	15,980
August	4,919	232	113	159	9,760
September	2,836	192	25	94.5	5,630
Water year 1946-47	38,307.0	279	3.6	105	75,990

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

Location.- Water-stage recorder, lat. 38°22'45", long. 119°27'00", in SE¼ sec. 9, T. 6 N., R. 23 E., 75 feet downstream from East Fork, 200 feet upstream from bridge on U. S. Highway 395, and 13 miles southeast of Coleville.
Drainage area.- 182 square miles.
Records available.- April 1938 to September 1947. October 1902 to July 1908 at site 9½ miles downstream; March 1909 to August 1910 and June 1915 to March 1938 at site 10 miles downstream, published as West Walker River near Coleville.
Extremes.- Maximum discharge during year, 1,360 second-feet May 3 (gage height, 4.59 feet); minimum, 13 second-feet Nov. 3.
1938-47: Maximum discharge, 2,490 second-feet June 9, 1938 (gage height, 4.90 feet, site and datum then in use), from rating curve extended above 1,600 second-feet; minimum, 6 second-feet Dec. 10, 1940.
Maximum discharge known, 5,800 second-feet Dec. 11, 1937, by slope-area method.
Remarks.- Records good except those for periods of ice effect, which are fair. Station is above diversions except a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown), 7 miles upstream.
Cooperation.- Six discharge measurements made by Sierra Pacific Power Co.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Jan. 28 to Mar. 31)

1.2	30	1.9	129	3.5	669
1.3	39	2.2	196	3.9	885
1.4	50	2.6	310	4.2	1,070
1.6	77	3.1	489		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	50	*80	52	70	87	165	689	477	264	74	35
2	100	39	77	48	60	91	157	951	497	253	85	32
3	88	*40	74	46	62	82	154	1,130	473	244	80	30
4	87	46	74	50	62	80	144	1,120	439	236	80	29
5	83	43	102	60	59	82	137	1,090	428	228	79	29
6	76	47	91	68	63	77	131	1,130	406	222	71	28
7	73	49	82	*66	66	77	125	1,070	694	199	66	26
8	74	41	79	62	64	77	125	903	654	186	66	29
9	69	51	71	63	63	73	125	640	534	191	62	29
10	69	49	70	65	*60	85	125	534	534	186	64	32
11	66	50	70	66	62	82	144	458	518	177	63	33
12	64	49	70	60	112	80	163	443	439	172	62	33
13	63	50	70	54	87	82	199	477	473	165	66	31
14	62	48	71	51	80	87	270	501	534	161	73	30
15	58	48	67	50	80	95	340	583	570	152	71	29
16	67	45	66	48	76	110	406	720	561	140	73	28
17	63	49	58	52	74	125	477	768	510	135	66	29
18	59	49	50	56	71	144	477	839	522	133	63	33
19	59	58	54	60	67	168	501	939	592	131	66	33
20	58	38	56	65	70	177	583	1,020	579	125	64	31
21	56	51	58	65	67	189	522	1,050	435	120	60	30
22	58	60	60	65	71	201	409	1,090	363	108	58	29
23	59	201	59	65	73	201	340	1,070	353	102	58	32
24	58	123	60	64	79	174	333	1,040	360	95	54	29
25	58	107	64	63	82	168	310	1,020	360	88	54	27
26	54	103	62	60	85	170	288	909	333	85	54	26
27	53	105	54	56	85	184	288	694	336	82	53	26
28	50	100	52	51	77	184	282	552	317	77	44	25
29	48	96	48	69	-	177	336	570	285	73	46	25
30	46	85	48	73	-	184	462	649	267	74	44	26
31	48	-	49	77	-	170	-	530	-	73	39	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,049	123	46	66.1	4,060
November	1,970	201	38	65.7	3,910
December	2,046	102	48	66.0	4,060
Calendar year 1946	94,642	1,250	38	259	187,730
January	1,850	77	46	59.7	3,670
February	2,027	112	59	72.4	4,020
March	3,963	201	73	128	7,860
April	8,518	583	125	284	16,900
May	25,179	1,130	443	812	49,940
June	13,843	694	267	461	27,460
July	4,677	264	73	151	9,280
August	1,958	85	39	63.2	3,880
September	884	35	25	29.5	1,750
Water year 1946-47	68,964	1,130	25	189	136,790

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 16, Dec. 10-13, 18-21, Dec. 27 to Jan. 27.

East Fork West Walker River near Bridgeport, Calif.

Location.- Water-stage recorder, lat. 38°21'30", long. 119°26'30", in NW¼NW¼ sec. 22, T. 6 N., R. 23 E., three-quarters of a mile north of Sonora Junction, 1½ miles upstream from mouth, and 14 miles northwest of Bridgeport.

Drainage area.- 63 square miles.

Records available.- October 1944 to September 1947. April to August 1910 at site 1 mile upstream.

Extremes.- Maximum discharge during year, 218 second-feet May 22 (gage height, 1.81 feet); minimum daily, 12 second-feet Sept. 7, but may have been less during periods of ice effect.

1910, 1944-47: Maximum discharge recorded, 660 second-feet Feb. 2, 1945 (gage height, 2.69 feet), from rating curve extended above 270 second-feet on basis of velocity-area study; minimum daily, that of Sept. 7, 1947.

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

Cooperation.- Results of seven discharge measurements furnished by Sierra Pacific Power Co.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	20	*25	15		24	33	74	104	60	24	16
2	21	23	26	14		24	32	104	102	58	24	15
3	22	*18	24	15		21	33	121	100	53	23	14
4	23	18	24	16		24	29	132	95	52	23	13
5	22	18	30	17	18	21	29	143	92	50	20	14
6	22	19	27	18		25	28	152	90	46	17	14
7	21	19	25	*20		21	27	149	124	46	17	12
8	21	19	25	20		20	29	135	109	42	17	14
9	20		24	19	19	24	28	102	100	40	16	13
10	20	20		20	*20	24	29	95	102	42	16	15
11	20		23	21	20	24	33	84	100	40	15	16
12	20			19	29	24	35	82	90	42	15	15
13	20	20		17	24	24	39	82	90	42	17	15
14	20	19	23	15	23	24	48	86	92	40	18	15
15	19	18	24	15	21	26	53	92	97	38	20	14
16	17	19	25	14	20	29	56	107	97	37	23	13
17	21	19	20	17	20	32	60	111	92	36	22	16
18	20	19	16	19	20	35	58	130	95	35	22	17
19	20	21	17	20	25	39	62	143	100	35	22	16
20	20	22	18	21	23	39	65	152	100	32	21	16
21	21	37	19	21	24	39	60	168	88	27	20	15
22	20	24	20	21	24	40	56	181	84	25	20	16
23	21	68	20	21	23	39	50	181	84	24	20	16
24	20	43	20	21	24	33	49	181	80	25	19	15
25	20	48	20	21	24	32	45	181	78	24	18	14
26	19	33	20	20	24	34	45	168	74	27	18	14
27	19	30	20	18	22	35	43	143	72	28	18	13
28	18	28	17	15	24	36	40	121	68	25	17	13
29	20	29	16	17	-	35	46	121	65	24	17	13
30	29	28	15	18	-	37	55	127	63	24	17	13
31	23	-	14	18	-	33	-	107	-	24	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	652	33	17	21.0	1,290
November	759	68	18	25.3	1,510
December	666	30	14	21.5	1,320
Calendar year 1946	18,841	197	14	51.6	37,370
January	563	21	14	18.2	1,120
February	597	29	-	21.3	1,180
March	917	40	20	29.6	1,820
April	1,295	65	27	43.2	2,570
May	3,955	181	74	128	7,840
June	2,727	124	63	90.9	5,410
July	1,143	60	24	36.9	2,270
August	593	24	15	19.1	1,180
September	435	17	12	14.5	863
Water year 1946-47	14,302	181	12	39.2	28,373

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 3-6, 9-12, 15-17, Dec. 9-13, 17-21, Dec. 28 to Feb. 9 (no gage-height record Jan. 18 to Feb. 9; discharge computed on basis of weather records and records for nearby stations).

Topaz Reservoir near Topaz, Calif.

Location.- Float and staff gages at outlet works of Topaz Reservoir, lat. 38°41', long. 119°31', in sec. 28, T. 10 N., R. 22 E., 6 miles north of Topaz. Datum of gage is at mean sea level (levels by Walker River Irrigation District).

Records available.- October 1931 to September 1947.

Extremes.- Maximum contents observed during year, 59,510 acre-feet May 27 (elevation, 5,005.03 feet); minimum, 9,780 acre-feet Sept. 30 (elevation, 4,978.54 feet).
1931-47: Maximum contents observed, 60,240 acre-feet June 30, 1941 (elevation, 5,005.35 feet); minimum observed, 505 acre-feet Oct. 22-25, 1931 (elevation, 4,972.63 feet).

Remarks.- Topaz Reservoir, formerly known as Alkali Lake, was formed by diversion of water from West Walker River through a feeder canal and construction of an outlet tunnel through a low saddle in rim of lake. Storage began Jan. 30, 1922. Usable capacity, 59,440 acre-feet between elevations 4,972.3 feet (lowest practical elevation for diversion through tunnel, bottom of outlet tunnel at elevation 4,970 feet) and 5,005 feet (3 feet below top of levee). Capacity of reservoir increased from about 45,000 acre-feet to 59,440 acre-feet in October 1937 by an earth-fill, rock-faced levee at south end. Water is used for irrigation in Walker River Irrigation District.

Cooperation.- Elevation furnished by Walker River Irrigation District.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15,070	-	-	-	-	-	-	47,430	59,440	53,620	23,430	15,100
2	14,820	-	-	-	-	-	52,290	47,410	-	52,930	24,870	14,660
3	14,660	-	-	36,120	-	-	-	48,070	59,280	52,250	27,720	14,220
4	14,500	-	-	-	-	-	52,380	48,970	59,120	51,590	-	14,080
5	14,410	-	-	-	-	-	52,380	50,180	-	50,870	27,120	13,840
6	14,480	-	30,020	-	-	-	-	51,330	58,820	-	23,220	13,510
7	14,530	-	-	-	41,720	47,600	52,100	52,200	-	49,480	23,780	-
8	14,860	-	-	-	-	-	-	52,760	-	48,750	25,260	12,980
9	15,070	-	-	-	-	-	51,770	53,370	58,940	48,000	-	12,750
10	-	-	-	37,260	-	-	51,480	53,880	58,870	47,090	24,400	12,470
11	15,810	-	-	-	-	-	51,330	54,150	58,870	46,350	23,990	12,330
12	16,140	-	-	-	-	-	-	54,150	58,910	45,800	23,580	12,050
13	16,310	-	31,800	-	-	-	-	54,110	58,870	45,010	23,200	11,810
14	16,640	-	-	-	43,170	48,840	50,810	53,970	58,840	44,340	22,800	-
15	-	22,420	-	-	-	-	50,460	53,770	58,840	43,600	22,440	11,350
16	-	-	-	-	-	-	50,330	53,600	58,800	42,690	22,170	11,140
17	-	-	-	38,230	-	-	-	53,530	58,680	41,840	21,740	-
18	17,500	-	-	-	-	-	49,920	53,600	58,590	40,970	21,410	10,550
19	-	-	-	-	-	-	49,740	53,840	58,550	40,120	20,930	10,470
20	-	-	33,240	-	-	-	49,610	54,330	58,640	39,370	20,540	10,360
21	-	-	-	-	44,780	50,570	49,530	55,040	58,460	38,390	20,040	10,360
22	-	24,560	-	-	-	50,830	49,460	55,760	58,340	37,570	19,650	10,290
23	-	-	-	-	-	51,110	49,330	56,530	58,050	36,440	19,300	10,260
24	-	-	-	39,410	-	51,310	-	57,160	57,730	35,500	19,050	10,260
25	18,720	-	-	-	-	51,530	49,010	58,750	57,390	34,580	18,800	10,190
26	-	-	-	-	-	51,850	48,800	59,120	57,140	33,760	18,380	10,110
27	-	-	34,780	-	-	51,850	48,560	59,510	-	33,020	17,830	9,950
28	-	-	-	-	46,160	51,940	48,300	59,440	55,960	32,320	17,220	9,890
29	-	27,920	-	-	-	-	47,980	59,370	55,360	31,510	16,670	9,820
30	-	28,220	-	-	-	-	47,730	59,320	54,240	30,890	15,980	9,780
31	19,720	-	35,560	40,570	-	52,250	-	59,440	-	30,160	15,560	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	4,981.95	15,320	-
Oct. 31	4,984.60	19,720	+4,400
Nov. 30	4,989.57	28,220	+8,500
Dec. 31	4,993.67	35,560	+7,340
Calendar year 1946	-	-	-17,840
Jan. 31	4,996.25	40,570	+5,010
Feb. 28	4,998.97	46,160	+5,590
Mar. 31	5,001.80	52,250	+6,090
Apr. 30	4,999.71	47,730	-4,520
May 31	5,005.00	59,440	+11,710
June 30	5,002.70	54,240	-5,200
July 31	4,990.68	30,160	-24,080
Aug. 31	4,982.10	15,560	-14,600
Sept.30	4,978.54	9,780	-5,780
Water year 1946-47	-	-	-5,540

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CARSON RIVER BASIN

East Fork Carson River near Gardnerville, Nev.

Location.- Water-stage recorder, lat. 38°51'30", long. 119°41'50", in NE¼ sec. 2, T. 11 N., R. 20 E., 2 miles east of Mud Lake Reservoir, 3 miles downstream from Leviathan Creek, and 7 miles southeast of Gardnerville.
Drainage area.- 344 square miles.
Records available.- May 1939 to September 1947. April 1890 to December 1893, October 1900 to December 1906, June to October 1917, December 1924 to September 1929, October 1935 to December 1937 at site 2 miles downstream, March 1908 to December 1910 at site 2 miles upstream.
Average discharge.- 20 years (1890-93, 1901-3, 1908-10, 1925-28, 1935-37, 1939-47), 415 second-feet.
Extremes.- Maximum discharge during year, 2,450 second-feet Nov. 23 (gage height, 4.51 feet); minimum, 33 second-feet Sept. 17.
1890-93, 1900-1906, 1908-10, 1917, 1924-29, 1935-37, 1939-47: Maximum discharge, 12,000 second-feet Dec. 11, 1937 (gage destroyed by flood) computed on basis of slope-area determinations of flow of tributaries, 14 miles upstream; minimum observed, 8 second-feet Dec. 4-10, 19-23, 1904.
Remarks.- Records good except those for periods of ice effect, which are fair. Station is above all diversions in Carson Valley. Diversions above station for irrigation. Flow slightly regulated by several small reservoirs (total capacity, about 5,000 acre-feet).

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.6	29	1.2	125	2.7	752
.7	39	1.4	178	3.0	950
.8	51	1.7	274	3.4	1,260
.9	66	2.0	390	3.8	1,620
1.0	83	2.3	529		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	177	76	164	90	99	170	285	995	565	193	83	51
2	140	69	*158	80	101	237	267	1,380	571	181	80	49
3	103	57	153	70	99	196	271	1,580	534	172	66	47
4	97	62	153	74	99	178	257	1,580	490	172	60	45
5	89	71	199	80	105	175	250	1,560	466	187	56	45
6	87	76	237	90	*107	158	240	1,610	434	181	50	44
7	83	81	184	85	110	164	234	1,480	635	156	46	41
8	87	76	170	*84	118	164	230	1,210	630	142	60	45
9	87	63	150	88	112	156	230	943	529	130	66	47
10	80	71	145	90	110	184	221	841	504	125	74	47
11	76	81	142	92	107	178	254	740	480	140	74	46
12	78	83	142	90	322	170	285	698	421	145	71	45
13	76	87	138	85	290	172	341	692	425	138	62	45
14	76	87	135	80	193	175	452	722	434	135	68	44
15	74	73	132	72	181	187	571	771	448	125	80	41
16	91	74	123	68	172	211	658	854	443	121	66	37
17	95	91	112	74	167	243	765	922	399	121	62	34
18	89	93	90	80	161	267	740	922	394	118	58	39
19	87	376	95	95	158	274	752	980	390	112	58	43
20	87	407	105	100	172	296	894	1,010	412	116	47	44
21	87	148	115	100	161	299	828	1,050	337	114	44	46
22	95	142	125	100	158	322	635	1,080	303	121	44	47
23	103	1,390	118	100	161	361	550	1,040	285	118	46	51
24	99	389	121	100	170	299	545	1,000	274	121	45	50
25	95	250	125	103	175	281	514	965	267	123	62	49
26	89	234	123	107	184	281	485	894	267	118	60	44
27	83	221	123	101	181	306	529	752	240	112	58	41
28	81	193	93	89	167	299	500	630	230	105	58	40
29	76	181	85	83	-	288	597	613	218	93	51	39
30	74	170	88	90	-	318	728	635	205	85	52	41
31	78	-	82	99	-	288	-	613	-	87	52	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,819	177	74	90.9	5,590
November	5,472	1,390	57	182	10,850
December	4,125	237	82	133	8,180
Calendar year 1946	125,133	1,660	54	343	248,100
January	2,739	107	68	88.4	5,430
February	4,340	322	99	155	8,610
March	7,297	361	156	235	14,470
April	14,108	894	221	470	27,980
May	30,762	1,610	613	992	61,020
June	12,230	635	205	408	24,260
July	4,115	193	85	133	8,160
August	1,859	83	44	60.0	3,690
September	1,327	51	34	44.2	2,630
Water year 1946-47	91,193	1,610	34	250	180,900

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 18-21, Dec. 29 to Jan. 24, Jan. 30.

Carson River near Carson City, Nev.

Location.- Water-stage recorder, lat. 39°06'30", long. 119°42'30", in NW¼ sec. 2, T. 14 N., R. 20 E., 2 miles downstream from Clear Creek, 2½ miles upstream from bridge on road to Mexican Dam, and 5 miles southeast of Carson City.

Drainage area.- 876 square miles.

Records available.- May 1939 to September 1947.

Extremes.- Maximum discharge during year, 1,950 second-feet Nov. 24 (gage height, 4.09 feet); minimum, 7.3 second-feet Sept. 6.
1939-47: Maximum discharge, 8,500 second-feet Jan. 22, 1943 (gage height, 8.40 feet), by slope-area method; minimum daily, 4 second-feet (estimated) Aug. 17, 1939.

Remarks.- Records good except those for period of ice effect, which are fair. Many diversions above station for irrigation. Flow slightly regulated by several small reservoirs on tributaries.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	104	310	180	198	254	289	596	517	45	13	18
2	61	105	296	170	195	321	289	950	488	46	10	17
3	78	105	*285	160	192	344	296	1,360	442	48	12	13
4	72	102	274	170	189	299	292	1,550	391	41	15	11
5	76	104	274	180	*186	285	285	1,620	359	36	14	9.7
6	84	109	367	*200	186	271	296	1,580	371	32	12	8.8
7	76	118	355	190	189	257	274	1,590	359	31	10	8.6
8	80	136	314	190	192	257	227	1,440	488	36	8.8	10
9	86	146	292	190	202	250	195	1,200	512	37	8.8	10
10	94	136	278	190	205	257	164	920	395	28	11	10
11	92	138	257	200	208	282	156	796	332	28	12	12
12	89	148	260	190	234	264	148	690	240	28	11	10
13	88	158	257	180	488	254	161	618	240	22	14	8.6
14	83	175	250	170	383	257	211	574	260	23	14	10
15	76	183	250	160	325	260	250	558	257	24	17	10
16	74	158	234	150	303	264	363	596	220	22	17	11
17	72	153	220	160	289	282	408	666	183	19	14	8.6
18	78	161	217	170	314	303	498	672	169	25	13	9.7
19	79	192	198	180	303	317	522	709	195	19	13	12
20	79	936	205	190	278	321	590	762	183	16	12	13
21	80	736	230	200	271	340	742	868	189	15	11	20
22	83	375	237	210	257	361	762	875	175	14	11	19
23	89	912	224	210	254	379	596	868	161	17	9.7	17
24	98	1,660	224	210	254	395	451	817	125	18	11	12
25	104	680	257	210	260	340	451	796	112	19	13	10
26	98	479	282	210	269	325	442	775	88	18	14	11
27	102	429	282	200	271	321	408	709	75	17	11	16
28	102	375	264	200	260	332	470	641	68	18	10	17
29	92	348	205	190	-	332	456	564	57	14	9.4	22
30	102	325	160	190	-	344	460	558	45	13	12	22
31	105	-	170	192	-	336	-	553	-	12	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,618	105	46	84.5	5,190
November	9,886	1,660	102	330	19,610
December	7,928	367	160	256	15,720
Calendar year 1946	138,972	1,870	15	381	275,700
January	5,792	210	150	187	11,490
February	7,154	488	186	256	14,190
March	9,394	395	250	303	18,630
April	11,152	762	148	372	22,120
May	27,471	1,620	553	886	54,490
June	7,696	517	45	257	15,260
July	781	48	12	25.2	1,550
August	376.7	17	8.8	12.2	747
September	387.0	22	8.6	12.9	768
Water year 1946-47	90,835.7	1,660	8.6	248	179,800

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 30 to Jan. 30.

Carson River near Fort Churchill, Nev.

Location.- Water-stage recorder, lat. 39°17', long. 119°18', in SE¼ sec. 32, T. 17 N. R. 24 E., 2 miles west of Fort Churchill and 6 miles east of Clifton.

Drainage area.- 1,450 square miles.

Records available.- January 1934 to September 1947. April 1911 to December 1933 at site 8 miles upstream.

Average discharge.- 36 years (1911-47), 364 second-feet.

Extremes.- Maximum daily discharge during year, 1,450 second-feet May 6; no flow Oct. 1-12, June 29 to Sept. 30.
1911-47: Maximum discharge, 6,300 second-feet Jan. 24, 1943; no flow during some periods in nearly every year since 1923.

Remarks.- Several diversions above station for irrigation, including diversions for irrigation of 720 acres between present site and site used prior to Jan. 1, 1934. Practically entire flow is diverted during late irrigation season.

Cooperation.- Records of daily discharge furnished by Truckee-Carson Irrigation District.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	66	342	240	221	290	318	348	540			
2	0	114	337	229	221	288	293	471	481			
3	0	114	332	217	221	348	293	798	446			
4	0	116	319	193	217	358	293	1,150	400			
5	0	114	305	193	213	314	288	1,280	363			
6	0	116	309	213	210	301	293	1,450	342			
7	0	118	395	240	210	293	293	1,430	353			
8	0	120	368	240	213	284	276	1,410	348			
9	0	128	337	225	217	284	240	1,270	461			
10	0	140	314	232	225	276	210	1,030	456			
11	0	140	301	240	225	280	187	823	358			
12	0	143	288	240	232	297	167	716	301			
13	22	150	284	232	272	280	133	634	217			
14	22	161	280	202	476	272	123	569	193			
15	22	167	276	202	385	276	150	534	196			
16	22	172	268	305	348	272	172	513	196			
17	21	161	256	240	332	272	238	523	187			
18	20	159	240	256	322	293	291	569	164			
19	22	167	217	248	337	309	375	574	143			
20	25	327	213	248	327	314	400	622	145			
21	27	845	229	256	305	314	461	659	143			
22	27	598	248	252	297	327	570	729	143			
23	28	461	252	232	288	342	553	736	138			
24	30	1,020	252	236	284	380	436	716	128			
25	39	1,140	252	232	284	375	358	683	100			
26	49	592	280	217	293	337	353	665	53			
27	53	487	297	221	293	314	338	671	13			
28	53	435	297	225	297	314	327	640	7			
29	53	380	276	202	-	318	360	592	0			
30	53	370	240	193	-	322	353	552	0			
31	56	-	232	213	-	322	-	569	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	644	56	0	20.8	1,280
November	9,221	1,140	66	307	18,290
December	8,836	395	213	285	17,530
Calendar year 1946	127,315	1,760	0	349	252,500
January	7,114	305	193	229	14,110
February	7,765	476	210	277	15,400
March	9,556	380	272	308	18,950
April	9,142	570	123	305	18,130
May	23,926	1,450	348	772	47,460
June	7,015	540	0	234	13,410
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	83,219	1,450	0	228	165,100

West Fork Carson River at Woodfords, Calif.

Location.- Water-stage recorder, lat. 38°46'00", long. 119°50'00", in SE¼SW¼ sec. 34, T. 11 N., R. 19 E., 0.3 mile downstream from bridge on State Highway 8, 0.8 mile west of Woodfords, and 3¾ miles downstream from Willow Creek.

Drainage area.- 68 square miles.

Records available.- October 1900 to May 1907, 1910-11 (fragmentary), October 1938 to September 1947. April 1890 to March 1892 and June 1907 to September 1920 at site 0.7 mile downstream and below three diversions for irrigation.

Average discharge.- 24 years (1901-3, 1905-15, 1916-20, 1939-47), 129 second-feet.

Extremes.- Maximum discharge during year, 635 second-feet May 2 (gage height, 4.46 feet); minimum daily, 10 second-feet Sept. 25-27.

1900-1920, 1938-47: Maximum discharge, 1,570 second-feet May 9, 10, 1906 (gage height, 6.3 feet, datum then in use); minimum (1900-1907, 1938-47), 9 second-feet Dec. 11, 1940.

Maximum discharge known, 3,500 second-feet Dec. 11, 1937 (gage height, 9.0 feet, present datum, from floodmarks), by slope-area method.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs (total capacity, about 1,500 acre-feet).

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	21	35	18	23	38	99	374	127	48	16	13
2	33	19	33	17	24	39	92	477	124	52	14	12
3	27	17	32	16	23	34	88	494	114	67	13	12
4	26	18	33	18	23	38	79	477	97	66	13	12
5	24	19	36	20	23	36	76	480	96	63	12	12
6	23	21	35	25	24	30	75	477	94	55	12	12
7	22	21	33	24	24	33	73	421	135	31	12	12
8	25	20	32	23	24	35	77	345	120	28	11	12
9	24	18	28	24	25	32	81	275	102	29	12	12
10	22	21	28	24	24	34	87	250	93	38	12	12
11	22	21	28	25	24	35	116	226	88	28	16	12
12	21	22	29	23	38	35	145	207	82	23	27	12
13	21	22	28	21	34	35	186	204	77	22	28	11
14	20	22	28	19	38	38	239	195	77	30	28	11
15	20	20	28	18	39	43	283	196	78	67	27	11
16	24	20	26	17	37	50	326	207	77	74	24	11
17	24	22	23	20	36	59	354	211	73	68	14	11
18	23	25	20	22	36	66	330	211	72	60	13	11
19	23	35	22	24	33	72	345	220	84	53	13	12
20	23	17	24	25	32	82	364	219	90	30	13	12
21	22	22	25	26	30	89	310	222	79	19	14	12
22	23	28	23	26	30	100	238	222	62	18	14	12
23	26	53	24	26	33	107	227	207	56	20	14	11
24	24	45	25	26	34	87	226	194	53	26	14	11
25	22	40	24	25	35	82	214	188	58	27	18	10
26	21	39	24	23	38	91	212	172	71	30	22	10
27	21	41	24	*21	38	104	220	152	55	21	20	10
28	21	41	20	18	35	100	217	132	50	31	17	11
29	20	39	18	21	-	105	254	130	45	47	14	11
30	20	*37	19	22	-	107	306	130	41	45	14	12
31	20	-	17	21	-	97	-	130	-	35	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	737	50	20	23.8	1,460
November	806	53	17	26.9	1,600
December	824	36	17	26.6	1,630
Calendar year 1946	36,943	635	16	101	73,270
January	678	26	16	21.9	1,340
February	857	39	23	30.6	1,700
March	1,933	107	30	62.4	3,830
April	5,939	364	73	198	11,780
May	8,045	494	130	260	15,960
June	2,471	135	41	82.4	4,900
July	1,251	74	18	40.4	2,480
August	504	28	11	16.3	1,000
September	345	13	10	11.5	684
Water year 1946-47	24,390	494	10	66.8	48,360

* Winter discharge measurement made on this day.

Note.- No gage-height record Dec. 31 to Jan. 26, Sept. 23-30; discharge computed on basis of weather records, records for West Walker River below East Fork, near Coleville, and unpublished records for station above Horsethief Canyon. Stage-discharge relation affected by ice Dec. 18-30.

Humboldt River near Elko, Nev.

Location.- Water-stage recorder, lat. 40°56', long. 115°38', in SE¼NE¼ sec. 11, T. 35 N., R. 56 E., 1 mile southeast of Ryndon, 6 miles downstream from North Fork, and 10 miles northeast of Elko.

Records available.- October 1944 to September 1947. June 1895 to October 1902 at site 11 miles downstream.

Extremes.- Maximum discharge during year, 692 second-feet June 3 (gage height, 4.74 feet); minimum, 0.8 second-foot several days in August, September.
1895-1902, 1944-47: Maximum discharge, 2,530 second-feet June 9, 1945; minimum observed, 0.5 second-foot several days in August, September 1901.

Remarks.- Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 27)

1.3	0.3	1.7	15	2.6	156
1.4	1.2	1.8	26	3.2	280
1.5	3.4	1.9	39	4.0	478
1.6	7.9	2.2	86	4.8	710

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	73	125	78	86	205	189	112	560	151	2.7	1.0
2	14	67	122	74	86	207	189	101	644	136	2.7	.9
3	54	69	120	70	86	209	199	100	671	122	2.5	1.0
4	44	62	117	68	90	211	215	94	572	108	1.9	1.0
5	36	62	118	66	96	203	223	98	510	101	1.4	.9
6	36	65	118	64	100	203	230	112	455	91	1.1	.9
7	41	72	149	62	105	205	247	125	403	83	1.1	.9
8	41	70	177	60	110	205	262	140	410	75	1.0	.8
9	41	73	175	60	115	205	258	187	431	68	1.0	.9
10	40	73	156	58	129	205	258	258	497	67	1.1	.8
11	41	78	143	56	164	209	247	312	535	62	1.2	.8
12	40	68	154	54	195	215	221	380	540	56	1.2	.8
13	37	76	162	54	267	211	203	436	513	50	1.1	.9
14	37	78	171	*52	303	201	189	434	462	42	1.1	.8
15	37	86	171	52	362	203	162	408	395	36	1.2	1.0
16	38	88	158	52	398	217	124	360	345	32	1.2	1.2
17	40	89	120	54	365	217	120	312	312	28	1.1	1.2
18	43	94	105	54	314	213	125	269	289	26	1.0	1.2
19	47	112	100	54	*308	215	118	245	276	21	1.1	1.2
20	47	108	105	52	285	211	117	232	276	19	1.2	1.2
21	48	98	115	50	258	205	122	221	271	17	1.1	1.2
22	47	108	127	50	238	207	142	234	269	15	1.1	1.2
23	48	118	125	46	232	205	166	251	273	13	.9	1.1
24	48	129	129	48	226	205	183	256	260	12	1.0	1.1
25	56	*158	131	56	234	211	164	271	230	10	1.0	1.4
26	54	145	136	60	228	211	151	303	205	8.6	.9	1.4
27	54	136	145	64	213	205	149	287	193	7.4	.9	1.4
28	59	138	120	70	211	199	140	345	169	6.6	1.0	1.4
29	69	136	85	74	-	195	129	400	156	5.2	1.0	1.4
30	77	131	80	78	-	193	122	455	156	4.8	.9	1.6
31	75	-	80	*84	-	189	-	529	-	3.4	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,395.0	77	6.0	45.0	2,770
November	2,860	158	62	95.3	5,670
December	4,039	177	80	130	8,010
Calendar year 1946	115,646.2	1,360	3.4	317	229,400
January	1,874	84	46	60.5	3,720
February	5,804	398	86	207	11,510
March	6,395	217	189	206	12,680
April	5,364	262	117	179	10,640
May	8,267	529	94	267	16,400
June	11,278	671	156	376	22,370
July	1,477.0	151	3.4	47.6	2,930
August	38.6	2.7	.9	1.25	77
September	32.6	1.6	.8	1.09	65
Water year 1946-47	48,824.2	671	.8	134	96,840

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 18-21, Dec. 28 to Feb. 9.

Humboldt River near Carlin, Nev.

Location.- Water-stage recorder, lat. 40°43', long. 116°00', in sec. 28, T. 33 N., R. 53 E., 4½ miles southwest of Moleen, 5 miles upstream from Susie Creek, 5½ miles east of Carlin, and 15 miles southwest of Elko.

Drainage area.- 4,310 square miles.

Records available.- October 1943 to September 1947.

Extremes.- Maximum discharge during year, 1,080 second-feet June 2 (gage height, 4.30 feet); minimum, 7.6 second-feet Sept. 2.

1943-47: Maximum discharge, 3,640 second-feet June 10, 1945 (gage height, 7.78 feet); minimum recorded, that of Sept. 2, 1947, but may have been less during period Oct. 1-10, 1943.

High water of February 1943 reached a stage of 9.8 feet (discharge, 5,970 second-feet, by slope-area method).

Remarks.- Records excellent except those for period of ice effect, which are fair. Many diversions above station for irrigation.

Rating table, water year 1946-47, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 27 to Sept. 20)

0.7	8.0	1.4	76	3.0	501
.8	13	1.6	108	3.5	698
.9	20	1.9	167	4.0	930
1.0	28	2.2	242	4.3	1,080
1.2	49	2.6	363		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	117	200	115	105	309	297	154	955	248	19	12
2	38	113	190	110	110	316	297	154	1,060	223	18	8.5
3	62	110	188	105	115	322	303	174	995	198	19	9.0
4	59	100	183	105	125	325	309	237	980	183	22	9.5
5	75	103	*183	100	135	325	325	309	960	174	22	9.5
6	91	105	185	100	145	*316	344	316	861	161	19	9.5
7	80	110	202	98	160	306	350	341	786	146	14	9.5
8	80	117	212	96	170	306	357	347	800	144	12	9.5
9	82	117	226	94	181	300	393	370	786	134	11	10
10	82	117	239	90	210	297	386	406	768	122	10	10
11	79	119	228	90	279	297	380	444	746	113	12	10
12	80	117	220	84	325	294	370	494	759	105	13	10
13	80	121	215	80	360	291	357	542	764	105	13	10
14	80	124	228	78	383	294	344	615	724	100	12	10
15	79	144	234	78	423	288	328	548	681	85	9.5	11
16	78	144	237	76	458	285	322	520	619	76	8.5	12
17	80	140	226	76	490	291	300	483	557	69	8.5	12
18	84	146	172	76	476	303	267	472	538	63	9.5	12
19	84	148	156	76	444	306	255	465	512	57	12	12
20	84	154	165	75	416	306	250	469	483	50	12	14
21	86	161	169	*75	393	316	245	469	476	50	12	16
22	85	167	178	74	363	316	239	465	458	44	12	17
23	88	169	192	72	347	322	220	448	423	39	12	17
24	93	178	190	66	337	322	218	451	389	36	12	17
25	98	185	195	68	331	312	195	465	386	34	12	14
26	96	195	202	80	325	316	208	494	373	31	12	14
27	96	210	208	92	328	316	195	501	350	27	12	16
28	100	208	210	92	322	309	192	549	328	26	11	16
29	108	202	180	96	-	309	181	644	300	24	11	16
30	110	200	125	98	-	306	172	656	273	22	12	16
31	110	-	120	98	-	306	-	772	-	21	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,554	110	29	82.4	5,060
November	4,341	210	100	145	8,610
December	6,036	239	120	195	11,970
Calendar year 1946	173,756	1,860	12	476	344,600
January	2,713	115	66	87.5	5,380
February	8,256	490	105	295	16,380
March	9,527	325	285	307	18,900
April	8,597	393	172	287	17,050
May	13,775	772	154	444	27,320
June	19,090	1,060	273	636	37,860
July	2,910	248	21	93.9	5,770
August	406.0	22	8.5	13.1	805
September	369.0	17	8.5	12.3	732
Water year 1946-47	78,574	1,060	8.5	215	155,800

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 29 to Feb. 8.

Humboldt River at Palisade, Nev.

Location.- Water-stage recorder, lat. 40°38' (revised), long. 116°12', in sec. 36, T. 32 N., R. 51 E., a quarter of a mile downstream from Southern Pacific Railroad bridge, half a mile downstream from Palisade, and three-quarters of a mile upstream from Pine Creek.

Drainage area.- 5,010 square miles.

Records available.- November 1902 to October 1906, July 1911 to September 1947.

Average discharge.- 39 years (1903-6, 1911-47), 366 second-feet.

Extremes.- Maximum discharge during year, 1,110 second-feet June 2 (gage height, 4.60 feet); minimum, 13 second-feet Sept. 24.
1902-6, 1911-47: Maximum discharge, 6,250 second-feet Feb. 26, 1943 (gage height, 9.92 feet); minimum, 2 second-feet Aug. 25-28, 1931.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Diversion above station for irrigation of about 150,000 acres of hay and pasture lands.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 31, Sept. 9-16)

1.7	15	2.1	59	3.1	330
1.8	23	2.3	95	3.6	542
1.9	33	2.5	141	4.1	793
2.0	45	2.8	225	4.6	1,110

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	136	232	b135	124	377	297	207	949	304	33	22
2	71	136	219	b130	131	385	293	173	1,050	276	33	21
3	78	129	216	b125	139	390	304	162	1,050	251	33	21
4	89	119	210	b120	146	390	312	195	1,010	228	34	20
5	87	110	*207	b120	154	390	326	279	1,010	210	34	21
6	108	115	216	b120	164	385	350	308	956	195	34	20
7	113	115	232	119	187	373	369	315	850	175	31	21
8	102	115	242	117	201	369	381	350	827	164	28	21
9	102	122	248	115	213	365	410	373	839	154	26	21
10	104	124	262	108	334	361	419	419	810	141	25	21
11	102	124	258	110	377	365	419	453	793	127	24	21
12	102	129	242	102	406	361	398	510	782	115	24	21
13	102	136	242	b100	515	353	381	542	799	110	25	22
14	102	134	245	b95	510	357	369	637	771	104	25	22
15	102	144	255	b95	515	357	365	608	734	97	25	22
16	102	164	258	b96	538	353	357	575	687	87	22	22
17	104	157	255	b96	*580	353	350	547	637	80	21	22
18	106	164	198	b96	566	369	326	510	594	74	21	25
19	108	170	170	b98	538	377	308	484	547	69	21	26
20	106	178	164	*b98	493	377	304	484	528	64	22	26
21	108	181	178	b96	471	373	304	493	515	61	22	27
22	110	187	192	b94	444	377	282	488	497	59	22	28
23	113	198	216	b92	423	385	262	466	479	55	23	28
24	117	210	216	87	414	394	255	466	432	51	23	26
25	119	210	213	89	402	377	258	471	419	49	22	30
26	119	216	225	102	394	373	235	497	406	46	21	28
27	119	232	238	110	394	373	219	510	385	44	21	27
28	124	238	238	110	390	365	210	538	365	41	21	29
29	129	232	184	110	-	350	207	647	350	40	20	29
30	134	228	136	115	-	342	210	682	330	37	21	29
31	139	-	134	115	-	308	-	750	-	35	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,274	139	53	106	6,490
November	4,853	238	110	162	9,630
December	6,741	262	134	217	13,370
Calendar year 1946	197,383	2,030	26	541	391,500
January	3,315	135	87	107	6,580
February	10,163	580	124	363	20,160
March	11,424	394	308	369	22,660
April	9,480	419	207	316	18,800
May	14,139	750	162	456	28,040
June	20,401	1,050	330	680	40,460
July	3,543	304	35	114	7,030
August	778	34	20	25.1	1,540
September	719	30	20	24.0	1,430
Water year 1946-47	88,830	1,050	20	243	176,200

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Humboldt River near Argenta, Nev.

Location.- Water-stage recorder, lat. 40°40', long. 116°40', in NW¼ sec. 2, T. 32 N., R. 47 E., 2½ miles east of Argenta and 15½ miles east of Battle Mountain.

Records available.- February 1946 to September 1947.

Extremes.- Maximum discharge during year, 797 second-feet June 3 (gage height, 6.02 feet); minimum, 0.6 second-foot Sept. 13, 14, 15.
1946-47: Maximum discharge, 1,780 second-feet Apr. 27, 28, 1946 (gage height, 8.58 feet); minimum, that of Sept. 13, 14, 15, 1947.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation.

Rating tables, water year 1946-47, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 11-26)

Oct. 1 to Feb. 10				*Feb. 11 to Sept. 30							
2.5	29	3.6	148	1.6	0.5	2.0	12	2.6	51	4.4	326
2.7	42	4.0	212	1.7	1.8	2.1	16	3.1	98	4.9	452
2.9	59	4.5	312	1.8	4.2	2.2	22	3.4	137	5.5	626
3.2	92			1.9	7.5	2.3	28	3.9	220	6.0	790

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	113	216	140	130	392	311	130	536	228	19	0.9
2	43	116	219	140	140	390	302	127	655	213	18	.8
3	57	113	214	135	150	392	302	106	766	195	17	.8
4	60	119	209	130	160	397	308	96	746	178	17	.8
5	72	109	207	125	a170	395	313	88	709	165	14	.8
6	76	105	210	125	a180	392	324	114	693	155	12	.8
7	86	109	219	125	a190	387	340	140	661	148	11	.8
8	93	108	230	120	a200	382	360	146	614	129	8.7	.8
9	87	123	236	120	a230	379	374	166	599	116	6.8	.8
10	85	130	241	115	a300	374	390	184	590	111	5.8	.7
11	86	133	253	115	a350	369	392	216	587	110	5.5	.7
12	85	133	253	115	a400	369	387	254	590	111	4.5	.7
13	82	134	245	105	a450	364	369	271	578	102	3.2	.7
14	84	146	241	100	a500	357	338	300	581	96	2.4	.7
15	85	150	245	100	a500	357	328	362	593	93	2.2	.7
16	85	150	251	100	a520	357	322	355	572	92	2.0	.8
17	85	163	253	100	a540	355	308	319	545	86	1.8	.8
18	87	163	249	105	a570	357	286	297	511	79	1.6	.8
19	88	168	236	105	a540	364	280	282	472	73	1.6	.8
20	90	173	207	105	*508	367	282	256	447	65	1.6	.7
21	88	177	189	*104	477	364	271	244	429	58	1.4	.7
22	90	181	192	100	458	364	267	246	413	50	1.4	.7
23	93	185	200	98	436	367	254	248	405	47	1.4	.7
24	93	195	217	94	421	364	240	248	395	44	1.4	.7
25	95	205	219	90	410	367	222	273	362	32	1.4	.7
26	97	204	223	98	403	357	211	280	340	32	1.2	.7
27	98	*205	232	110	395	355	197	324	317	32	1.2	.7
28	100	214	238	115	395	357	188	357	297	28	1.2	.8
29	104	219	200	120	-	352	162	372	286	23	1.0	.8
30	104	216	170	120	-	340	134	434	252	21	1.0	.8
31	111	-	140	125	-	331	-	474	-	20	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,620	111	31	84.5	5,200
November	4,659	219	105	155	9,240
December	6,854	253	140	210	13,590
Calendar year	-	-	-	-	-
January	3,499	140	90	113	6,940
February	10,123	570	130	362	20,080
March	11,414	397	331	368	22,640
April	8,762	392	134	292	17,380
May	7,709	474	88	249	15,290
June	15,541	766	252	518	30,830
July	2,932	228	20	94.6	5,820
August	169.2	19	.9	5.46	336
September	22.7	.9	.7	.76	45
Water year 1946-47	74,304.9	766	.7	204	147,000

* Winter discharge measurement made on this day.
a No gage-height record (stage-discharge relation probably affected by ice Feb. 5-9); discharge computed on basis of recorded range in stage, weather records, and records for stations at Palisade and at Battle Mountain.
Note.- Stage-discharge relation affected by ice Dec. 29 to Feb. 4.

Humboldt River at Battle Mountain, Nev.

Location.- Water-stage recorder, lat. 40°39', long. 116°56', in SE¼ sec. 8, T. 32 N., R. 45 E., 1 mile northeast of Battle Mountain. Reese River when flowing enters Humboldt River several miles below station.

Records available.- July 1896 to December 1897 (gage heights only), March 1921 to April 1924, January 1946 to September 1947.

Extremes.- Maximum discharge during year, 675 second-feet June 2 (gage height, 5.65 feet); minimum, 0.1 second-foot Aug. 27 to Sept. 30.
1921-24, 1946-47: Maximum discharge observed, 1,560 second-feet June 19, 20, 1921, May 11-13, 1922; minimum, that of Aug. 27 to Sept. 30, 1947.

Remarks.- Records good except those for period of ice effect, which are fair. Records do not include flow in secondary channels or ditches, much of which is used for irrigation. Many diversions above station for irrigation.

Rating tables, water year 1946-47, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 9				Feb. 10 to Sept. 30					
2.0	31	3.1	144	1.0	0.1	1.5	8.1	3.2	173
2.3	54	3.5	204	1.1	.8	1.7	16	3.8	270
2.6	82	3.9	272	1.2	1.7	2.0	36	4.5	412
2.9	117			1.3	3.1	2.3	61	5.6	663
				1.4	5.3	2.7	106		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	111	218	137	150	404	307	141	463	225	17	0.1
2	40	112	217	135	135	399	301	137	567	206	15	.1
3	54	112	218	135	145	402	297	126	634	194	14	.1
4	61	110	209	130	150	408	301	111	661	179	14	.1
5	69	111	209	130	160	408	307	102	637	167	13	.1
6	79	109	209	125	180	404	315	96	606	156	10	.1
7	84	109	215	125	190	402	325	123	608	149	8.8	.1
8	94	110	223	125	200	393	339	135	571	140	7.5	.1
9	94	116	230	120	210	385	351	144	537	124	5.6	.1
10	91	124	234	120	280	383	366	159	523	116	4.4	.1
11	89	129	244	115	343	378	376	172	505	110	3.8	.1
12	89	130	251	115	406	376	376	198	509	112	3.1	.1
13	86	131	*246	115	402	374	364	214	498	107	2.7	.1
14	86	140	240	105	469	366	341	232	496	98	2.0	.1
15	88	147	239	100	518	362	321	261	493	93	1.5	.1
16	89	147	247	100	507	362	311	278	514	92	1.2	.1
17	89	150	252	100	530	357	297	265	514	87	1.0	.1
18	90	161	251	100	555	355	283	247	491	81	.7	.1
19	91	161	268	105	564	362	266	233	447	73	.6	.1
20	93	170	246	105	548	368	265	224	421	68	.5	.1
21	93	173	204	*105	518	372	256	211	402	59	.3	.1
22	93	179	193	105	493	360	247	211	385	52	.3	.1
23	94	179	204	100	471	362	238	211	372	46	.3	.1
24	95	188	217	96	*447	362	229	247	378	43	.2	.1
25	95	199	223	92	436	368	222	250	341	38	.2	.1
26	97	206	225	90	421	364	208	256	315	30	.2	.1
27	98	201	234	96	412	355	197	274	297	30	.1	.1
28	99	207	240	110	406	355	190	319	281	25	.1	.1
29	101	218	247	115	-	353	180	335	268	24	.1	.1
30	104	220	215	120	-	343	158	370	252	20	.1	.1
31	107	-	140	120	-	341	-	421	-	18	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,664	107	32	85.9	5,280
November	4,560	220	109	152	9,040
December	7,008	268	140	226	13,900
Calendar year	-	-	-	-	-
January	3,491	137	90	113	6,920
February	10,226	564	130	365	20,280
March	11,583	408	341	374	22,970
April	8,534	376	158	284	16,930
May	6,703	421	96	216	13,300
June	13,986	661	252	466	27,740
July	2,968	225	18	95.7	5,890
August	128.4	17	.1	4.14	255
September	3.0	.1	.1	.10	6.0
Water year 1946-47	71,854.4	661	.1	197	142,500

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 2 to Feb. 9.

Humboldt River at Comus, Nev.

Location.- Water-stage recorder, lat. 41°00', long. 117°19', in SE¼ sec. 14, T. 36 N., R. 41 E., at Comus section house of Southern Pacific Railroad, 9 miles northeast of Golconda and 32 miles northwest of Battle Mountain. Prior to Sept. 13, 1947, water-stage recorder at site 125 feet downstream at different datum.

Records available.- September 1917 to June 1923, May 1925 to May 1926, February 1946 to September 1947.

Extremes.- Maximum discharge during year, 535 second-feet Feb. 15 (gage height, 3.10 feet, site and datum then in use); minimum, 0.2 second-foot Aug. 24 to Sept. 25.
1917-23, 1925-26, 1946-47: Maximum discharge, 2,700 second-feet June 24-26, 1921 (gage height, 10.9 feet, site and datum then in use, based on discharge measurement made 5 miles downstream); no flow during periods in 1918, 1919, 1920.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	110	199	150	120	392	281	186	303	244	28	0.2
2	61	100	204	140	130	392	256	191	329	227	25	.2
3	77	102	204	140	135	392	242	193	353	208	22	.2
4	136	105	204	140	140	a390	242	173	382	191	20	.2
5	175	107	210	135	150	a390	227	159	430	177	16	.2
6	111	107	208	135	155	a390	250	141	455	164	a14	.2
7	78	107	212	130	170	a390	267	130	472	152	a11	.2
8	91	103	208	125	185	a390	271	121	485	140	a7	.2
9	70	110	210	120	200	a380	250	140	495	133	a5	.2
10	70	105	216	115	231	a380	233	150	489	121	a4	.2
11	73	105	218	115	250	a380	238	152	472	116	a3	.2
12	73	113	223	110	267	382	242	160	466	108	a2	.2
13	74	116	*229	110	313	378	258	169	457	102	a1.5	.2
14	77	123	225	110	422	378	259	187	455	97	1.2	.2
15	78	124	225	100	424	373	254	202	451	94	1.0	.2
16	83	128	221	94	405	367	254	214	447	88	.8	.2
17	86	131	221	92	447	363	256	153	443	84	.6	.2
18	87	135	248	92	a460	363	240	173	449	81	.5	.2
19	86	140	259	92	a470	357	256	186	449	77	.5	.2
20	86	152	242	94	a490	355	267	180	353	71	.4	.2
21	87	162	256	94	a480	355	216	124	388	65	.3	.2
22	87	195	248	*94	a460	359	193	107	303	60	.3	.2
23	88	195	220	94	a450	363	145	113	263	56	.3	.2
24	87	177	202	92	447	353	160	97	259	52	.2	.2
25	87	182	204	90	440	353	159	94	231	49	.2	.2
26	88	186	216	88	424	327	152	222	235	44	.2	.3
27	88	191	225	90	*409	319	157	242	263	41	.2	.3
28	90	191	221	96	401	303	175	238	311	36	.2	.3
29	91	189	233	100	-	261	214	246	279	33	.2	.3
30	91	193	242	110	-	277	204	269	258	32	.2	.4
31	93	-	200	120	-	281	-	283	-	34	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,677	175	28	86.4	5,310
November	4,184	195	100	139	8,300
December	6,853	259	199	221	13,590
Calendar year	-	-	-	-	-
January	3,407	150	88	110	6,760
February	9,075	490	120	324	18,000
March	11,133	392	261	359	22,080
April	6,818	281	145	227	13,520
May	5,395	283	94	174	10,700
June	11,425	495	231	381	22,660
July	3,177	244	82	102	6,300
August	166.0	28	.2	5.35	329
September	6.6	.4	.2	.22	13
Water year 1946-47	64,316.6	495	.2	176	127,600

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage and records for stations at Battle Mountain and near Imlay.
Note.- Stage-discharge relation affected by ice Dec. 31 to Feb. 9 (no gage-height record Jan. 8-21; discharge computed as explained in footnote a).

Humboldt River near Imlay, Nev.

Location.- Water-stage recorder, lat. 40°41'30", long. 118°12'10", in SE¼ sec. 25, T. 33 N., R. 33 E., 1 mile upstream from old Calahan Dam and 4 miles northeast of Imlay. Prior to Aug. 21 at same site at 1.00 foot higher datum.

Drainage area.- 13,500 square miles.

Records available.- June 1935 to September 1941, April 1945 to September 1947.

Extremes.- Maximum discharge during year, 382 second-feet June 20; maximum gage height, 4.52 feet, present datum, Mar. 22 (backwater from Rye Patch Reservoir); minimum discharge, 18 second-feet Sept. 13 (gage height, 1.02 feet).
1935-41, 1945-47: Maximum discharge, 2,220 second-feet May 31, June 1, 1945 (gage height, 10.49 feet, present datum); no flow at times in several years.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Humboldt-Lovelock Irrigation Light & Power Co.'s feeder canal diverts water from river above station to Pitt-Taylor Reservoirs. This water is ordinarily released during irrigation season through Rye Patch Reservoir to Humboldt River for irrigation in Lovelock district. Flow also affected by many other diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	116	192	190	130	279	162	124	48	242	56	27
2	47	116	192	160	135	287	183	129	45	264	50	26
3	46	116	194	150	140	276	184	144	71	266	a46	25
4	50	117	196	145	145	274	190	170	82	254	a42	24
5	48	123	201	140	150	272	179	135	79	244	a38	24
6	62	123	204	140	160	274	169	124	92	232	a36	24
7	81	124	207	135	170	278	160	113	100	222	a33	24
8	104	125	210	130	180	275	166	103	87	214	a31	21
9	130	124	211	130	183	281	169	122	85	207	a29	21
10	130	133	214	125	184	292	171	120	80	a200	a29	21
11	118	129	*215	120	184	278	168	114	75	a190	a28	21
12	118	133	214	120	188	276	173	116	94	a175	a28	20
13	112	129	214	115	188	272	187	113	159	a160	a28	19
14	108	132	217	110	192	268	168	101	254	a150	a28	19
15	208	133	220	105	199	262	156	95	322	a140	a29	20
16	101	136	222	*105	204	248	148	87	317	a130	29	20
17	95	138	227	105	215	231	149	83	324	a125	32	19
18	106	141	230	105	236	207	142	76	335	116	33	20
19	113	143	233	105	245	186	136	70	361	98	32	20
20	108	148	234	105	252	178	128	72	376	79	32	20
21	108	149	232	105	258	183	124	77	360	71	32	20
22	108	151	230	105	263	188	142	80	353	70	32	21
23	107	169	230	105	269	174	162	72	363	71	30	21
24	116	174	230	105	272	161	159	61	358	71	30	27
25	116	173	235	105	*275	161	147	53	340	70	30	22
26	112	183	225	105	278	161	142	55	321	71	29	20
27	112	186	210	110	287	162	145	58	292	72	28	20
28	112	184	205	110	280	162	144	89	272	76	28	21
29	112	188	210	115	-	171	127	80	254	72	27	20
30	113	190	215	120	-	177	118	64	245	65	26	21
31	115	-	215	120	-	160	-	59	-	57	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,072	130	46	99.1	6,090
November	4,326	190	116	144	8,580
December	6,684	235	192	216	13,260
Calendar year 1946	151,374	1,210	42	415	300,200
January	3,745	190	105	121	7,430
February	5,862	287	130	209	11,630
March	7,053	292	160	228	13,990
April	4,698	190	118	157	9,320
May	2,959	170	53	95.5	5,870
June	6,544	376	45	218	12,980
July	4,474	266	57	144	8,870
August	1,008	56	26	32.5	2,000
September	648	27	19	21.6	1,290
Water year 1946-47	51,073	376	19	140	101,300

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 1 discharge measurement and records for station at Comus.
Note.- Stage-discharge relation affected by ice Dec. 18 to Feb. 8.

Rye Patch Reservoir near Rye Patch, Nev.

Location.- Mercury indicating gage, lat. 40°28'15", long. 118°18'20", in NE¼ sec. 18, T. 30 N., R. 33 E., at control works at left end of Rye Patch Dam, 2 miles northwest of Rye Patch. Datum of gage is at mean sea level (Southern Pacific Railroad datum).

Drainage area.- 13,700 square miles.

Records available.- February 1936 to September 1947.

Extremes.- Maximum contents during year, 187,600 acre-feet Mar. 22, 23, 25 (elevation, 4,133.78 feet); minimum, 107,000 acre-feet Sept. 28 (elevation, 4,125.55 feet).
1936-47: Maximum contents, 196,900 acre-feet Apr. 9, 1946 (elevation, 4,134.62 feet); minimum since operation began, 1,760 acre-feet Oct. 15, 1937.

Remarks.- Reservoir is formed by earth-fill, rock-faced dam; storage began Feb. 20, 1936. Capacity, 179,100 acre-feet between elevations 4,072.5 feet (sill of trash-rack structure) and 4,133.0 feet (top of spillway gates). Dead storage negligible. Elevation of spillway (gate sill) is 4,116 feet. Water is used for irrigation on Humboldt project.

Contents, in acre-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143,600	145,400	152,000	162,800	169,600	179,100	185,100	168,400	151,400	149,200	131,700	118,600
2	144,600	145,800	151,300	163,200	169,800	180,100	184,600	168,000	151,400	148,900	131,700	118,200
3	144,400	145,700	151,900	163,200	170,100	180,800	184,000	167,400	151,400	148,500	131,300	117,500
4	145,000	145,800	153,000	163,400	170,400	180,600	183,800	166,800	151,400	147,800	130,800	116,400
5	144,800	145,700	153,300	163,600	170,600	181,100	183,500	166,300	151,300	147,800	129,500	115,700
6	144,000	146,000	153,700	163,800	171,000	181,000	183,100	165,800	151,300	146,900	128,100	114,600
7	143,500	146,200	154,000	163,900	171,200	181,100	182,700	165,300	150,900	146,700	127,700	113,300
8	144,400	146,400	153,900	164,000	171,500	181,300	182,400	164,800	151,200	146,400	127,400	113,100
9	144,300	146,800	154,500	164,400	171,600	181,800	182,800	164,100	151,200	145,800	127,100	112,800
10	145,200	147,000	155,000	164,600	171,900	182,200	182,000	163,500	151,300	144,300	126,800	112,500
11	144,400	147,200	155,000	164,700	172,200	182,700	182,400	163,000	151,100	144,000	126,600	112,000
12	144,300	146,800	155,100	164,900	172,600	183,600	181,800	162,600	150,900	142,500	125,800	110,500
13	144,200	147,000	155,800	165,100	172,900	184,900	181,000	162,300	151,000	141,000	125,100	110,000
14	143,500	146,900	155,900	165,300	173,400	185,500	180,200	162,100	151,200	141,000	124,700	109,400
15	144,900	146,800	156,000	165,600	173,700	185,200	179,600	161,900	151,400	141,000	124,700	108,700
16	144,600	147,000	156,300	166,000	174,200	185,600	178,700	161,700	150,800	140,400	124,300	108,400
17	143,900	147,000	156,800	166,200	174,500	186,100	177,300	161,300	151,600	139,600	124,100	108,400
18	145,000	147,200	157,500	166,300	174,900	186,600	177,800	160,900	151,600	138,700	123,600	108,400
19	145,000	147,600	157,800	166,400	175,000	186,800	176,100	160,300	151,800	138,000	123,300	108,400
20	144,600	146,400	158,100	166,900	175,500	187,100	174,800	159,700	151,800	137,800	123,100	108,600
21	144,900	149,000	158,400	167,400	175,400	187,300	173,700	159,100	151,800	137,000	121,300	108,900
22	144,600	148,400	158,900	167,700	176,000	187,600	173,100	158,400	151,800	136,800	120,900	108,200
23	145,600	149,600	159,100	167,800	176,400	187,600	172,300	157,800	151,700	136,100	120,600	108,100
24	144,800	149,700	159,600	167,900	176,800	187,300	171,600	157,200	151,700	135,600	120,400	108,000
25	145,000	150,500	159,900	168,100	177,400	187,600	170,900	156,500	151,600	135,200	119,600	107,800
26	145,600	149,900	160,300	168,200	177,800	187,400	170,100	155,100	151,600	134,800	119,400	107,700
27	145,700	150,200	160,800	168,400	178,200	187,100	169,500	155,400	151,500	134,300	119,400	107,300
28	146,300	150,500	161,500	168,700	178,600	186,700	168,900	154,800	151,400	133,800	119,400	107,000
29	145,800	150,900	162,400	168,900	-	186,500	168,600	154,100	150,200	133,400	119,200	107,200
30	144,200	151,400	162,900	169,100	-	186,200	168,200	153,300	149,500	133,200	119,100	107,200
31	145,600	-	163,200	169,400	-	186,000	-	152,900	-	132,500	118,900	-

Monthly elevation and contents, water year October 1946 to September 1947

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	4,129.56	143,600	+1,800
Nov. 1	4,129.74	145,400	+6,600
Dec. 1	4,130.40	152,000	+10,800
Calendar year 1946	-	-	-23,200
Jan. 1	4,131.46	162,800	+6,800
Feb. 1	4,132.11	169,600	+9,500
Mar. 1	4,133.00	179,100	+6,000
Apr. 1	4,133.55	185,100	-16,700
May 1	4,132.00	168,400	-17,000
June 1	4,130.34	151,400	-2,200
July 1	4,130.12	149,200	-17,500
Aug. 1	4,128.32	131,700	-13,100
Sept. 1	4,126.89	118,600	-11,400
Oct. 1	4,125.58	107,200	-
Water year 1946-47	-	-	-36,400

Humboldt River near Rye Patch, Nev.

Location.- Water-stage recorder, lat. 40°27'30", long. 118°18'30", in NE¼ sec. 18, T. 30 N., R. 33 E., 1,000 feet downstream from Rye Patch Dam and 1½ miles northwest of Rye Patch.

Drainage area.- 13,700 square miles.

Records available.- October 1935 to September 1941, October 1943 to September 1947. January 1896 to December 1909, September 1910 to September 1922, and September 1924 to September 1932 (fragmentary) at site near Oreana, 7 miles downstream, published as Humboldt River near Oreana

Average discharge.- 33 years (1899-1909, 1910-16, 1917-22, 1930-32, 1935-41, 1943-47), 207 second-feet.

Extremes.- Maximum daily discharge during year, 554 second-feet July 13; minimum daily, 4.3 second-feet Feb. 20 to Mar. 1, Mar. 5-13 (gage height, 1.09 feet).
1896-1922, 1924-32, 1935-41, 1943-47: Maximum discharge, 3,050 second-feet May 12, 1897 (gage height, 12.0 feet, site and datum then in use); practically no flow during some periods in 1905, 1915, 1918-20, 1931-32, 1935-41, 1943-45.

Remarks.- Records good. Flow completely regulated by Rye Patch Reservoir (see preceding page) and slightly regulated by Humboldt (Taylor-Pitt) Reservoirs. Many diversions above station for irrigation.

Rating table, water year 1946-47 (gage height, in feet, and discharge, in second-feet)

1.0	2.1	1.5	33	2.8	260
1.1	4.5	1.6	45	3.2	354
1.2	8.0	1.7	59	3.6	464
1.3	14	1.9	90	3.9	557
1.4	23	2.2	142		

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	44	5.6	4.8	5.2	4.3	339	438	287	452	199	178
2	35	44	5.6	4.8	5.2	4.5	357	435	267	424	184	180
3	6.2	60	5.6	4.8	5.2	4.5	367	458	243	385	161	209
4	17	68	5.6	4.5	5.2	4.5	367	455	229	342	180	243
5	28	69	5.6	4.5	5.2	4.3	383	485	217	315	203	243
6	33	68	5.6	4.5	5.2	4.3	383	510	203	359	209	252
7	52	66	5.6	4.5	5.2	4.3	362	510	193	383	215	264
8	52	52	5.6	4.5	5.2	4.3	298	476	174	452	207	260
9	32	a38	5.6	4.5	5.2	4.3	352	435	142	497	195	254
10	21	a38	5.6	4.5	5.2	4.3	346	402	117	519	195	247
11	22	a38	5.9	4.5	5.2	4.3	357	333	110	538	188	247
12	22	a26	5.9	4.5	5.2	4.3	370	335	124	535	165	237
13	22	a12	5.6	4.5	5.2	4.3	394	287	142	554	124	229
14	22	a12	5.6	4.5	5.2	14	413	216	155	535	83	207
15	21	a12	5.6	4.8	5.2	39	450	237	172	510	93	102
16	21	a12	5.2	4.8	4.8	40	488	267	213	470	116	46
17	22	a12	4.5	4.8	4.5	40	535	312	241	427	122	39
18	46	a12	4.8	4.8	4.5	40	525	315	250	367	128	14
19	46	12	4.8	4.8	4.5	40	506	349	260	346	146	14
20	55	12	4.8	4.8	4.3	40	485	418	271	354	167	14
21	29	12	4.8	4.8	4.3	39	464	435	250	344	170	27
22	25	12	4.5	4.8	4.3	49	464	447	235	303	186	45
23	24	12	4.8	4.8	4.3	85	485	450	250	267	182	56
24	34	12	4.8	4.8	4.3	110	488	464	275	243	150	56
25	55	12	4.8	4.8	4.3	124	476	461	312	233	107	66
26	55	12	4.8	4.8	4.3	152	473	447	354	223	90	59
27	43	12	4.8	4.8	4.3	190	447	479	391	223	97	46
28	44	12	4.8	4.8	4.3	197	424	470	391	215	102	46
29	44	7.6	4.8	4.8	-	203	424	418	396	197	104	46
30	45	5.6	4.8	4.8	-	260	444	370	441	191	112	36
31	45	-	4.8	5.2	-	310	-	317	-	186	153	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,092.2	74	6.2	35.2	2,170
November	816.2	69	5.6	27.2	1,620
December	161.2	5.9	4.5	5.20	320
Calendar year 1946	140,811.8	1,730	3.5	386	279,300
January	145.9	5.2	4.5	4.71	289
February	135.0	5.2	4.3	4.82	268
March	2,028.5	310	4.3	65.4	4,020
April	12,666	535	298	422	25,120
May	12,431	510	216	401	24,660
June	7,305	441	110	244	14,490
July	11,389	554	186	367	22,590
August	4,733	215	83	153	9,390
September	3,962	264	14	132	7,860
Water year 1946-47	56,865	554	4.3	156	112,800

a No gage-height record; discharge computed on basis of records of gate changes at Rye Patch Dam.

Marys River below Hot Springs Creek, near Deeth, Nev.

Location.- Water-stage recorder, lat. 41°14', long. 115°17', in NW¼ sec. 25, T. 39 N., R. 59 E., 300 feet downstream from Hot Springs Creek, 7½ miles north of Cross Ranch, and 13½ miles north of Deeth.

Drainage area.- 415 square miles.

Records available.- October 1943 to September 1947.

Extremes.- Maximum discharge during year, 202 second-feet May 10 (gage height, 4.02 feet); minimum, 0.3 second-foot Aug. 29.
1943-47: Maximum discharge, 676 second-feet May 9, 1945 (gage height, 5.99 feet); minimum, 0.2 second-foot Aug. 20-25, 1944. Flood in January 1943 reached a stage of 7.2 feet, from floodmarks (discharge, 1,030 second-feet by slope-area method).

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	19	22	13	18	44	103	73	85	9.2	0.7	0.4
2	3.2	19	21	12	19	42	96	79	81	9.8	.7	.4
3	3.0	18	21	11	20	44	97	98	74	9.5	.8	.4
4	2.9	17	21	11	20	44	95	131	70	8.9	.9	.4
5	3.0	18	23	11	21	40	92	171	63	8.2	.9	.4
6	3.0	18	31	12	23	38	86	195	53	7.6	.8	.5
7	3.4	21	41	12	25	35	81	189	48	6.9	.6	.5
8	3.6	24	42	12	26	36	80	171	52	6.2	.6	.6
9	3.6	25	38	*12	29	37	81	178	56	5.8	.6	.6
10	3.4	24	32	12	35	38	80	193	52	5.0	.5	.6
11	3.2	24	28	13	40	37	74	190	49	4.4	.5	.6
12	3.5	18	31	13	56	39	69	185	45	4.1	.5	.6
13	3.5	16	34	12	73	41	68	178	41	3.8	.5	.6
14	3.6	16	39	11	64	38	70	143	37	3.4	.5	.6
15	3.8	17	41	10	62	39	81	125	32	2.9	.5	.7
16	4.6	17	40	11	67	52	91	105	30	2.7	.6	.8
17	5.2	16	30	12	83	63	84	90	29	2.7	.6	.9
18	6.2	17	25	12	*54	81	84	84	23	2.6	.6	1.3
19	6.6	18	21	13	52	92	83	80	20	2.4	.6	1.2
20	7.2	24	20	13	46	96	85	80	19	2.1	.6	1.2
21	7.6	22	21	14	46	98	94	82	17	2.0	.6	1.2
22	8.6	20	21	14	48	99	98	84	16	1.9	.4	1.2
23	9.8	24	22	15	47	105	97	84	16	1.9	.4	1.2
24	9.5	23	23	15	48	110	95	84	15	1.7	.4	1.2
25	11	24	23	16	56	105	99	80	15	1.6	.4	1.2
26	12	23	20	16	52	92	90	77	14	1.6	.4	1.2
27	12	23	17	16	48	84	85	75	12	1.6	.4	1.2
28	14	23	14	16	46	78	85	75	11	1.2	.4	1.3
29	17	*24	12	17	-	77	78	69	10	.9	.4	1.3
30	19	23	12	*17	-	86	72	68	9.5	.8	.4	1.3
31	18	-	13	17	-	98	-	72	-	.8	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	217.8	19	2.8	7.03	432
November	615	25	16	20.5	1,220
December	799	42	12	25.8	1,580
Calendar year 1946	25,738.7	499	.8	70.5	51,050
January	411	17	10	13.3	815
February	1,204	73	18	43.0	2,390
March	2,008	110	35	64.8	3,980
April	2,573	103	68	85.8	5,100
May	3,588	195	68	116	7,120
June	1,094.5	85	9.5	36.5	2,170
July	124.0	9.8	.8	4.00	246
August	17.2	.9	.4	.55	34
September	25.6	1.3	.4	.85	51
Water year 1946-47	12,677.1	195	.4	34.7	25,140

* Winter discharge measurement made on this day.
Note.- Stage discharge relation affected by ice Dec. 17 to Feb. 11 (no gage-height record Jan. 1-6).

Lamoille Creek near Lamoille, Nev.

Location.- Water-stage recorder, lat. 40°41'30", long. 115°28'30", in NE¼ sec. 6, T. 32 N., R. 58 E., at Lamoille Creek bridge at mouth of canyon, 300 feet downstream from Elko-Lamoille power plant and 3 miles south of Lamoille.

Drainage area.- 25 square miles.

Records available.- May 1915 to June 1923, October 1943 to September 1947.

Average discharge.- 10 years (1915-16, 1917-22, 1943-47), 44.8 second-feet.

Extremes.- Maximum discharge during year, 326 second-feet May 6; minimum, 3.5 second-feet Sept. 29.
1915-23, 1943-47: Maximum discharge, probably exceeded 500 second-feet in June 1917 when gage was washed out; minimum, 1 second-foot Jan. 24, 1918.

Remarks.- Records good except those for period of no gage-height record, which are fair. Records include flow of McDermott ditch which diverts about 200 feet upstream from gage. Elko-Lamoille power plant diverts about 6 miles upstream but flow is returned to channel at power plant 300 feet upstream from station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	10	10	5.5	7.1	7.8	16	92	154	116	20	8.1
2	9.6	10	10	6.0	6.8	8.1	17	142	152	120	19	7.8
3	8.5	8.9	9.6	6.5	6.8	7.8	18	185	143	122	24	7.8
4	8.9	10	9.6	6.5	6.8	8.1	17	206	136	107	22	7.4
5	9.2	10	9.6	6.5	6.8	7.8	17	214	133	104	19	7.1
6	8.5	9.6	10	7.0	6.8	7.8	18	240	136	93	18	7.1
7	8.1	10	10	7.0	7.1	7.4	18	250	166	88	17	7.1
8	8.5	10	9.6	7.0	7.1	7.8	19	238	180	91	17	7.1
9	7.8	10	10	7.5	7.1	7.8	19	199	166	86	16	7.1
10	7.8	9.6	8.9	7.5	7.1	7.8	18	164	138	77	15	7.1
11	7.1	10	10	7.5	7.1	7.4	19	146	118	70	14	7.1
12	7.4	10	10	7.5	7.1	7.1	19	129	110	65	13	6.8
13	7.4	10	10	7.7	7.4	7.1	21	120	118	61	13	6.5
14	7.8	10	9.6	7.5	7.1	7.4	25	118	144	57	12	6.5
15	8.1	9.6	9.6	7.0	7.1	7.8	31	124	169	52	12	6.2
16	8.9	8.9	8.1	6.5	7.1	7.8	35	141	167	50	11	5.3
17	8.5	9.6	6.8	6.0	7.4	8.5	38	162	177	48	12	7.4
18	8.5	9.6	7.1	6.0	7.4	9.2	38	186	169	47	10	7.4
19	8.5	10	10	6.5	7.4	9.6	42	204	172	42	11	7.1
20	8.9	8.5	9.2	6.5	7.1	10	45	222	166	40	11	6.5
21	9.2	8.9	9.2	6.5	7.1	10	49	229	135	37	10	6.5
22	10	9.6	9.2	6.5	7.4	11	50	226	117	33	10	6.2
23	12	10	9.2	7.0	7.4	12	49	219	118	31	11	6.2
24	10	10	8.9	7.0	7.4	12	48	219	125	30	11	5.9
25	10	9.2	8.9	7.0	7.8	12	47	212	138	27	10	5.9
26	10	10	8.9	7.0	7.1	12	47	217	142	26	10	5.9
27	10	10	8.5	7.1	7.8	12	49	203	136	25	10	5.9
28	10	10	6.5	7.1	7.4	12	53	188	130	23	10	5.6
29	10	10	5.6	7.1	-	13	60	153	120	22	9.2	5.3
30	10	10	5.5	7.1	-	14	71	162	118	21	8.9	5.6
31	10	-	5.5	7.4	-	15	-	171	-	20	8.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	277.7	12	7.1	8.93	551
November	292.0	10	8.5	9.73	579
December	273.6	10	5.5	8.83	543
Calendar year 1946	17,362.8	270	-	47.6	34,440
January	212.5	7.7	5.5	6.85	421
February	201.1	7.8	6.8	7.18	399
March	295.1	15	7.1	9.52	585
April	1,013	71	16	33.8	2,010
May	5,681	250	92	183	11,270
June	4,293	180	110	143	8,520
July	1,831	122	20	59.1	3,630
August	414.6	24	8.5	13.4	822
September	199.5	8.1	5.3	6.65	396
Water year 1946-47	14,984.1	250	5.3	41.1	29,730

Note.- No gage-height record Dec. 30 to Jan. 26 (stage-discharge relation probably affected by ice during part of period); discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

North Fork Humboldt River at Devils Gate, near Halleck, Nev.

Location.- Water-stage recorder, lat. 41°11', long. 115°29', in SE¼ sec. 13, T. 38 N., R. 57 E., 3 miles north of Devils Gate Ranch, 16 miles north of Halleck, and 26 miles upstream from mouth.

Drainage area.- 830 square miles.

Records available.- November 1913 to September 1921, October 1943 to September 1947.

Extremes.- Maximum discharge during year, 136 second-feet Feb. 16, but may have been greater during period of ice effect; maximum gage height, 4.42 feet Feb. 11, (ice jam); minimum discharge, 2.4 second-feet Aug. 6, 9.
1913-21, 1943-47: Maximum discharge, 1,600 second-feet Mar. 2 or 3, 1921; minimum, 1 second-foot Aug. 20-28, Sept. 30, 1913.

Remarks.- Records good except those for periods of ice effect, which are fair. Many diversions above and below station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	22	34	18	19	46	55	30	39	13	2.8	4.3
2	36	20	32	17	20	48	58	28	40	12	3.0	4.3
3	22	19	32	16	20	49	60	25	43	11	3.4	4.3
4	18	20	32	16	21	44	59	22	41	10	3.0	4.3
5	18	21	34	15	22	44	60	20	38	9.5	2.8	4.3
6	18	22	38	15	23	42	59	22	34	8.5	2.6	4.0
7	19	25	47	14	25	40	61	28	31	8.0	2.6	4.3
8	18	24	43	14	28	43	62	28	32	7.5	2.6	4.3
9	18	22	38	*14	30	41	64	29	35	7.0	2.6	4.6
10	18	22	33	14	35	42	63	32	46	6.4	2.6	4.6
11	17	22	32	13	45	50	57	41	49	6.4	2.8	4.9
12	17	24	31	13	55	51	52	49	52	6.1	2.8	4.9
13	16	26	34	12	70	47	45	58	48	5.8	3.0	4.9
14	17	28	39	12	90	53	43	64	42	5.2	3.0	4.9
15	17	27	38	12	105	75	43	60	36	5.2	3.0	4.9
16	18	25	33	12	128	80	43	48	31	5.2	3.0	5.2
17	17	25	30	12	111	74	45	37	27	5.2	3.2	5.2
18	18	28	27	13	*88	75	46	31	24	4.6	3.0	6.1
19	18	30	24	13	81	73	47	27	22	4.6	3.0	6.4
20	19	29	25	12	68	68	52	24	21	4.6	3.0	6.4
21	19	29	26	12	61	62	59	22	19	4.6	3.2	6.4
22	19	30	27	11	57	62	59	21	19	4.3	3.2	6.4
23	20	35	28	11	57	63	50	20	19	4.3	3.2	6.4
24	19	36	28	11	70	67	47	19	19	4.0	3.2	6.7
25	20	34	30	12	68	67	46	19	18	4.0	3.2	6.7
26	21	34	31	13	55	64	46	18	17	3.8	3.4	6.4
27	21	34	33	14	52	60	42	18	16	3.8	3.4	6.7
28	22	35	25	15	51	55	35	20	16	3.6	3.6	6.7
29	22	35	21	17	-	51	32	30	15	3.2	3.8	6.7
30	*22	*34	19	*18	-	53	32	38	14	3.2	4.0	6.7
31	21	-	19	19	-	54	-	39	-	3.0	4.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	623	38	16	20.1	1,240
November	817	36	19	27.2	1,620
December	963	47	19	31.1	1,910
Calendar year 1946	29,131.5	464	5.5	79.8	57,780
January	430	19	11	13.9	853
February	1,555	128	19	55.5	3,080
March	1,743	80	40	56.2	3,460
April	1,522	64	32	50.7	3,020
May	967	64	18	31.2	1,920
June	903	52	14	30.1	1,790
July	187.6	13	3.0	6.05	372
August	96.0	4.0	2.6	3.10	190
September	162.9	6.7	4.0	5.43	323
Water year 1946-47	9,969.5	128	2.6	27.3	19,780

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 2-6, 10-13, 16, 17, 20-22, Dec. 11-13, 16-22, Dec. 28 to Feb. 15 (no gage-height record Dec. 31 to Jan. 8, Jan. 16-23, 29; discharge computed on basis of weather records and records for stations on nearby streams).

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South Fork Humboldt River near Lee, Nev.

Location.- Water-stage recorder, lat. 40°34', long. 115°33', in SE¼ sec. 16, T. 31 N., R. 57 E., 400 feet downstream from Kleckner Creek and 2½ miles east of Lee.

Drainage area.- 54 square miles.

Records available.- February 1945 to September 1947.

Extremes.- Maximum discharge during year, 414 second-feet May 6 (gage height, 2.69 feet); minimum, 5.2 second-feet Sept. 13.
1945-47: Maximum discharge, 815 second-feet June 23, 1945 (gage height, 3.70 feet); minimum, 4.1 second-feet Sept. 24, 1946.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	16	18	12	11	19	52	134	252	115	19	7.6
2	11	14	17	12	11	19	51	202	246	111	18	7.6
3	10	13	*17	11	11	19	50	279	227	107	22	7.2
4	13	13	18	11	11	19	45	304	210	98	19	6.8
5	13	16	19	11	12	21	45	301	197	92	16	6.4
6	11	*16	21	11	12	19	47	342	197	87	15	6.4
7	11	16	20	11	13	18	45	369	224	82	14	6.0
8	12	15	19	11	14	18	46	362	238	80	14	6.0
9	9.9	15	19	11	15	18	48	329	232	75	14	6.0
10	10	14	18	11	16	19	47	276	200	74	14	6.0
11	9.5	16	19	11	16	19	48	232	187	71	14	6.4
12	10	15	19	11	16	19	55	213	171	65	13	6.0
13	10	16	19	*11	19	19	66	192	169	59	13	5.7
14	11	16	19	11	19	21	82	174	184	55	13	6.0
15	12	16	18	10	20	24	98	179	205	54	13	6.0
16	13	16	13	10	21	29	111	200	208	50	12	5.7
17	13	16	12	9	21	34	115	232	221	47	11	7.6
18	13	16	12	9	21	38	111	264	219	43	10	8.3
19	12	17	13	10	20	39	105	304	224	40	10	8.0
20	11	16	14	10	19	45	101	326	216	35	10	7.6
21	12	16	15	10	*19	50	98	335	189	34	9.9	7.2
22	13	18	15	10	19	55	94	335	161	32	9.9	6.4
23	18	21	14	10	19	55	87	323	152	31	9.5	6.4
24	15	20	14	10	20	52	85	316	152	29	9.1	6.4
25	16	17	14	10	19	52	82	304	154	28	8.7	6.0
26	16	20	14	11	19	51	82	298	154	26	8.3	6.0
27	15	21	13	11	19	51	82	291	149	24	8.7	6.0
28	16	19	13	11	19	52	85	298	138	22	8.3	6.0
29	16	19	13	11	-	54	96	244	125	21	8.0	6.4
30	14	19	12	11	-	55	105	252	119	20	8.0	6.4
31	14	-	12	11	-	54	-	282	-	19	8.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	391.4	18	9.5	12.6	776
November	498	21	13	16.6	988
December	493	21	12	15.9	978
Calendar year 1946	30,225.4	439	-	82.8	59,940
January	330	12	9	10.6	655
February	471	21	11	16.8	934
March	1,057	55	18	34.1	2,100
April	2,264	115	45	75.5	4,490
May	8,492	369	134	274	16,840
June	5,720	252	119	191	11,350
July	1,726	115	19	55.7	3,420
August	380.4	22	8.0	12.3	755
September	196.5	8.3	5.7	6.55	390
Water year 1946-47	22,019.3	369	5.7	60.3	43,680

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 3, 4, Dec. 11, 17-20, Dec. 28 to Feb. 9 (no gage-height record Jan. 2-12, Jan. 17 to Feb. 9; discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams).

South Fork Humboldt River near Elko, Nev.

Location.- Water-stage recorder, lat. 40°43'15", long. 115°49'50", in NW¼ sec. 30, T. 33 N., R. 55 E., a quarter of a mile upstream from head of canyon, 1.5 miles downstream from highway bridge, 9 miles upstream from mouth, and 10 miles southwest of Elko.

Drainage area.- 1,150 square miles.

Records available.- August 1896 to September 1922, October 1923 to September 1932, October 1936 to September 1947.

Average discharge.- 39 years (1896-1903, 1904-9, 1910-18, 1923-26, 1927-32, 1936-47), 133 second-feet.

Extremes.- Maximum discharge during year, 608 second-feet June 1 (gage height, 3.50 feet); minimum daily, 1.5 second-feet Sept. 6-8.

1896-1922, 1923-32, 1936-47: Maximum discharge, 2,400 second-feet Jan. 26, 1914, from rating curve extended above 1,200 second-feet; practically no flow during some periods in nearly every year since 1915.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation. Station is below all diversions except those of Hunter & Banks Ranch, 3 miles downstream.

Revisions.- Revised figures of discharge, in second-feet, for March 1932, superseding those published in Water-Supply Paper 735 are given herewith.

Day	Discharge
Mar. 1	23
Mar. 2-5	b24
Mar. 6-10	b30
Mar. 11-15	b40
Mar. 16-20	b55
Mar. 21-25	b75
Mar. 26-29	b100
Mar. 30	114
Mar. 31	107

b Stage-discharge relation probably affected by ice.

Month	Maximum	Minimum	Mean	Runoff in acre-feet
March	-	-	56.1	3,450
Water year 1931-32	1,490	0	180	130,500

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	55	63	37	17	85	104	88	580	126	12	4.2
2	52	55	62	35	20	91	107	100	504	113	12	3.6
3	42	45	62	33	24	100	105	155	432	105	14	3.4
4	45	52	62	32	28	95	107	182	389	93	13	3.4
5	52	54	62	31	30	91	109	197	334	89	11	a2.5
6	52	52	70	31	35	89	118	210	307	83	9.9	a1.5
7	46	54	85	30	40	88	115	327	304	75	8.8	a1.5
8	45	56	81	30	45	86	115	348	377	63	7.8	a1.5
9	45	52	*77	29	50	86	118	385	377	62	7.8	a3.0
10	43	51	66	*28	65	83	122	400	359	57	7.4	3.6
11	40	50	62	28	85	85	115	351	313	57	7.4	3.8
12	39	55	69	27	100	80	107	307	294	56	7.0	3.8
13	38	54	70	26	110	77	107	281	278	48	6.6	4.2
14	38	59	74	25	120	75	115	251	260	44	6.6	3.8
15	38	62	70	24	130	75	122	228	237	42	6.6	3.8
16	39	59	69	22	140	77	136	215	223	39	6.6	4.2
17	40	62	48	20	124	81	138	210	220	30	6.6	4.6
18	42	63	43	19	113	85	136	212	220	33	6.2	7.8
19	42	64	60	18	*105	88	132	275	223	30	6.2	9.4
20	40	68	62	17	100	93	130	320	220	26	6.2	8.8
21	40	69	63	18	93	100	130	341	217	23	5.4	8.8
22	39	66	68	18	89	104	126	348	212	25	3.6	8.8
23	45	72	64	18	89	111	126	351	200	22	3.4	8.3
24	47	78	62	18	91	105	120	351	187	20	6.2	7.8
25	46	75	64	18	86	102	113	348	177	20	4.2	7.8
26	46	70	69	19	80	100	95	334	170	21	3.4	7.8
27	46	70	75	17	83	98	95	324	166	20	3.4	7.4
28	52	69	59	15	85	98	91	436	159	18	5.0	7.8
29	56	66	42	*14	-	102	88	416	150	17	4.2	7.8
30	55	63	40	14	-	104	85	355	138	16	3.6	7.4
31	55	-	38	15	-	104	-	488	-	14	3.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,370	56	25	44.2	2,720
November	1,820	78	45	60.7	3,610
December	1,961	85	38	63.3	3,890
Calendar year 1946	63,167.9	724	5.8	173	125,300
January	726	37	14	23.4	1,440
February	2,177	140	17	77.8	4,320
March	2,838	111	75	91.5	5,630
April	3,427	138	85	114	6,800
May	9,134	488	88	295	18,120
June	8,227	580	138	274	16,320
July	1,492	126	14	48.1	2,960
August	215.9	14	3.4	6.96	428
September	162.1	9.4	1.5	5.40	322
Water year 1946-47	33,550.0	580	1.5	91.9	66,560

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of drop in discharge on Aug. 21, 22 (pumping from gage pool).

Note.- Stage-discharge relation affected by ice Dec. 19-23, Dec. 30 to Feb. 16 (no gage-height record Jan. 21 to Feb. 7; discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams).

Pine Creek near Palisade, Nev.

Location.- Water-stage recorder, lat. 40°35'30", long. 116°10'30", in SW¼ sec. 1, T. 31 N., R. 51 E., 1 mile upstream from mouth and 1½ miles southeast of Palisade. Prior to July 18, 1946, water-stage recorder at site 1,000 feet downstream at different datum.

Records available.- November 1902 to December 1904 (gage heights only), January 1912 to September 1914, January 1946 to September 1947.

Extremes.- 1946: Maximum discharge during period January to September, 600 second-feet about Feb. 24 (gage height, 4.0 feet from floodmarks), from rating curve extended above 370 second-feet; minimum, 2.6 second-feet Aug. 10.
1946-47: Maximum discharge during year, 76 second-feet Feb. 10 (gage height, 2.01 feet); minimum, 0.1 second-foot July 6, 7, 13, 14.
1912-14, 1946-47: Maximum discharge, 785 second-feet Jan. 25, 26, 1914; minimum, that of July 6, 7, 13, 14, 1947.

Remarks.- Records good except those for periods of ice effect or no gage-height record, and those for Jan. 1 to July 17, 1946, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, 1946-47

1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				31		d50	116	36	58	10	8.4	4.5
2				30		d45	124	33	47	11	4.3	4.7
3				28		d40	128	29	38	11	3.8	5.5
4				26		d35	134	27	31	12	3.6	6.2
5						d36	155	22	27	12	3.4	6.5
6						d38	145	20	25	12	3.1	6.2
7						d40	d134	20	23	12	3.1	6.2
8						d44	d138	16	19	12	3.1	6.5
9						d48	d130	16	16	12	3.1	6.5
10						54	d120	19	14	11	2.9	6.8
11					20	65	d103	19	13	12	3.8	6.8
12				18		51	d105	20	13	12	3.6	7.1
13						112	d108	20	12	12	2.9	6.8
14						126	d126	19	19	11	3.4	6.8
15						114	d138	17	11	10	3.4	6.5
16						89	d155	15	10	10	3.4	6.5
17						77	d145	15	9.2	9.6	3.4	6.8
18						78	d132	14	8.8	9.2	3.1	7.1
19						81	d122	12	8.8	8.8	3.1	7.4
20						86	d118	12	9.2	8.4	3.1	7.4
21					50	88	d110	10	9.2	8.1	3.6	7.4
22					100	88	101	20	8.4	8.1	4.0	7.1
23					200	84	88	21	8.4	8.1	3.6	7.4
24					450	72	72	31	11	8.1	4.3	7.4
25					365	56	65	50	11	30	5.2	8.1
26				20		d98	54	59	36	9.2	31	4.5	9.2
27						64	63	50	9.2	16	3.8	8.8
28						54	78	47	48	10	11	3.8	9.2
29						-	86	44	54	10	8.4	3.8	9.7
30						-	92	39	80	10	30	3.8	9.7
31						-	101	-	68	-	27	4.0	-

d Doubtful gage-height record; discharge computed on basis of 1 discharge measurement and records for nearby stations.
Note.- No gage-height record Jan. 1 to Feb. 25; discharge computed on basis of 3 discharge measurements, weather records, and records for nearby stations.

Discharge, in second-feet, of Pine Creek near Palisade, Nev., 1946-47--Continued

1946-47

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29		19	14	15	25	6.2	5.8	1.3	0.2	0.4	0.3
2	21	18	19	14	16	29	6.2	5.2	1.0	.2	.5	.3
3	17		19		19	29	7.4	4.3	1.6	.2	.5	.4
4	21	17	19		21	27	8.8	4.0	.9	.2	.3	.4
5	22	19	*19		30	25	11	4.0	1.1	.2	.3	.4
6		19	20		37	24	11	3.8	1.6	.1	.3	.4
7		20	23		39	23	11	4.0	1.9	.2	.3	.4
8		20	22		36	24	12	3.4	3.4	.2	.4	.4
9		19	19		34	24	13	3.4	2.9	.2	.4	.7
10		19	18		64	23	11	3.6	1.9	.2	.4	.9
	20											
11		19	18		55	23	9.7	4.5	2.3	.2	.5	.9
12		19	19		46	21	9.7	4.5	4.0	.2	.4	.9
13		19	20		48	18	8.4	4.3	6.5	.1	.4	.9
14		22	20	12	42	18	7.8	4.3	5.2	.1	.4	.9
15		22	19		37	18	8.1	3.4	5.0	.2	1.2	1.1
16		20	19		32	18	7.4	2.7	4.7	.2	.7	1.3
17		20	16		*31	18	7.8	2.6	5.0	.3	.6	1.6
18		20	13		32	16	5.5	2.3	5.5	.3	.6	1.9
19		20	15		29	14	3.8	1.3	4.7	.2	.7	2.1
20		24	18	(*)	27	10	3.6	.9	2.7	.2	.5	1.8
21		22	18		25	9.7	3.4	.8	.7	.2	.4	1.3
22		21	18		25	9.7	3.1	.8	.4	.3	.3	.8
23		23	19		24	8.4	3.8	.8	.3	.3	.3	.8
24	18	23	19		24	7.8	5	.7	.3	.3	.3	.8
25		21	19		22	7.8	5.8	.3	.3	.3	.3	.8
26		21	20		22	7.8	6.5	.3	.3	.2	.3	.7
27		23	20		23	7.8	7.4	.3	.2	.2	.3	.8
28		19	18		24	7.8	6.8	.4	.2	.2	.3	.8
29		19	16	13	-	6.5	6.5	.4	.2	.3	.2	.8
30		19	16		-	5.5	5.8	.7	.2	.3	.2	1.0
31		-	14		-	5.8	-	5.5	-	.3	.3	-

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 18, 19, Dec. 29 to Jan. 3, Jan. 26 to Feb. 4. No gage-height record Oct. 6 to Nov. 3, Jan. 4-25; discharge computed on basis of 3 discharge measurements, weather records, and records for stations on nearby streams.

Monthly discharge, in second-feet, 1946-47

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October					
November					
December					
Calendar year					
January 1946	623	31	-	20.1	1,240
February	1,781	450	-	63.6	3,530
March	2,171	126	35	70.0	4,310
April	3,251	155	39	108	6,450
May	869	80	10	28.0	1,720
June	500.4	58	8.4	16.7	993
July	403.8	31	8.1	13.0	801
August	116.4	8.4	2.9	3.75	231
September	212.8	9.7	4.5	7.09	422
The period	-	-	-	-	19,700
October 1946	598	29	-	19.3	1,190
November	603	24	17	20.1	1,200
December	571	23	13	18.4	1,130
Calendar year 1946	11,700.4	450	2.9	26.7	23,220
January 1947	382	14	-	12.3	758
February	879	64	15	31.4	1,740
March	511.6	29	5.5	16.5	1,010
April	223.5	13	3.1	7.45	443
May	83.3	5.8	.3	2.69	165
June	66.3	6.5	.2	2.21	132
July	6.8	.3	.1	.22	13
August	13.0	1.2	.2	.42	26
September	26.6	2.1	.3	.89	53
Water year 1946-47	3,964.1	64	.1	10.9	7,860

Rock Creek near Battle Mountain, Nev.

Location.- Water-stage recorder, lat. 40°51', long. 116°36', in NE¼ sec. 17, T. 34 N., R. 48 E., at mouth of canyon, and 22 miles northeast of Battle Mountain.

Records available.- March 1918 to September 1923, 1924, 1925, 1927-29 (fragmentary), January 1946 to September 1947.

Extremes.- Maximum discharge during year, 213 second-feet Feb. 11 (gage height, 2.32 feet); no flow June 25 to Sept. 30.
1918-25, 1927-29, 1946-47: Maximum discharge, 2,240 second-feet Feb. 11, 1921; no flow at times during July, August, September and October, nearly every year.

Remarks.- Records good except those for period of ice effect, which are fair. Several irrigation diversions in valleys above station. Station is above all diversions in Boulder Flat and is below all tributaries. Flow slightly affected by small reservoir in Squaw Valley, 30 miles above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	5.8	7.0			18	2.6	4.6	3.7			
2	38	3.2	6.5		4.0	17	2.8	8.0	3.4			
3	24	4.2	6.5			21	2.9	15	2.6			
4	14	4.2	*7.0			20	3.0	16	2.1			
5	17	5.3	7.3		6.7	18	3.2	18	1.9			
6	12	4.9	7.7		7.3	15	3.2	21	1.6			
7	11	7.0	8.9		10	16	3.4	20	2.4			
8	8.6	8.3	8.9		24	17	11	21	4.2			
9	7.3	3.9	8.6		38	15	14	26	4.2			
10	6.5	4.2	7.7		57	13	17	29	4.6			
11	6.0	4.9	6.0		108	13	35	29	4.4			
12	5.3	6.7	6.2		89	12	32	26	4.6			
13	5.1	7.7	7.7		111	9.3	29	25	4.6			
14	5.1	8.6	7.3		106	8.3	32	23	4.1			
15	5.1	6.5	8.6		66	7.3	24	22	3.6			
16	5.6	5.6	5.0	1.0	54	7.0	13	16	2.7			
17	5.8	6.2	4.0		47	7.0	7.7	14	2.4			
18	7.3	5.8	3.5		38	7.0	6.7	13	1.9			
19	6.7	5.1	3.5		33	7.0	7.7	11	1.4			
20	6.5	6.2	3.7		*25	4.9	14	10	1.0			
21	6.2	4.4	3.9		22	3.9	26	9.6	.9			
22	5.8	6.2	4.0	(*)	20	3.4	29	9.3	.5			
23	6.0	6.7			19	3.7	26	7.3	.4			
24	5.6	6.2			18	3.2	22	6.0	.1			
25	5.8	9.3	5.2		18	3.4	16	4.2	0			
26	5.8	9.9			16	4.1	13	3.4	0			
27	5.8	8.9			16	3.4	12	2.9	0			
28	5.8	8.6	4.0		19	3.6	13	2.7	0			
29	5.6	7.7	3.0		-	3.6	10	2.9	0			
30	5.3	7.3	3.0		-	3.2	5.3	3.9	0			
31	6.2	-	3.0		-	2.6	-	4.1	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	269.1	38	5.1	8.68	534
November	189.5	9.9	3.2	6.32	376
December	178.5	8.9	3.0	5.76	354
Calendar year	-	-	-	-	-
January	31.0	-	-	1.0	61
February	984.0	111	-	35.1	1,950
March	290.9	21	2.6	9.38	577
April	436.3	35	2.6	14.5	865
May	423.9	29	2.7	13.7	841
June	63.3	4.6	0	2.11	126
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	2,866.5	111	0	7.85	5,680

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 16 to Feb. 4.

Little Humboldt River at Chimney dam site, near Paradise Valley, Nev.

Location.- Water-stage recorder, lat. 41°24', long. 117°11', in NE¼ sec. 36, T. 41 N., R. 42 E., at Chimney dam site, 300 feet downstream from confluence of North and South Forks and 25 miles east of Paradise Valley.

Records available.- October 1941 to September 1947.

Extremes.- Maximum discharge during year, 76 second-feet Feb. 14 (gage height, 3.21 feet); no flow July 8 to Sept. 30.

1941-47: Maximum discharge, 4,000 second-feet about Jan. 22, 1943 (gage height, 14.4 feet, from floodmarks), by slope-area method; no flow for several days in 1942, 1945, 1946, 1947.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Several small diversions above and below station for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	4.8	11	3.0	2.5	15	20	31	6.5	2.9		
2	6.1	3.1	11	2.8	3.0	14	22	31	7.5	2.5		
3	6.6	2.7	11	2.6	5.0	14	19	32	7.4	1.4		
4	7.2	3.5	11	2.4	8.0	14	20	34	6.1	.8		
5	7.7	3.0	11	2.2	11	13	19	35	5.6	.5		
6	6.3	3.5	12	2.3	16	12	18	34	5.1	.2		
7	6.1	4.2	12	2.4	16	13	18	31	4.8	.1		
8	6.1	4.1	12	2.4	15	13	17	30	5.6	0		
9	5.6	3.1	10	2.4	15	12	17	34	6.8	0		
10	5.1	3.2	8.5	2.4	15	12	17	34	7.5	0		
11	4.8	3.7	8.1	2.4	18	12	16	33	11	0		
12	4.7	3.7	*9.6	2.3	32	15	16	30	11	0		
13	3.9	3.7	10	1.7	35	14	18	27	10	0		
14	3.5	4.5	10	1.6	62	12	18	24	8.5	0		
15	3.4	3.9	9.0	1.6	44	12	18	21	6.8	0		
16	3.7	4.1	7.2	1.6	37	12	20	19	5.9	0		
17	4.2	4.2	4.4	*1.6	32	13	24	18	5.3	0		
18	5.1	5.3	4.7	1.6	24	14	28	16	5.0	0		
19	5.3	5.9	5.1	1.6	19	16	33	15	4.8	0		
20	5.5	6.5	4.8	1.7	18	20	38	15	4.7	0		
21	5.3	6.8	5.6	1.9	16	24	40	14	5.1	0		
22	5.0	12	6.6	2.0	15	25	41	12	5.1	0		
23	5.1	13	6.6	2.1	14	25	40	12	5.1	0		
24	5.0	20	5.6	2.2	14	25	38	9.2	5.0	0		
25	5.1	23	6.8	2.3	14	29	37	7.9	4.5	0		
26	3.5	21	7.9	2.3	*14	2	35	7.4	3.9	0		
27	4.5	16	8.7	2.4	16	21	33	6.8	3.5	0		
28	5.1	14	5.3	2.4	15	20	32	7.2	3.2	0		
29	5.0	13	4.0	2.4	-	20	31	6.8	3.0	0		
30	5.0	12	4.0	2.4	-	20	31	6.5	3.0	0		
31	4.8	-	3.5	2.4	-	20	-	6.5	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	157.7	7.7	3.4	5.09	313
November	231.5	23	2.7	7.72	459
December	247.0	12	3.5	7.97	490
Calendar year 1946	7,845.6	128	0	21.5	15,570
January	67.4	3.0	1.6	2.17	134
February	545.5	62	2.5	19.5	1,080
March	525	29	12	16.9	1,040
April	774	41	16	25.8	1,540
May	640.3	35	6.5	20.7	1,270
June	177.3	11	3.0	5.91	352
July	8.4	2.9	0	.27	17
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	3,374.1	62	0	9.24	6,700

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 29 to Jan. 14. No gage-height record Jan. 16 to Feb. 8 (stage-discharge relation probably affected by ice during most of period), Mar. 16-30, Apr. 14-18, 24-28; discharge computed on basis of 1 discharge measurement, recorded range in stage, weather records, and records for stations on nearby streams.

Little Humboldt River near Paradise Valley, Nev.

Location.- Water-stage recorder, lat. 41°25', long. 117°22', in SE¼ sec. 20, T. 41 N., R. 41 E., 3½ miles downstream from Bullshead Ranch and 9½ miles southeast of Paradise Valley. Prior to Nov. 21, at site 1 mile downstream.

Drainage area.- 1,030 square miles.

Records available.- October 1921 to June 1928 (fragmentary), October 1943 to September 1947.

Extremes.- Maximum discharge during year, 48 second-feet Feb. 14, 15, or 16 (gage height, 2.23 feet, from recorded range in stage); minimum daily, 6.4 second-feet July 15-31.
1921-28, 1943-47: Maximum discharge, 500 second-feet Feb. 23, 1927 (gage height, 12.1 feet, datum then in use), from rating curve extended above 150 second-feet; minimum, 5 second-feet Dec. 28, 1924.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Bullshead Ranch diverts above station for irrigation. Station is above all diversions in Paradise Valley.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	8.3	13	9.0	8.8	19	20	30	10	7.2	6.8	6.8
2	9.7	8.6	13	9.0	8.8	19	22	30	10	7.2	6.8	6.8
3	9.3	7.9	12	9.0	8.8	19	23	30	11	7.2	6.8	6.8
4	8.9	7.2	12	9.0	9.0	19	22	29	9.4	7.2	6.8	6.8
5	8.5	7.2	12	8.3	9.0	18	22	30	9.4	7.2	6.8	6.8
6	8.2	7.2	12	8.3	11	17	22	30	9.0	6.8	6.8	6.8
7	8.2	7.6	12	8.3	14	17	20	30	9.0	6.8	6.8	6.8
8	8.1	8.1	12	8.3	18	17	20	29	9.0	6.8	6.8	6.8
9	8.1	7.9	13	8.3	18	17	20	30	9.0	6.8	6.8	6.8
10	8.1	7.8	12	8.3	18	16	19	33	9.0	6.8	6.8	7.2
11	8.1	7.6	11	8.3	18	16	18	33	9.0	6.8	6.8	7.2
12	8.2	7.4	11	8.7	18	15	17	32	9.0	6.8	6.8	6.8
13	8.2	7.6	11	8.7	22	17	15	30	9.0	6.8	6.8	6.8
14	8.2	7.6	12	8.3	30	17	16	28	9.0	6.8	6.8	7.2
15	8.2	8.1	12	7.9	45	17	17	26	9.0	6.4	6.8	7.2
16	8.2	7.9	12	7.9	40	16	17	24	8.7	6.4	6.8	6.8
17	8.2	7.8	10	7.9	36	17	20	21	8.7	6.4	6.8	7.2
18	8.2	8.1	9.4	7.5	32	21	25	20	8.3	6.4	6.8	7.2
19	8.2	8.5	9.4	7.5	28	24	31	19	7.9	6.4	6.8	7.2
20	8.2	9.7	9.0	7.6	24	25	33	17	7.9	6.4	6.8	7.2
21	8.2	10	9.0	7.6	21	26	36	17	7.9	6.4	6.8	7.2
22	8.2	11	9.0	7.6	19	26	36	16	7.9	6.4	6.8	7.2
23	8.3	12	9.4	7.6	18	26	37	15	7.9	6.4	6.8	7.2
24	7.8	12	9.4	7.8	18	26	36	14	7.9	6.4	6.8	7.2
25	7.8	13	10	8.0	18	26	36	13	7.9	6.4	6.8	7.6
26	7.9	16	11	8.0	18	26	35	12	7.9	6.4	6.8	7.2
27	8.2	16	12	8.2	20	22	33	11	7.9	6.4	6.8	7.2
28	7.5	15	12	8.4	20	21	32	11	7.9	6.4	6.8	7.2
29	8.1	15	11	8.5	-	20	31	11	7.9	6.4	6.8	7.2
30	8.5	14	10	8.6	--	20	31	11	7.9	6.4	6.8	7.6
31	8.5	-	9.0	8.7	-	20	-	11	-	6.4	6.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	259.0	11	7.5	8.35	514
November	292.1	16	7.2	9.74	579
December	341.6	13	9.0	11.0	678
Calendar year 1946	8,153.6	104	7.2	22.3	16,170
January	255.1	9.0	7.5	8.23	506
February	568.4	45	8.8	20.3	1,130
March	622	26	15	20.1	1,230
April	762	37	15	25.4	1,510
May	693	33	11	22.4	1,370
June	260.3	11	7.9	8.68	516
July	206.0	7.2	6.4	6.65	409
August	210.8	6.8	6.8	6.80	418
September	212.0	7.6	6.8	7.07	420
Water year 1946-47	4,682.3	45	6.4	12.8	9,280

Note.- No gage-height record Nov. 21, Jan. 18 to Feb. 25; discharge computed on basis of recorded range in stage, weather records, and records for station at Chimney dam site.

Martin Creek near Paradise Valley, Nev.

Location.- Water-stage recorder, lat. 41°32'00", long. 117°25'40", in NW¼SW¼ sec. 12, T. 42 N., R. 40 E., 0.6 mile upstream from Humboldt County Fish Hatchery and 7 miles northeast of Paradise Valley. Prior to Oct. 21 at site 90 feet downstream at different datum.

Drainage area.- 172 square miles.

Records available.- October 1921 to September 1947.

Average discharge.- 25 years (1921-26, 1927-47), 27.9 second-feet.

Extremes.- Maximum discharge during year, 296 second-feet Feb. 12 (gage height, 2.67 feet), from rating curve extended above 70 second-feet; minimum, 3.9 second-feet Aug. 9, 10.

1921-47: Maximum discharge, 9,000 second-feet Jan. 21, 1943 (gage height, 11.1 feet, datum then in use), by slope-area method; minimum, 1.8 second-feet Feb. 6, 1945.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	8.5	15	9.4	9.9	15	34	56	30	9.0	4.2	4.6
2	9.1	7.1	15	9.0	11	17	34	66	27	8.5	4.2	4.6
3	8.1	7.1	15	7.1	12	15	33	76	26	8.0	4.2	4.6
4	8.1	8.0	15	7.6	14	16	31	78	22	7.6	4.2	4.6
5	8.1	8.5	15	8.0	20	15	32	74	21	7.6	4.2	4.6
6	8.1	9.4	17	8.5	20	14	32	74	20	7.6	4.2	4.6
7	8.1	9.9	15	9.0	18	15	30	74	20	7.1	4.2	4.6
8	8.1	9.0	15	9.0	14	15	32	71	22	6.6	4.2	4.9
9	8.1	8.0	14	9.0	19	14	32	69	27	6.6	4.2	5.2
10	8.1	9.0	14	8.5	22	19	33	59	25	5.7	4.2	5.2
11	8.1	9.0	13	8.5	30	23	36	52	25	5.2	4.2	5.2
12	8.1	8.5	14	8.5	40	18	36	49	22	5.7	4.2	5.2
13	8.1	8.5	13	8.0	64	18	42	45	20	5.7	4.2	4.9
14	8.1	9.4	13	8.0	24	20	52	43	19	5.2	4.2	4.9
15	8.6	9.0	13	8.0	22	23	62	40	18	5.2	4.2	4.9
16	8.6	8.5	9.9	7.1	21	28	69	40	17	4.9	4.2	4.9
17	9.1	9.0	6.6	6.6	20	32	73	40	18	4.9	4.2	4.9
18	9.1	9.4	8.0	6.1	18	36	73	40	18	4.9	4.2	4.9
19	9.1	11	11	7.1	17	36	68	39	16	4.9	4.6	5.2
20	9.1	23	11	8.5	15	34	68	39	15	4.6	4.9	4.9
21	9.6	14	12	9.0	15	33	64	36	16	4.6	4.6	4.9
22	9.9	15	12	9.4	16	34	59	36	14	4.6	4.9	4.9
23	11	51	12	9.4	16	48	55	33	13	4.6	4.9	4.9
24	11	30	11	9.4	17	39	53	31	13	4.6	4.9	4.9
25	9.9	20	11	9.9	16	37	49	30	12	4.6	4.6	4.9
26	9.4	18	12	9.9	15	33	49	28	11	4.6	4.6	4.9
27	9.4	19	12	9.9	18	31	51	28	11	4.6	4.2	5.2
28	9.0	17	8.5	9.4	15	33	52	30	11	4.6	4.2	5.2
29	8.5	16	8.0	9.4	-	33	53	25	11	4.6	4.2	5.2
30	8.5	15	8.5	9.4	-	38	55	27	11	4.2	4.2	5.2
31	8.0	-	8.5	9.0	-	36	-	32	-	4.2	4.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	273.2	11	8.0	8.80	542
November	404.8	51	7.1	13.5	803
December	378.0	17	6.6	12.2	750
Calendar year 1946	11,464.3	166	4.9	31.4	22,740
January	265.6	9.9	6.1	8.57	527
February	558.9	64	9.9	20.0	1,110
March	818	48	14	26.4	1,620
April	1,442	73	30	48.1	2,860
May	1,460	78	25	47.1	2,900
June	551	30	11	18.4	1,090
July	175.3	9.0	4.2	5.65	348
August	134.6	4.9	4.2	4.34	267
September	147.6	5.2	4.6	4.92	293
Water year 1946-47	6,609.0	78	4.2	18.1	13,110

Cottonwood Creek at Paradise Valley, Nev.

Location.- Water-stage recorder, lat. 41°31'00", long. 117°32'30", in NW¼ sec. 25, T. 42 N., R. 39 E., at highway bridge, 300 feet west of Paradise Valley post office.

Drainage area.- 62 square miles.

Records available.- October 1944 to September 1947.

Extremes.- Maximum discharge during year, 16 second-feet Apr. 16 (gage height, 0.74 foot); minimum daily, 0.1 second-foot Dec. 31, Aug. 17,18, Sept. 2-6.
1944-47: Maximum discharge, 264 second-feet Dec. 28, 1945 (gage height, 2.14 feet); minimum daily, that of Dec. 31, 1946, Aug. 17, 18, Sept. 2-6, 1947.

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

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	0.3	0.5	0.2	0.3	1.0	0.3	0.4	1.0	0.4	0.2	0.2
2	.3	.3	.5	.3	.3	.7	.3	.4	1.0	.4	.2	.1
3	.3	.3	.4	.3	.3	.7	1.3	2.2	.7	.4	.2	.1
4	.2	.3	.4	.3	.3	.4	3.7	5.0	.7	.4	.2	.1
5	.2	.3	.4	.3	.3	.3	7.7	6.3	.7	.4	.2	.1
6	.2	.3	.4	.3	.3	.3	7.1	6.7	.7	.4	.2	.1
7	.2	.3	.4	.3	.5	.3	6.7	8.2	.7	.4	.2	.2
8	.2	.3	.3	.3	.3	.3	7.1	8.8	.7	.4	.2	.2
9	.2	.3	.3	.3	.3	.4	6.3	12	.5	.4	.2	.2
10	.2	.3	.3	.3	.5	2.9	6.3	11	.5	.4	.2	.2
11	.2	.3	.3	.3	.5	1.9	7.1	10	.4	.4	.2	.2
12	.2	.3	*.3	.3	.5	.7	7.7	5.8	.4	.4	.2	.2
13	.2	.3	.3	.3	10	.5	9.9	2.9	.3	.4	.2	.2
14	.2	.3	.3	.3	6.7	.5	12	1.0	.3	.4	.2	.2
15	.2	.3	.3	.3	5.8	.5	12	.3	.3	.4	.2	.2
16	.3	.3	.3	.2	5.8	.4	12	.3	.3	.4	.2	.2
17	.3	.3	.3	*.3	4.2	.5	12	.4	.3	.3	.1	.2
18	.3	.3	.3	.3	2.9	.4	13	.3	.3	.3	.1	.2
19	.3	.4	.3	.3	.7	.5	11	.4	.3	.3	.2	.2
20	.3	1.3	.3	.3	.3	.4	12	.4	.3	.3	.2	.2
21	.3	.4	.2	.3	.3	.4	11	.5	.3	.3	.2	.2
22	.3	.4	.2	.3	.3	.4	8.2	.4	.7	.2	.2	.2
23	.3	9.2	.2	.3	.3	.3	5.0	.4	.7	.3	.2	.2
24	.3	13	.2	.3	.3	.3	3.7	.4	.5	.3	.2	.2
25	.3	7.7	.2	.3	.3	.4	2.5	.5	.3	.3	.2	.2
26	.3	2.9	.2	.3	*.3	.3	2.9	.5	.3	.3	.2	.2
27	.3	1.0	.2	.3	.3	.3	4.2	1.0	.3	.3	.2	.2
28	.3	.5	.2	.3	.3	.3	4.2	1.0	.3	.2	.2	.2
29	.3	.5	.2	.3	-	.3	3.7	.7	.4	.2	.2	.2
30	.3	.5	.2	.3	-	.3	2.2	1.3	.4	.2	.2	.2
31	.3	-	.1	.3	-	.5	-	1.0	-	.2	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	8.5	0.7	0.2	0.27	17
November	43.2	13	.3	1.44	86
December	9.0	.5	.1	.29	18
Calendar year 1946	4,349.8	91	.1	11.9	8,620
January	9.1	.3	.2	.29	18
February	43.2	10	.5	1.54	86
March	17.4	2.9	.3	.56	35
April	203.1	13	.3	6.77	403
May	90.5	12	.3	2.92	180
June	14.6	1.0	.3	.49	29
July	10.4	.4	.2	.34	21
August	6.0	.2	.1	.19	12
September	5.5	.2	.1	.18	11
Water year 1946-47	460.5	13	.1	1.26	916

* Winter discharge measurement made on this day.

Note.- No gage-height record Nov. 30 to Dec. 11, Feb. 26-28, Mar. 5-9; discharge computed on basis of recorded range in stage, weather records and records for stations on nearby streams. Stage-discharge relation affected by ice Dec. 30 to Jan. 31 (no gage-height record Jan. 5-17).

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

Location.- Water-stage recorder, lat. 40°40', long. 118°12', in NE¼ sec. 1, T. 32 N., R. 33 E., 3 miles northwest of Imlay and 9 miles downstream from head gates.

Records available.- October 1946 to September 1947.

Extremes (regulated).- Maximum discharge during year, 102 second-feet Feb. 27, Mar. 9; maximum gage height, 3.50 feet Feb. 9 (backwater from ice); no flow for long periods.

Remarks.- Records good except those for periods of ice effect, which are fair. This canal diverts water from Humboldt River in NW¼ sec. 29, T. 33 N., R. 35 E., for storage in Taylor-Pitt Reservoir near Humboldt. Water is released, during irrigation season, about 3 miles west of Humboldt, and conveyed through Humboldt-Lovelock Irrigation, Light & Power Co.'s outlet canal to Rye Patch Reservoir, from which it is later released and carried in natural river channel to Lovelock district for irrigation.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			101	70	0.2				
2			0			100	13	.2				
3			0	7	15	100	5.3	.2				
4			0			100	4.0	.2				
5			0			101	3.3	.2				
6			0		25	101	2.8	.2				
7			0		30	101	8.2	.2				
8			0	8	40	101	11	.2				
9			0		45	101	12	.3				
10			0		50	101	5.5	.2				
11			*0		52	101	3.3	.2				
12			0		60	101	2.9	.1				
13			0	7	64	101	2.9	.1				
14			0		67	101	2.6	.1				
15			0		72	100	2.1	.1				
16			0		75	99	1.9	0				
17			0		79	97	1.4	0				
18			0	*2	84	91	1.4	0				
19			0		87	84	1.5	0				
20			0		89	84	1.1	0				
21			0	0	93	92	1.0	0				
22			0	0	94	89	1.1	0				
23			0	0	97	86	1.2	0				
24			0		97	84	1.0	0				
25			0	1	*100	84	.9	0				
26			0		101	84	.8	0				
27				5	101	84	.6	0				
28					101	84	.6	0				
29			5		-	86	.5	0				
30				7	-	84	.3	0				
31					-	83	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	25	-	0	.8	50
Calendar year	-	-	-	-	-
January	152	-	0	4.9	301
February	1,778	101	-	63.5	3,530
March	2,906	101	83	93.7	5,760
April	164.2	70	.3	5.47	326
May	2.7	.3	0	.09	5.4
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1946-47	5,027.9	101	0	13.8	9,970

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 27 to Jan. 20, Jan. 24 to Feb. 10.

Pyramid Lake near Nixon, Nev.

Location.- Bench mark N 21 of U. S. Coast and Geodetic Survey, lat. 39°50'30", long. 119°28'00", in SE¼SE¼ sec. 24, T. 23 N., R. 22 E., at southwest corner of concrete bridge No. 296 B, 150 feet southwest of milepost 297, 11.5 miles south along Southern Pacific Railroad from station at Sutcliffe, and 6 miles west of Nixon. Elevation of bench mark is 3,940.04 feet above mean sea level, datum of 1929.
Records available.- 1867 to 1925 (occasional elevations in some years). June 1926 to September 1947. Prior to January 1934, elevations were determined from bench mark No. 1 of General Land Office referred to general adjustment of 1912. To convert lake elevations prior to January 1934 to datum of 1929, add 0.56 foot. The statement concerning difference between general adjustments of 1912 and 1929 published in previous reports was erroneous.
Extremes.- 1926-47: Maximum elevation observed, 3,848.5 feet (corrected), datum of 1929, June 1926; minimum observed, 3,811.37 feet Sept. 16, 1947.
Cooperation.- Records furnished by Office of Indian Affairs.

Elevation, in feet, above mean sea level, water year 1946-47

Oct. 13.....3,813.33	Feb. 18.....3,812.34	June 6.....3,812.49
Nov. 25.....3,812.93	Mar. 16.....3,811.96	July 19.....3,812.62
Dec. 14.....3,812.66	Apr. 29.....3,811.82	Aug. 13.....3,811.96
Jan. 9.....3,812.56	May 30.....3,812.43	Sept.16.....3,811.37

Truckee River near Truckee, Calif.

Location.- Water-stage recorder, lat. 39°17'30", long. 120°12'30", in SW¼NE¼ sec. 28, T. 17 N., R. 16 E., 1.4 miles upstream from Donner Creek and 2½ miles southwest of Truckee.
Drainage area.- 548 square miles.
Records available.- December 1944 to September 1947.
Extremes (regulated).- Maximum discharge during year, 677 second-feet Nov. 23 (gage height, 2.70 feet); minimum, 46 second-feet Nov. 21.
1944-47: Maximum discharge, 1,110 second-feet Feb. 2, 1945 (gage height, 3.34 feet); minimum, 23 second-feet Jan. 2, 1945.
Remarks.- Records excellent. Flow regulated by Lake Tahoe.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	320	248	198	190	359	236	320	194	379	201	425
2	76	325	244	201	190	344	252	404	163	379	201	425
3	76	320	244	168	190	320	270	420	138	374	201	425
4	111	320	256	82	190	349	261	399	130	374	201	425
5	218	315	283	82	194	339	256	384	127	374	201	425
6	278	315	270	85	194	339	256	394	130	374	201	425
7	278	320	256	180	194	339	261	349	160	374	201	425
8	287	320	252	176	194	334	292	287	173	369	201	425
9	287	320	248	176	198	334	315	236	144	394	201	425
10	287	330	244	216	198	349	310	216	130	425	201	430
11	306	330	240	344	198	310	330	201	115	425	201	436
12	325	330	240	344	394	354	320	198	105	425	201	430
13	325	330	236	349	306	354	274	201	157	425	201	446
14	325	330	236	349	274	354	232	208	228	425	201	451
15	325	330	236	248	150	349	216	228	224	425	201	451
16	325	330	236	89	138	339	244	244	220	420	201	451
17	325	330	232	87	127	301	261	244	224	420	201	451
18	325	344	232	87	115	261	240	244	240	420	201	451
19	325	359	232	109	112	240	248	256	283	420	201	451
20	325	80	220	232	99	236	261	261	278	420	201	451
21	325	52	198	236	69	236	248	265	296	415	224	457
22	330	168	198	236	67	248	201	261	315	415	252	457
23	330	433	201	240	67	248	187	240	315	415	252	457
24	325	105	205	240	69	198	187	228	344	415	252	457
25	325	153	205	240	71	224	187	205	389	415	248	451
26	325	261	205	240	74	224	194	176	384	410	252	451
27	320	256	205	220	71	228	201	154	384	410	252	451
28	325	252	201	198	256	236	201	132	379	359	252	451
29	320	252	201	194	-	236	224	132	379	223	256	451
30	325	248	201	190	-	240	252	141	379	102	330	441
31	325	-	201	190	-	232	-	154	-	142	425	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	8,796	330	76	284	17,450
November	8,478	433	52	283	16,820
December	7,106	283	198	229	14,090
Calendar year 1946	95,920	727	52	263	190,200
January	6,226	349	82	201	12,350
February	4,589	394	67	164	9,100
March	9,054	359	198	292	17,960
April	7,417	330	187	247	14,710
May	7,782	420	132	251	15,440
June	7,127	389	105	238	14,140
July	11,762	425	102	379	23,330
August	7,015	425	201	226	13,910
September	13,248	457	425	442	26,280
Water year 1946-47	98,600	457	52	270	195,580

Twentymile Creek near Adel, Oreg.

Location.- Water-stage recorder, lat. 42°04', long. 119°57', in NE¼ sec. 25, T. 40 S., R. 23 E., 2 miles downstream from Twelvemile Creek and 8 miles southwest of Adel.

Records available.- March 1910 to July 1916, December 1917 to September 1919, March 1921 to June 1922 (published as near Warner Lake), March 1945 to September 1947. September 1940 to November 1944 at site 1½ miles upstream.

Average discharge.- 12 years (1910-15, 1918-19, 1940-44, 1945-47), 42.6 second-feet.

Extremes.- 1945-46: Maximum discharge during year, 1,930 second-feet Dec. 28 (gage height, 9.7 feet, from floodmark), from rating curve extended above 550 second-feet by logarithmic plotting; minimum, 2.1 second-feet Sept. 13, 14, but may have been less during period of no gage-height record.

1946-47: Maximum discharge during year, 1,420 second-feet Feb. 12 (gage height, 7.90 feet), from rating curve extended above 550 second-feet by logarithmic plotting; minimum, 1.2 second-feet Nov. 15, but may have been less during periods of ice effect.

1910-16, 1917-19, 1921-22, 1940-47: Maximum discharge, 3,000 second-feet Dec. 27, 1942 (gage height, 4.28 feet, site and datum then in use), from rating curve extended above 400 second-feet by logarithmic plotting; minimum, 0.9 second-foot Aug. 19, 23, 24, 1942.

Revisions.- The maximum discharge for the water year 1945 has been revised to 561 second-feet June 6 (gage height, 4.18 feet), superseding figure published in Water-Supply Paper 1040.

Remarks.- Records fair except those above 800 second-feet and those for periods of ice effect or no gage-height record, which are poor. Many diversions above station for irrigation. No regulation.

Revisions.- Revised figures of discharge, in second-feet, for the high-water period in the water year 1945, superseding those published in Water-Supply Paper 1040, are given herewith:

June 6.....395

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
June.....	1,780	395	13	59.3	3,530

Discharge, in second-feet, 1945-47

1945-46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	4.3	6.0		a10	224	72	97	48	16	a4.0	
2	3.4	4.0	5.7		b9.4	175	55	103	51	16	a4.0	
3	3.3	4.0	6.0		9.0	S2	61	110	51	12	a3.5	
4	3.3	4.0	5.7		a9.0	b43	62	119	50	10	a3.5	
5	3.3	4.1	5.7		a9.2	65	86	125	45	9.0	a3.0	
6	3.3	4.6	5.7		9.4	250	92	125	48	8.0	a3.0	
7	3.3	4.3	5.7		9.4	*214	86	129	43	7.2	2.9	a2.7
8	3.3	4.1	5.7		b10	245	91	118	38	6.6		
9	3.3	4.3	b5.1	a25	b9.8	291	56	111	34	6.9		
10	3.3	4.9	b5.7		b9.8	306	58	111	33	6.9		
11	3.3	5.4	b5.4		b9.8	178	98	105	29	6.6		
12	3.3	5.1	b5.4		a11	217	104	107	27	6.6		
13	3.3	4.9	b5.1		a12	180	105	110	26	6.9		2.2
14	3.3	4.9	b5.1		b15	85	93	100	26	6.9		2.4
15	3.3	5.7	b5.4		13	115	92	99	26	7.6		2.4
16	3.3	5.1	5.4		13	105	98	100	25	7.2		2.6
17	3.3	5.4	5.4		12	137	98	103	23	7.2		3.2
18	3.3	4.9	b5.4	*11	13	145	107	109	21	6.9		2.9
19	3.3	6.8	a5.4	b11	13	411	105	100	19	6.6	a2.5	2.9
20	3.6	5.4	5.4	10	18	334	91	98	17	6.6		2.8
21	3.8	b5.0	5.4	b9.4	26	183	83	93	19	6.6		2.8
22	3.6	5.1	6.0	8.3	23	133	74	79	20	6.6		2.8
23	3.6	5.4	5.7	8.3	97	128	86	71	22	6.2		2.9
24	3.6	5.4	5.4	87	138	80	104	63	25	6.2		2.8
25	3.4	7.1	5.7	81	107	108	119	62	23	6.2		2.5
26	3.4	6.8	6.0	32	95	233	132	71	22	6.6		2.6
27	3.4	7.5	28	b25	611	244	121	62	22	6.6		2.6
28	3.6	6.5	1,150	b20	386	170	119	57	20	a6.0		2.8
29	3.8	12	a1,000	b18	-	132	125	54	19	a5.5		2.8
30	5.1	7.5	a350	a15	-	S1	105	50	16	a5.0		2.6
31	4.9	-	a200	a12	-	73	-	50	-	a4.5		-

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Chewaucan River above Conn ditch, near Paisley.

b Stage-discharge relation affected by ice.

Discharge, in second-feet, of Twentymile Creek near Adel, Oreg., 1945-47

1946-47

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	4.2	4.7	b3.9	3.7	7.6	19	59	22	4.2	2.2	2.2
2	2.9	3.7	4.7	b4.0	3.9	8.0	16	83	20	3.6	2.2	2.0
3	3.2	b3.5	4.7	b4.0	3.9	9.4	17	95	16	3.6	2.0	2.0
4	3.2	b3.5	7.2	b4.0	4.5	14	14	90	16	3.4	2.0	2.0
5	2.9	3.9	6.9	b4.2	4.7	11	15	83	17	3.1	2.0	2.0
6	2.9	4.5	8.0	b3.9	9.4	9.4	14	80	22	3.1	1.8	2.0
7	2.9	4.2	7.2	b3.7	20	9.0	18	80	22	2.9	1.8	2.2
8	2.9	b2.5	6.2	b3.4	22	8.6	19	71	24	2.7	1.8	2.3
9	2.9	b2.5	5.5	b3.4	16	9.4	42	71	34	2.9	1.8	2.3
10	2.9	3.2	5.0	3.7	14	62	27	54	26	2.7	1.8	2.3
11	2.9	2.9	5.0	b3.4	22	52	21	46	22	2.5	1.8	2.3
12	2.9	2.6	5.0	b3.5	750	36	18	44	19	2.7	1.8	2.3
13	2.9	b2.5	*5.2	b3.5	201	33	15	41	16	2.7	1.8	2.3
14	2.9	b2.5	6.2	b3.5	76	44	15	38	16	2.7	1.8	2.3
15	2.9	b2.5	7.6	b3.5	46	42	16	35	14	2.5	1.8	2.2
16	3.2	b3.0	5.5	b3.5	25	29	19	34	14	2.7	1.7	2.2
17	3.4	3.4	b3.7	b3.5	19	20	23	33	20	2.5	1.7	2.3
18	3.4	3.7	b4.5	b3.5	13	18	29	31	15	2.5	1.7	2.5
19	3.4	6.9	b4.2	b3.5	12	15	31	30	a13	2.5	1.7	2.7
20	3.2	4.7	b4.7	b3.9	*9.9	15	31	29	a11	2.5	1.8	2.7
21	3.4	3.4	5.0	*b3.4	9.4	14	27	26	a9.5	2.5	1.8	2.7
22	3.9	4.5	5.0	b3.7	9.0	14	25	25	a8.5	2.5	2.0	2.7
23	4.2	7.2	4.7	3.7	8.6	36	26	24	a7.5	2.5	2.2	2.7
24	3.9	5.5	4.2	4.2	8.3	43	25	22	a7.0	2.7	2.2	2.7
25	3.7	4.5	4.5	4.7	8.3	54	25	21	a6.5	2.7	2.2	2.7
26	3.7	4.5	4.5	5.0	8.0	23	30	18	a6.0	2.7	2.0	2.7
27	3.7	4.5	4.7	6.6	8.0	21	32	18	a5.5	2.7	2.0	2.7
28	3.4	4.5	b4.7	5.5	7.6	23	35	21	a5.0	2.5	2.0	2.7
29	3.4	4.5	b4.2	5.5	-	22	45	16	a4.5	2.5	2.0	2.7
30	3.9	4.7	b4.2	b4.5	-	20	47	17	4.4	2.3	2.2	2.7
31	3.7	-	b4.5	b4.0	-	18	-	21	-	2.3	2.2	-

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and record's for Chewaucan River above Conn ditch, near Paisley.
b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1945-47

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1945	108.9	5.1	3.3	3.51	216
November	164.5	12	4.0	5.48	326
December	2,872.6	1,150	5.1	92.7	5,700
Calendar year	-	-	-	-	-
January 1946	773.0	87	8.3	24.9	1,530
February	1,707.8	611	9.0	61.0	3,390
March	5,367	334	43	173	10,650
April	2,778	132	55	92.6	5,510
May	2,891	129	50	93.3	5,730
June	888	51	16	29.6	1,760
July	233.7	16	4.5	7.54	464
August	83.9	4.0	-	2.71	166
September	81.0	-	-	2.70	161
Water year 1945-46	17,949.4	1,150	-	49.2	35,600
October 1946	101.5	4.2	2.8	3.27	201
November	118.2	7.2	2.5	3.94	234
December	161.9	8.0	3.7	5.22	321
Calendar year 1946	15,185.0	611	-	41.6	30,120
January 1947	124.3	6.6	3.4	4.01	247
February	1,343.2	750	3.7	48.0	2,660
March	740.4	62	7.6	23.9	1,470
April	736	47	14	24.5	1,460
May	1,356	95	16	43.7	2,690
June	443.4	34	4.4	14.8	879
July	85.9	4.2	2.3	2.77	170
August	59.8	2.2	1.7	1.93	119
September	72.1	2.7	2.0	2.40	143
Water year 1946-47	5,342.7	750	1.7	14.6	10,590

Deep Creek above Adel, Oreg.

Location.- Water-stage recorder, lat. 42°11', long. 119°59', in E½ sec. 15, T. 39 S., R. 25 E., a third of a mile downstream from Drake Creek and 5 miles west of Adel. Datum of gage is 4,965 feet above mean sea level (from river-profile survey).

Drainage area.- 249 square miles.

Records available.- September 1922 to September 1923 and October 1932 to September 1947 in reports of Geological Survey. September 1922 to September 1923 and October 1929 to September 1936 in reports of State engineer.

Average discharge.- 19 years (1922-23, 1929-47), 100 second-feet.

Extremes.- Maximum discharge during year, 482 second-feet June 9; maximum gage height, 3.05 feet Feb. 12 (ice jam); minimum discharge, 4 second-feet Aug. 7-20.
1922-23, 1932-47: Maximum discharge, 5,030 second-feet Dec. 11, 1937 (gage height, 7.5 feet, from floodmark), from rating curve extended above 1,200 second-feet on basis of velocity-area studies; minimum, 1.7 second-feet July 20, 27-29, 1934.

Remarks.- Records good except those for periods of ice effect, which are poor. Diversions above station for irrigation.

Rating table, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.2	3	0.7	20	1.6	111
.3	5	.8	25	1.8	147
.4	8	1.0	39	2.1	213
.5	11	1.2	58	2.5	316
.6	15	1.4	83	2.9	440

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	b17	43		24	45	151	268	149	27	6	8
2	14	b15	38		25	46	160	319	164	24	6	7
3	15	b15	33		26	38	179	348	123	21	5	7
4	15	b16	51		30	42	125	330	120	20	5	7
5	15	b18	69		34	37	125	300	120	19	5	7
6	15	20	51		37	33	123	279	225	17	6	7
7	15	20	41		38	41	106	271	202	16	5	10
8	15	17	35		45	36	132	253	232	14	5	12
9	15	b15	30		37	36	153	263	422	13	5	10
10	15	18	29		37	65	121	213	292	11	5	9
11	14	b17	31	b17	42	102	126	179	215	11	5	8
12	15	b16	38		b195	88	128	160	177	11	5	8
13	15	b15	*50		250	82	139	147	147	10	5	9
14	15	b14	86		170	106	172	141	125	10	5	9
15	15	b14	57		134	181	213	132	110	9	5	8
16	15	b17	33		93	208	242	121	102	9	5	8
17	17	19	b18		87	208	281	114	202	9	4	8
18	19	26	b20		64	204	286	108	149	10	5	9
19	18	59	b23		64	192	281	105	108	10	4	10
20	19	27	27		58	177	286	100	87	10	5	11
21	24	29	29	*b15	57	162	255	92	65	9	5	9
22	27	29	29	b13	53	177	220	78	59	9	6	9
23	40	74	b22	b12	52	330	218	73	54	8	6	9
24	26	56	b23	b25	56	202	211	73	49	8	6	9
25	21	40	26	50	*56	183	206	69	44	7	6	8
26	19	39		80	47	151	211	64	34	7	5	8
27	18	37		50	47	134	213	63	33	7	6	8
28	17	39		45	44	125	218	83	32	7	6	8
29	18	48	b22	33	-	143	258	78	30	7	7	8
30	18	50		30	-	166	260	68	29	7	8	8
31	b18	-		27	-	166	-	100	-	6	9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	554	40	12	17.9	1,100
November	836	74	14	27.9	1,660
December	1,064	86	18	34.3	2,110
Calendar year 1946	41,333	880	8	113	81,970
January	720	80	-	23.2	1,430
February	1,902	250	24	67.9	3,770
March	3,906	330	33	126	7,750
April	5,799	286	106	193	11,500
May	4,992	348	63	161	9,900
June	3,900	422	29	130	7,740
July	363	27	6	11.7	720
August	171	9	4	5.5	339
September	256	12	7	8.5	508
Water year 1946-47	24,463	422	4	67.0	48,530

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Chewaucan River above Conn ditch, near Paisley, Oreg.

Location.- Water-stage recorder, lat. 42°41', long. 120°35', in SW¼ sec. 27, T. 33 S., R. 18 E., at bridge 20 feet downstream from former power plant of Paisley Electric Co., 700 feet upstream from diversion dam of Conn ditch, a quarter of a mile downstream from Mill Creek, and 2½ miles west of Paisley. Datum of gage is 4,504.9 feet above mean sea level (river-profile survey).
Drainage area.- 275 square miles.
Records available.- April to September 1912, May 1924 to September 1947. January 1905 to December 1907 and January 1909 to April 1912 at site 2 miles downstream, below Conn ditch. November 1912 to September 1921 at site half a mile upstream, above Mill Creek. Records of yearly runoff at these sites practically equivalent.
Average discharge.- 37 years (1905-7, 1909-21, 1924-47), 131 second-feet.
Extremes.- Maximum discharge during year, 906 second-feet Feb. 12; maximum gage height, 4.55 feet Feb. 12 (ice jam); minimum discharge recorded, 5.8 second-feet Dec. 17, 18 but may have been less during periods of ice effect.
1905-7, 1909-21, 1924-47: Maximum discharge, 4,000 second-feet Nov. 23, 1909 (gage height, 9.40 feet, site and datum then in use), from rating curve extended above 900 second-feet; no flow part of Dec. 7, 1927, Dec. 12, 1932 (frozen).
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. About 160 acres are irrigated above station.

Rating tables, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 12				Feb. 13 to Sept. 30			
1.3	10	1.6	26	1.4	15	2.2	104
1.4	14	1.8	45	1.5	21	2.4	147
1.5	19	2.0	71	1.6	28	2.6	199
Note.- Same as following table above 2.0 feet.				1.8	46	2.8	265
				2.0	71	3.2	430

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	b28	57		b45	52	152	345	110	48	23	22
2	38	b25	55		b48	54	138	394	152	46	23	20
3	36	b25	50		*b50	56	138	430	126	43	22	20
4	35	b30	71		b52	56	122	421	142	42	22	23
5	34	b35	63		56	48	131	403	120	42	22	20
6	34	b39	53		55	43	120	381	154	41	21	20
7	34	39	39		49	54	108	365	147	39	20	24
8	36	30	b37		52	48	114	337	170	38	19	31
9	35	b25	b35		46	54	108	333	251	36	19	25
10	33	b30	b34		49	79	101	285	167	35	20	23
11	32	b28	b35		58	71	110	254	138	36	21	22
12	33	b25	b42		b443	62	116	237	118	34	20	22
13	32	b24	50	b20	191	62	142	224	102	34	19	21
14	32	b23	74		108	68	180	205	96	32	19	20
15	31	b23	70		90	76	237	191	90	30	19	21
16	30	b30	39		82	85	293	175	89	30	19	20
17	35	b40	b10		75	99	345	167	138	27	19	20
18	36	53	b15		62	110	329	160	99	27	17	22
19	33	99	b25		62	116	337	154	84	27	16	25
20	35	55	*b50		58	118	325	145	77	26	16	24
21	43	42	60		59	*122	289	138	74	25	17	24
22	51	61	53		58	140	258	129	68	24	20	23
23	70	97	42		57	194	269	118	66	24	22	22
24	43	68	39	110	61	129	262	110	63	24	21	22
25	39	53	52	129	59	129	273	106	61	24	20	22
26	37	58	49	142	53	114	285	102	57	24	20	22
27	36	57	43	b99	58	110	301	101	56	24	20	23
28	31	61	18	81	50	110	293	120	57	28	19	22
29	30	82		b70	-	118	333	102	56	31	20	22
30	b30	60	b15	b60	-	152	341	104	53	26	22	23
31	30	-		b50	-	170	-	120	-	24	23	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,113	70	29	35.9	2,210
November	1,345	99	23	44.8	2,670
December	1,305	74	10	42.1	2,590
Calendar year 1946	56,404	934	10	155	111,900
January	1,201	142	-	38.7	2,380
February	2,186	443	45	78.1	4,340
March	2,899	194	43	93.5	5,750
April	6,550	345	101	218	12,990
May	6,856	430	101	221	13,600
June	3,181	251	53	106	6,310
July	991	48	24	32.0	1,970
August	620	23	16	20.0	1,230
September	670	31	20	22.3	1,330
Water year 1946-47	28,917	443	10	79.2	57,370

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice
Note.- No gage-height record Jan. 2-18, 20-23; discharge computed on basis of weather records, field notes, and records for Deep Creek above Adel.

Silver Creek near Silver Lake, Oreg.

Location.- Water-stage recorder, lat. 43°07', long. 121°04', in SW¼ sec. 28, T. 28 S., R. 14 E., 1½ miles downstream from diversion dam of Silver Lake Irrigation District, 1½ miles southwest of Silver Lake post office, and 3 miles upstream from Bridge Creek. Datum of gage is 4,361.28 feet above mean sea level, datum of 1929.

Drainage area.- 221 square miles.

Records available.- December 1904 to March 1907, January 1909 to September 1947.

Average discharge.- 35 years (1905-6, 1909-27, 1929-41, 1943-47), including Silver Lake Irrigation District canal, 24.0 second-feet.

Extremes.- Maximum discharge during year, 58 second-feet (regulated) May 27 (gage height, 2.58 feet); minimum, 2.1 second-feet Mar. 20.

1904-7, 1909-47: Maximum discharge, 1,800 second-feet Mar. 20, 1907 (gage height, 9.08 feet, datum then in use), from rating curve extended above 700 second-feet; no flow at times in 1931, 1932, 1934, 1937.

Remarks.- Records good except those for Oct. 1 to Dec. 24, June 27 to Sept. 30, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Flow regulated by reservoir (capacity, 800 acre-feet) above diversion dam 1½ miles above station, and by Thompson Valley Reservoir (capacity, 17,400 acre-feet) 11 miles above station, both of which are owned by Silver Lake Irrigation District. No water was diverted above station by Silver Lake Irrigation District canal during year; canal out of repair, may not be used again, according to county watermaster.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	3.4	4.3			3.4	6.7	14	38	30	10	7.4
2	3.0	3.2	4.3			3.7	7.4	15	36	28	6.3	7.4
3	3.0	3.2	4.8			3.7	7.4	16	35	28	7.4	7.8
4	3.0	3.2	4.8			3.7	7.0	26	34	28	7.4	7.8
5	3.0	3.0	4.8			3.4	7.4	42	33	28	7.8	7.8
6	3.0	3.0	4.6			3.7	7.8	33	33	29	8.2	7.8
7	3.0	3.0	4.6			3.7	7.8	33	34	30	8.2	8.2
8	3.0	3.0	4.6			3.4	7.4	33	34	30	8.5	8.2
9	3.0	3.0	4.6			3.4	6.7	33	34	30	8.9	8.2
10	3.0	3.0	4.3			3.4	7.4	32	35	31	8.9	8.2
11	3.0	3.2	4.6		5.5	3.4	5.4	31	33	32	9.3	8.5
12	3.0	3.2	4.6			3.4	4.8	32	33	32	9.3	8.2
13	3.0	2.8	4.6			3.4	5.1	37	31	30	9.3	8.2
14	3.0	2.6	4.6			3.4	4.3	38	30	32	9.3	8.5
15	3.0	2.4	4.6	4.0		3.2	4.6	37	30	33	8.9	8.5
16	3.0	2.4	4.6			3.2	5.4	37	33	33	8.9	7.8
17	3.0	2.4	4.5			3.2	8.2	37	33	32	8.9	7.8
18	3.0	3.0	4.5			3.4	9.6	37	33	31	8.5	8.2
19	3.0	3.7	4.8			3.4	12	36	33	30	8.5	8.5
20	3.0	3.4	4.8			2.8	14	36	32	30	8.5	7.8
21	3.2	3.4	4.8			2.6	16	38	31	14	8.5	6.3
22	3.2	*3.7	4.6		*5.7	3.0	16	44	30	12	8.5	7.4
23	3.4	3.7	4.6			3.7	14	46	30	12	8.9	7.8
24	3.4	3.7	4.6		5.0	3.7	14	46	30	11	8.9	7.4
25	3.4	3.7	4.8			3.7	14	46	30	10	8.5	7.4
26	3.4	3.4	4.8		4.3	*4.3	14	46	32	10	8.5	7.4
27	3.4	3.7	*4.8		4.3	4.6	14	48	36	11	8.5	7.0
28	3.4	4.0	4.8		3.7	4.6	14	43	34	11	8.5	7.4
29	3.4	4.3	4.5		-	4.6	14	41	33	12	8.5	7.4
30	3.4	4.3	4.5		-	4.6	14	40	32	12	8.5	7.4
31	3.4	-	4.5		-	6.0	-	39	-	11	8.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	97.0	3.4	3.0	3.13	192
November	98.0	4.3	2.4	3.27	194
December	143.2	4.8	4.3	4.62	284
Calendar year 1946	7,691.2	80	2.4	21.1	15,260
January	124.0	-	-	4.00	246
February	148.5	-	-	5.30	295
March	113.7	6.0	2.6	3.67	226
April	290.4	16	4.3	9.68	576
May	1,112	48	14	35.9	2,210
June	985	38	30	32.8	1,950
July	733	33	10	23.6	1,450
August	265.0	10	6.3	8.55	526
September	233.7	8.5	6.3	7.79	464
Water year 1946-47	4,345.5	48	2.4	11.9	8,610

* Winter discharge measurement made on this day.

Note.- No gage-height record Oct. 13-17, Jan. 18 to Feb. 21, Feb. 23-25, May 31 to June 4; discharge interpolated, or computed on basis of records for Chewaucan River near Paisley. Stage-discharge relation affected by ice Nov. 13-15, Dec. 7, 16-20, 23, 24, Dec. 28 to Jan. 17, Mar. 5.

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Silvies River near Burns, Oreg.

Location.- Water-stage recorder, lat. 43°43', long. 119°11', in NW¼ sec. 31, T. 21 S., R. 30 E., 1 mile downstream from dam site for proposed lower Silvies Reservoir and 11 miles northwest of Burns.

Drainage area.- 934 square miles.

Records available.- May 1903 to July 1906, December 1908 to September 1947.

Average discharge.- 34 years (1903-5, 1909-12, 1917-21, 1922-47), 145 second-feet.

Extremes.- Maximum discharge recorded during year, 669 second-feet Apr. 21, but may have been higher during period of ice effect Feb. 15; maximum gage height, 8.70 feet Feb. 15 (backwater from ice); minimum discharge, 6 second-feet Aug. 8-22, Aug. 28 to Sept. 8, Sept. 13-20.

1903-6, 1908-47: Maximum discharge, 4,730 second-feet Apr. 15, 1904 (gage height, 17.12 feet, site and datum then in use); no flow July 19 to Sept. 22, 1934.

Remarks.- Records fair except those for period of ice effect, which are poor. Small areas on Silvies River above station are irrigated with flood water.

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	37	124			242	496	340	72	38	10	6
2	13	37	102			214	513	326	87	36	9	6
3	14	30	92			205	518	273	100	35	9	6
4	15	32	106			197	509	252	109	36	8	6
5	16	38	119			182	478	256	127	38	8	6
6	17	40	111			163	478	246	136	37	8	6
7	17	41	106	b40	b85	163	462	235	152	34	7	6
8	19	37	99			158	453	230	159	31	7	6
9	20	32	91			160	458	231	184	a30	6	7
10	20	39	86			177	457	234	190	29	6	7
11	19	38	81			238	450	239	173	28	6	7
12	18	35	82			223	436	233	162	27	6	7
13	18	41	92	*41		243	417	218	152	25	6	7
14	18	46	111		*b650	243	420	198	136	24	6	6
15	18	44	150		b450	255	441	182	120	23	6	6
16	18	44	168		b425	286	445	164	104	22	6	6
17	18	40	105		b400	326	478	155	101	21	6	6
18	19	43	107		b425	*380	573	128	107	23	6	6
19	22	46	120		b375	430	613	123	99	a18	6	6
20	21	50	139		b330	468	635	119	92	14	6	6
21	22	47	115		b340	484	664	112	88	14	6	7
22	28	57	110		*b350	503	622	100	84	14	6	7
23	31	61	100	b55	b360	527	566	87	74	13	7	7
24	34	70	88		b360	514	513	82	68	13	8	8
25	36	72	87		b325	493	471	74	62	12	8	8
26	41	79	92		b300	475	439	61	55	11	8	8
27	41	95	b85		b275	438	412	66	54	11	7	8
28	38	104	b60		256	406	387	65	51	11	7	8
29	37	129	b45		-	396	361	68	47	11	6	8
30	38	132	b35		-	406	351	68	42	11	6	9
31	37	-	b37		-	465	-	71	-	10	6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	736	41	13	23.7	1,460
November	1,636	132	30	54.5	3,240
December	3,045	168	35	98.2	6,040
Calendar year 1946	73,323	1,670	9	201	145,400
January	1,511	-	-	48.7	3,000
February	6,726	-	-	240	13,340
March	10,060	527	158	325	19,950
April	14,516	664	351	484	28,790
May	5,236	340	61	169	10,390
June	3,187	190	42	106	6,320
July	700	38	10	22.6	1,390
August	213	10	6	6.9	422
September	203	9	6	6.8	403
Water year 1946-47	47,769	664	6	131	94,740

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.

Donner und Blitzen River near Frenchglen, Oreg.

Location.- Water-stage recorder and concrete control, lat. 42°47', long. 118°52', in NW¼ sec. 20, T. 32 S., R. 32½ E., 1½ miles upstream from upper diversions for Malheur Migratory Waterfowl Refuge, 2 miles downstream from Fish Creek, and 3½ miles southeast of Frenchglen.
Drainage area.- 180 square miles.
Records available.- December 1937 to September 1947. January 1909 to November 1910, fragmentary records at sites downstream, below several irrigation diversions. May 1910 to September 1921 at site 1½ miles downstream, in SW¼ sec. 8, above diversions, published as Donner und Blitzen River near Diamond. July 1929 to September 1930 in reports of State engineer.
Average discharge.- 17 years (1911-13, 1914-16, 1917-21, 1938-47), 126 second-feet.
Extremes.- Maximum discharge during year, 646 second-feet May 2 (gage height, 3.87 feet); minimum, 13 second-feet Jan. 3 (gage height, 1.67 feet).
1909-21, 1937-47: Maximum discharge, 2,870 second-feet May 5, 1942 (gage height, 5.85 feet), from rating curve extended above 850 second-feet by velocity-area studies and logarithmic plotting; minimum, 8 second-feet Jan. 14, 1940 (ice jams upstream).
Remarks.- Records good except those for Oct. 31 to Jan. 31 and those for periods of no gage-height record, which are poor. No regulation or diversion above station.
Cooperation.- Water-stage recorder inspected by employee of Fish and Wildlife Service.

Rating tables, water year 1946-47, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 26		Nov. 27 to Sept. 30					
2.1	36	2.0	28	2.5	84	3.1	245
2.3	58	2.1	35	2.7	126	3.4	375
2.5	91	2.3	54	2.9	180	3.7	540
2.7	136						

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	48	47	b37	42	52	79	261	199	67	34	29
2	41	40	45	b32	41	54	81	425	160	65	34	29
3	41	b38	45	b26	44	51	82	492	147	64	32	29
4	43	47	48	b35	52	54	71	447	144	62	32	29
5	44	46	139	b40	64	48	79	400	142	60	32	28
6	43	45	136	b50	57	45	112	a370	172	58	32	28
7	43	46	67	b48	52	50	134	a360	166	57	31	31
8	44	39	55	b45	48	48	117	a340	208	54	30	34
9	42	39	52	b50	47	47	169	a370	225	52	30	32
10	41	47	48	b55	65	50	112	a320	189	51	32	31
11	40	44	47	50	75	52	105	a280	172	51	32	31
12	40	39	48	*41	115	52	108	a250	158	50	31	30
13	40	43	48	40	137	50	117	a230	149	48	31	29
14	40	43	68	37	71	54	131	a220	149	46	30	29
15	40	b39	57	27	64	60	147	a210	139	44	29	29
16	39	b42	52	33	68	68	172	a200	147	44	29	29
17	40	50	a40	42	74	78	186	a190	221	42	29	32
18	*42	46	a44	44	57	86	174	a185	163	41	29	32
19	40	67	a47	53	57	84	172	a180	144	40	29	32
20	41	58	50	50	53	86	180	174	129	40	30	32
21	46	b42	50	41	54	88	169	180	114	38	32	31
22	47	48	45	38	57	92	158	174	105	37	34	30
23	47	60	43	41	55	101	155	163	99	37	33	30
24	45	50	41	50	58	95	147	158	95	37	32	30
25	46	46	45	82	55	90	149	147	92	37	30	30
26	46	128	44	74	53	82	169	152	92	37	29	30
27	44	112	44	43	57	79	186	149	86	36	29	30
28	40	57	31	39	48	79	208	265	79	35	29	29
29	42	51	32	39	-	81	218	158	74	35	30	29
30	46	47	32	37	-	82	214	155	71	34	32	29
31	b36	-	b34	35	-	81	-	180	-	34	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,306	47	36	42.1	2,590
November	1,546	128	38	51.5	3,070
December	1,624	139	31	52.4	3,220
Calendar year 1946	36,620	355	31	100	72,630
January	1,354	82	26	43.7	2,690
February	1,720	137	41	61.4	3,410
March	2,119	101	45	68.4	4,200
April	4,301	218	71	143	8,530
May	7,785	492	147	251	15,440
June	4,230	225	71	141	8,390
July	1,433	67	34	46.2	2,840
August	959	34	29	30.9	1,900
September	903	34	28	30.1	1,790
Water year 1946-47	29,280	492	26	80.2	58,070

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Deep Creek near Adel.
b Stage-discharge relation affected by ice.

Bridge Creek near Frenchglen, Oreg.

Location.- Water-stage recorder and concrete control, lat. 42°50', long. 118°51', in NW¼ sec. 33, T. 31 S., R. 32½ E., at mouth of canyon, 1,000 feet upstream from road crossing and 3½ miles northeast of Frenchglen.

Records available.- March 1911 to September 1916, December 1937 to September 1947.

Average discharge.- 13 years (1912-16, 1938-47), 14.3 second-feet.

Extremes.- Maximum discharge during year, 26 second-feet Apr. 6 (gage height, 1.28 feet); minimum, 9.7 second-feet on several days in July, August, and September.
1911-16, 1937-47: Maximum discharge, 332 second-feet Feb. 22, 1943 (gage height, 2.55 feet), from rating curve extended above 55 second-feet by logarithmic plotting; minimum observed, 7 second-feet Feb. 24, 25, 1912, Dec. 30, 1937, to Jan. 4, 1938.

Remarks.- Records good. No diversion or regulation above station. Low flow is maintained by large springs.

Cooperation.- Water-stage recorder inspected by employee of Fish and Wildlife Service.

Discharge, in second-feet, wster year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	12	12	11	12	11	13	15	12	11	10	10
2	13	12	11	11	12	11	13	15	12	11	10	10
3	13	12	12	11	12	11	13	15	12	11	10	10
4	13	12	12	a11	12	11	12	15	11	11	10	10
5	13	12	12	a11	12	11	13	14	11	11	10	10
6	12	12	13	a11	12	11	17	14	12	11	10	10
7	12	11	12	a11	12	11	16	13	12	11	10	10
8	12	11	12	a11	12	10	17	13	12	11	10	10
9	12	11	12	11	12	10	18	14	12	11	10	10
10	12	11	11	11	12	11	17	14	12	11	10	10
11	12	11	11	10	12	11	17	14	12	11	9.7	10
12	12	11	11	11	13	10	17	13	12	11	9.7	10
13	12	11	12	11	14	10	16	13	12	11	9.7	10
14	12	11	12	11	12	10	17	12	11	11	9.7	10
15	12	11	12	11	12	10	17	12	11	11	9.7	10
16	12	11	12	11	12	10	18	12	12	11	9.7	10
17	12	11	12	11	12	11	18	12	12	11	9.7	10
18	12	11	a12	11	12	11	18	12	12	10	9.7	10
19	12	12	a11	11	12	11	17	12	11	10	9.7	10
20	12	12	11	11	12	11	17	12	11	10	9.7	10
21	12	12	11	11	12	12	17	12	11	10	10	10
22	12	12	11	11	12	12	16	12	11	10	10	10
23	12	12	11	12	12	13	15	12	11	10	9.7	10
24	12	12	11	16	12	13	15	12	11	10	9.7	10
25	12	12	11	12	12	13	15	11	11	10	10	10
26	12	12	11	12	12	13	15	11	11	10	10	9.7
27	12	14	12	12	11	12	15	12	11	10	10	9.7
28	12	13	12	12	11	12	15	12	11	10	10	9.7
29	12	13	12	12	-	12	15	12	11	10	10	9.7
30	12	12	11	12	-	13	15	12	11	10	10	9.7
31	12	-	11	12	-	13	-	12	-	10	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	377	13	12	12.2	748
November	352	14	11	11.7	698
December	359	13	11	11.6	712
Calendar year 1946	4,991	26	11	13.7	9,900
January	353	16	10	11.4	700
February	337	14	11	12.0	668
March	351	13	10	11.3	696
April	474	18	12	15.8	940
May	396	15	11	12.8	785
June	344	12	11	11.5	682
July	327	11	10	10.5	649
August	306.4	10	9.7	9.88	608
September	298.5	10	9.7	9.95	592
Water year 1946-47	4,274.9	18	9.7	11.7	8,480

a No gage-height record; discharge interpolated.

Trout Creek near Denio, Oreg.

Location.- Water-stage recorder, lat. 42°10', long. 118°28', in SW¼ sec. 26, T. 39 S., R. 36 E., 0.4 mile upstream from bridge at mouth of canyon, 5 miles east of Trout Creek ranch, and 14 miles northeast of Denio. Datum of gage is 4,351.59 feet above mean sea level, datum of 1929.

Records available.- March 1911 to March 1912, April 1922 to November 1923, April 1925 to September 1947.

Average discharge.- 16 years (1922-23, 1932-47), 14.2 second-feet.

Extremes.- Maximum discharge during year, 60 second-feet May 3 (gage height, 2.78 feet); minimum, 0.6 second-foot Mar. 6, Aug. 18.
1911-12, 1922-23, 1925-47: Maximum discharge, 343 second-feet Aug. 1, 1933, from rating curve extended above 125 second-feet; probably no flow at times.
Maximum stage known, 6.0 feet (caused by cloudburst) sometime between 1922 and 1932.

Remarks.- Records fair except those for Nov. 1 to Feb. 15, which are poor. Small diversions above station for irrigation.

Rating tables, water year 1946-47, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 3

1.5	2.1	1.9	8.7
1.6	3.3	2.0	11
1.7	4.8	2.1	14
1.8	6.6		

Feb. 4 to Sept. 30

1.4	0.8	1.8	6.4	2.2	18
1.5	1.6	1.9	8.7	2.3	24
1.6	2.8	2.0	11	2.4	30
1.7	4.5	2.1	14	2.6	45

Discharge, in second-feet, water year October 1946 to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	7.0	7.4		7.2	3.0	11	28	16	9.7	1.4	1.3
2	6.2	5.7	7.4		7.0	3.1	10	39	14	8.5	1.4	1.2
3	6.4	6.1	7.4		6.2	2.8	11	46	15	8.0	1.4	1.2
4	7.0	6.6	7.2		6.2	3.1	11	41	12	7.8	1.3	1.4
5	7.0	6.8	7.6		6.0	2.6	10	37	13	7.6	1.3	1.4
6	6.8	7.4	7.9		5.6	2.3	9.7	35	20	7.1	1.2	1.3
7	6.4	7.4	7.2		5.6	3.3	9.4	32	20	6.6	1.1	1.7
8	6.6	6.8	7.6		5.6	3.5	10	31	22	6.4	1.0	2.7
9	6.4	5.7	7.2		5.8	5.3	11	31	23	5.6	1.0	2.4
10	6.2	7.2	7.2		6.0	3.3	9.4	25	22	5.3	1.2	2.3
11	6.2	7.2	7.2		6.0	3.5	9.2	21	21	5.3	1.4	2.3
12	5.9	6.1	7.2		6.6	3.3	12	18	20	5.1	1.4	2.3
13	5.9	5.2	7.2	b5.8	7.6	4.9	14	18	19	5.1	1.4	2.2
14	5.9	8.3	7.4		6.4	5.4	16	17	18	4.0	1.0	2.1
15	5.9	8.3	7.0		6.4	2.8	22	14	16	3.1	.9	2.3
16	5.9	7.6	5.5		6.4	4.0	22	20	16	2.8	.8	2.0
17	6.2	7.2	3.1		6.4	5.3	22	22	21	2.8	.8	2.2
18	6.2	7.4	4.0		6.0	5.8	23	21	17	2.7	.8	3.0
19	6.2	8.5	8.3		5.8	6.0	22	18	15	2.6	.8	3.5
20	6.2	8.1	13		5.8	6.4	24	15	15	2.4	.8	3.6
21	6.1	6.1	11		6.0	6.9	23	18	13	2.3	1.0	3.3
22	6.2	8.9	7.4		6.2	7.6	22	17	13	1.7	1.4	3.1
23	7.0	8.9	7.2		6.2	8.5	20	16	12	1.4	1.4	2.8
24	6.6	8.3	6.1		6.2	7.6	18	14	12	1.5	1.4	2.7
25	6.6	7.6	6.8	7.9	5.8	7.6	16	15	11	1.8	1.3	2.8
26	6.6	7.9	6.8	7.2	4.5	7.3	18	14	11	1.7	1.2	2.8
27	6.6	7.9	6.2	5.2	4.0	7.3	22	17	12	1.6	1.2	2.7
28	6.2	7.6	4.2	5.0	2.8	6.4	23	18	12	1.4	1.3	2.8
29	6.1	7.4	b3.5	5.9	-	8.2	26	18	11	1.4	1.1	3.0
30	6.4	7.6	b3.0	5.7	-	10	27	17	11	1.4	1.3	3.1
31	5.9	-	b3.2	5.2	-	11	-	17	-	1.4	1.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	195.0	7.0	5.2	6.29	387
November	218.8	8.9	5.2	7.29	434
December	209.4	13	3.0	6.75	415
Calendar year 1946	5,364.4	95	3.0	14.7	10,640
January	181.3	-	-	5.85	360
February	166.3	7.6	2.8	5.94	330
March	168.1	11	2.3	5.42	333
April	503.7	27	9.2	16.8	999
May	710	46	14	22.9	1,410
June	473	23	11	15.8	938
July	126.1	9.7	1.4	4.07	250
August	36.4	1.4	.8	1.17	72
September	71.5	3.6	1.2	2.38	142
Water year 1946-47	3,059.6	46	.8	8.38	6,070

b Stage-discharge relation affected by ice.

Measurements of stream flow in the Great Basin made at points other than gaging stations are given in the following table:

Miscellaneous discharge measurements in the Great Basin during the water year October 1946 to September 1947

Great Salt Lake Basin

Date	Stream	Tributary to or diverting from--	Location	Discharge (sec.-ft.)
Apr. 9	Malad River.....	Bear River.....	SW¼ sec. 26, T. 14 S., R. 35 E., above Jones Bros. ditch, 5 miles southwest of Malad, Idaho.	4.00
9	....do.....	....do.....	SE¼ sec. 35, T. 14 S., R. 35 E., at state highway 37, 3 miles north of Samaria, Idaho.	6.15
9	....do.....	....do.....	SE¼ sec. 2, T. 15 S., R. 35 E., above Gwenford Mill ditch, 2 miles north of Samaria, Idaho.	12.6
9	....do.....	....do.....	NE¼ sec. 11, T. 15 S., R. 35 E., at site of former gaging station at Lewis Waldron Ranch, 1½ miles north of Samaria, Idaho.	12.7
9	....do.....	....do.....	NW¼ sec. 18, T. 15 S., R. 36 E., at Llellyln Williams Ranch, at point where river crosses under canal, 1½ miles northeast of Samaria, Idaho.	2.67
Sept. 4	....do.....	....do.....	SE¼SE¼ sec. 28, T. 15 S., R. 36 E., at road crossing 3½ miles north of Woodruff.	1.27
Apr. 9	Main canal.....	Malad River.....	NW¼ sec. 18, T. 15 S., R. 36 E., at Llellyln Williams Ranch, at point where canal crosses Malad River, 0.45 mile below point of diversion in NE¼ sec. 13, T. 15 S., R. 35 E., 1½ miles northeast of Samaria, Idaho.	11.2
9	Diversion canal....	Main canal.....	NW¼ sec. 18, T. 15 S., R. 36 E., at Llellyln Williams Ranch, at point of diversion 0.4 mile below heading of main canal, 1½ miles northeast of Samaria, Idaho.	3.93
July 26	Little Malad River.	Malad River.....	SW¼ sec. 14, T. 12 S., R. 34 E., 500 feet below springs and 2 miles northwest of Daniels, Idaho.	7.15
Oct. 23	....do.....	....do.....	SW¼ sec. 17, T. 13 S., R. 35 E., 150 feet above head gate of Ed. Jones ditch and mouth of Elkhorn Creek, 1.6 miles below Elkhorn Dam, and 10 miles northwest of Malad.	16.2
23	....do.....	....do.....	SW¼ sec. 17, T. 13 S., R. 35 E., 150 feet below head gate of Ed. Jones ditch and mouth of Elkhorn Creek, 1.6 miles below Elkhorn Dam, and 10 miles northwest of Malad.	17.6
Dec. 11	....do.....	....do.....	....do.....	18.4
Feb. 3	....do.....	....do.....	....do.....	16.4
Mar. 14	....do.....	....do.....	....do.....	1.56
Oct. 23	....do.....	....do.....	NE¼ sec. 33, T. 13 S., R. 35 E., 100 feet below head gates for M. P. & N. and Sand Ridge ditches, 4.9 miles below Elkhorn Dam, and 8 miles northwest of Malad, Idaho.	12.6
Dec. 11	....do.....	....do.....	....do.....	17.5
Feb. 3	....do.....	....do.....	....do.....	15.9
4	....do.....	....do.....	....do.....	16.0
Mar. 14	....do.....	....do.....	....do.....	.90
Oct. 24	....do.....	....do.....	SW¼ sec. 34, T. 13 S., R. 35 E., below point of diversion of St. Johns Canal, 5.9 miles below Elkhorn Dam and 7 miles northwest of Malad, Idaho.	9.51
Dec. 11	....do.....	....do.....	....do.....	16.3
Feb. 4	....do.....	....do.....	....do.....	16.9
Mar. 14	....do.....	....do.....	....do.....	.65
Oct. 23, 24.	Tributaries.....	....do.....	Summary of tributary flow between Elkhorn Dam, sec. 7, T. 13 S., R. 35 E., and Sand Ridge dam site, SE¼ sec. 14, T. 14 S., R. 35 E.	1.54
Dec. 11	....do.....	....do.....	....do.....	1.58
Feb.3,4	....do.....	....do.....	....do.....	2.20
Mar. 14	....do.....	....do.....	....do.....	1.18
Oct. 23, 24.	Diversions.....	....do.....	Summary of diversions between Elkhorn Dam, sec. 7, T. 13 S., R. 35 E., and Sand Ridge dam site, SE¼ sec. 14, T. 14 S., R. 35 E.	7.76
Dec. 11	....do.....	....do.....	....do.....	1.39
Feb.3,4	....do.....	....do.....	....do.....	.81
Mar. 14	....do.....	....do.....	....do.....	1.10
Oct. 21	St. Johns Canal....	Little Malad River	Sec. 2, T. 14 S., R. 35 E., 1¼ miles below point of diversions, 6.8 miles below Elkhorn Dam, and 6 miles northwest of Malad, Idaho.	3.46
24	....do.....	....do.....	....do.....	3.78
May 25	....do.....	....do.....	....do.....	14.2
June 25	....do.....	....do.....	....do.....	15.9
May 25	Deep Creek.....	Malad River.....	SE¼SW¼ sec. 22, T. 14 S., R. 36 E., at southeast edge of Malad, Idaho.	.97

Miscellaneous discharge measurements in the Great Basin during the water year October 1946 to September 1947--Continued

Sevier Lake Basin

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
Sept.20	Duck Creek Spring..	Duck Creek.....	Sec. 12, T. 38 S., R. 8 W., 18 miles southwest of Hatch, Utah.	14.9
20	Upper Asay Spring..	Asay Creek.....	Sec. 33, T. 37 S., R. 6 W., 9 miles southwest of Hatch, Utah.	5.8
20	Lower Asay Spring..	....do.....	....do.....	27.9
20	West Fork Asay Spring.	West Fork Asay Creek.	Sec. 19, T. 37 S., R. 6 W., 9 miles southwest of Hatch, Utah.	.02
20	Mammoth Spring.....	Mammoth Creek.....	Sec. 5, T. 37 S., R. 7 W., 13 miles west of Hatch, Utah.	10.2
20	Blue Spring.....	Blue Spring Creek.	Sec. 8, T. 36 S., R. 7 W., 14 miles northwest of Hatch, Utah.	5.0
Apr. 22	San Pitch River....	Sevier River.....	NE¼ sec. 20, T. 19 S., R. 1 E., ½ mile south of Gunnison, Utah.	6.0

Summer Lake Basin

Aug. 6	Summer Lake Canal..	Ana River.....	SW¼SE¼ sec. 6, T. 30 S., R. 17 E., at former gaging station (State) 6 miles northeast of Summer Lake post office, Oreg.	43.4

Malheur and Harney Lakes Basin

July 17	Donner und Blitzen River.	Malheur Lake.....	SW¼ sec. 2, T. 27 S., R. 31 E., at former gaging station 2 miles southwest of Voltage, Oreg.	14.3

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